An Address

ON

THE GROWTH OF CANCER.

Delivered in opening a Discussion on Cancer before the Medical Society of London on March 13th, and before the Medico-Chirurgical Society of Glasgow on March 24th, 1905.

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PAST NEGLECT TO INVESTIGATE HOW CANCER GROWS.

MR. PRESIDENT AND GENTLEMEN,—I propose to refer more especially to the growth of cancer. The study of the mere processes of growth as distinct from the genesis of cancer has received serious attention from the outset of our investigations and it will be entirely advantageous if others can be persuaded that an attack on this difficult subject can no longer be avoided, as it has been in the past. The undefined amount of the growth of cancer—which term I take to be synonymous with "malignant new growth"—has forced it to the forefront in the course of the experimental investigations of the Imperial Cancer Research Fund. The biological problem presented by the amount of growth has not hitherto been properly appreciated, even by those investigators who, like Jensen, Borrel, and Michaelis, have successfully propagated, carcinomata. In the study of cancer in man, the other clinical and pathological features mask those of mere growth. *By means of artificial propagation we have produced such enormous masses of tissue that the ceaseless cell proliferation has become the most impressive feature, and as the work has progressed the local nature, the infiltrative character, the absence of constitutional disturbance, the relative independence, and the formation of metastases have assumed a different perspective. That the amount of growth which suffices to kill a patient is infinitesimal as compared with the indeterminate total of growth as revealed by experimental propagation is a side issue, however important it may be. *The problem which demands solution is, Why is the growth of cancer limitless?* This concrete and hitherto unknown problem is thrust upon us by artificial propagation, which also *provides* us with a means for experimentally solving it.

It can hardly be claimed that the necessity for comprehending the nature of this undefined growth has been elevated to prime importance in the past; for it has not been made the starting point of any one of the hypotheses which have been advanced from time to time to explain cancer. [illegible]

[illegible] tion of which naturally followed from the nature and origin postulated. The cells of a malignant new growth have been supposed to proliferate because, e.g., they were asserted to be freed from the restraint of connective tissue or liberated from the control of the other members of the cell community by "solution of organic continuity," or because they were derived from "embryonic rests," or were modified reproductive "gametoid" (reduced) tissue, or because a parasite made them multiply. I do not wish to ridicule any one of these hypotheses. I desire, however, to make clear the nature of the assumptions which have been supposed to [illegible] o emphasise that all these [illegible] in common: they postu- [illegible] re for cancer and fail to [illegible] ll multiplication is main- [illegible] wth have not been deemed [illegible] n formulating any of the [illegible]

hypothesis, quotes von Hansemann, a distinguished pathologist and a critic of the grounds on which the belief in a parasitic etiology is based, and reproaches him for confessing his ignorance of how and why cancer cells possess their unlimited powers of growth and for excusing himself both from attacking this problem and from attempting to explain the origin and the nature of cancer. It cannot therefore be asserted that the importance of the subject is denied.

It seems strange that if the power of continued proliferation is so prominent a characteristic so little attention should have been given to it by Thiersch, Waldeyer, and Cohnheim, who so materially advanced our knowledge of malignant new growths. The explanation is the simple one that the processes of cell division were little understood by the older investigators who had also little information on fertilisation and on the development and differentiation of organisms to guide them in studying the normal growth of the human body, *and far less still to help them to comprehend growth* in the aberrant form presented by cancer.

Even in recent times pathologists have continued to concern themselves with the mode of origin and the nature rather than with the growth of cancer. This has been partly due to the continued discussion of the evidence for and against the views already enumerated, and the legacy of restricted outlook which has been transmitted to all investigations carried out under their influence. It has also been due to endeavours to find better substitutes for the old hypotheses, but always on the basis of experience limited to cancer *in man; for the only important contributions to the* discussions on the nature of cancer have been provided by medical men or biologists who have studied malignant new growths in the form in which they come under observation in the operating and post-mortem theatres. Thus studied cancer is almost always already fully developed. The stage at *which it has arrived is alone presented for examination. The* stages through which a tumour has passed, and those through which it will pass, are alike left to the imagination and are supplied in accordance with any hypotheses which may find favour. The limits of objective observation do not extend beyond the stage at which a tumour has arrived and it has been truly said that even the margins of a fully developed and growing cancer yield no information as to its origin. In this connexion, however, it is important to remember that the histological features, especially the direction in which the cells tend to differentiate, are strong arguments in favour of the view that malignant new growths develop from cells of the normal tissues. These arguments grow in force when regarded objectively and free from the bias of the Cohnheim hypothesis which postulates an embryonic and atypical character for the cells of malignant tumours. Deviations from the typical character of the cells of the tissue "mimicked" are frequent. They are, however, of much less importance from the standpoint of investigation than the universal occurrence of a single differentiation when *any is* present and *the occasional* manifestation of all the features of malignancy by growths which show the most perfect differentiation and even exhibit the exercise of the secretory function of the tissue represented.

Investigation of cancer in man is so limited in its scope that it is not surprising if general credence has been given to the belief that it will be impossible ever to observe a cancer *in process of* formation and pathologists have in consequence remained content to modify the old explanations or to postulate anew other modes of origin whenever a previous conjecture has been shown to be untenable. All that could be ascertained by the study of human cancer appeared to have been elicited, new facts were not forthcoming, and new explanations of the old facts did not have even the appearance of an advance. Is it surprising that pessimistic views obtained ascendance and that medical men only cognisant of the seemingly insuperable difficulties presented by the study of cancer in man should declare that its nature can only be elucidated with the explanation of life itself? The method has been at fault. The investigator has been poking about in a corner and the narrow scope of his inquiries has prevented him from forming a true conception of the problems and from making at the outset even a preliminary survey of the general features of the field of investigation. The study of cancer has been pursued not in a rational way but empirically and the pessimism which has resulted from failure is logically ascribed to the methods which have been employed and not at present to the

FEATURES OF SPORADIC GROWTH.

The first essentials to the rational study of cancer are facilities for subjecting any hypothesis to the test of experiment and freedom from the restrictions which circumscribe its study in man. Hence it came to be one of the first duties of the Imperial Cancer Research Fund to determine the extent to which malignant new growths occur throughout the animal kingdom. These investigations, augmented by the results of other workers, have shown that if allowance be made for the differences in anatomical structure of the various animals the problems of cancer present the same essential characteristics throughout the entire vertebrate phylum. This identity in nature—which, of course, involves identity in the character of the anatomical lesion upon which the diagnosis of malignant new growth can alone be based—is a matter of prime importance. It yields a secure comparative basis for deduction and puts out of court as direct causative factors many external agencies which demand consideration in the higher forms of life and of necessity attract attention in the case of mankind living under the artificial conditions associated with a high degree of civilisation. The information elicited by studying the growth of cancer in the comparative and experimental manner thus rendered possible must be brought to bear upon the nature of the disease in man and reviewed in the light of the knowledge which has accumulated during many years of clinical and pathological observation. The boundless cell proliferation proceeds with an energy which is only comparable with the initial proliferation in embryonic tissues; nevertheless, it is intimately associated with another main feature of the disease—viz., its increasing relative frequency as life advances. This is technically known as the "age incidence" of cancer and must be explained before any claim to the establishment of the sufficiency of a hypothesis can be set up. All the well-known hypotheses, however, break down before the problem of the "age incidence" of cancer and it does not necessarily follow from the primary assumptions which underlie any one of them. The comparative study of sporadic malignant new growths has proved that they occur in animals also with increasing frequency as age advances, both in species with a long and with a short duration of life. They appear in considerable numbers in mankind after from 45 to 50 years, in the horse after nine years, in the dog and cat after nine years, in the trout after from five to seven years, and in the mouse after two years. The higher incidence manifests itself after an interval which varies in different species in direct relation to the absolute duration of life. The interval of relative freedom is in consequence proportionately much the same for different animals. The maximum incidence also coincides with the decline in reproductive activity. This fact has given rise to speculation on the influence of the sexual organs. These speculations are deprived of any significance by the fact that cancer occurs in castrated animals at the same period as in entire animals. Neither the cessation of a normal secretion nor the appearance of an abnormal one can therefore be the cause of the maximum incidence of cancer at this time. The variations in the natural sporadic growth of cancer in different forms of life therefore yield some valuable information and are of sufficient importance to claim further study.

The preliminary stages before the appearance of cancer, which may take 50 or more years in the case of man, are passed through in about two years in the case of the mouse. It would take so long to observe the various stages of the whole process in mankind that it is impossible to attempt it with hope of the practical results which are theoretically attainable in the case of short-lived animals. The relation which exists between the age incidence of cancer and the duration of life awakens expectations of another kind. There are laws which govern the varied but definite growth, which determine the size of body and the length of life in the different vertebrates. May they have a determining influence not only on the time at which the disease appears sporadically but also set time limits to various phases in the development and growth of cancer itself? Just as the gestation period varies from 21 days to nine months in the case of the mouse and human subjects in accordance with the laws which govern their respective developments, so if there be stages in the growth of cancer they may also be adapted to the compass of life in different animals and be gone through more quickly for the mouse than for man. A mankind and the mouse give evidence in their offspring how their own growth has originated, is maintained, and declines, so it has seemed rational to look for evidence of a similar kind in the undefined and apparently continuous growth of cancer. This evidence has been most conveniently sought for in short-lived animals and there also most readily interpreted with the assistance of experiments. Such observations are entirely impossible in the case of man and are not always practicable in the case of animals.

NATURE OF ARTIFICIAL PROPAGATION.

Malignant new growths are said to be physiologically and morphologically independent of the needs of the organism primarily affected. This character of relative independence appears in its highest degree in the successful transference of malignant new growths to new hosts. The power of unbounded proliferation is also most clearly demonstrated in these circumstances. I need not pause to contrast the limited proliferation which follows the transplantation of other animal tissues with that of cancer under the same conditions. The artificial propagation of a malignant new growth by transplantation into a new host of the same species, or into a new site in the case of the organism primarily affected, is attended with difficulties which are not easily overcome. A large number of transplantation experiments have been performed in the horse, cow, dog and cat, all with negative result.[1] In the rat malignant new growths have been transplanted successfully, and in the mouse about a dozen different tumours have been transplanted under the precautions which are necessary to establish the unequivocal nature of the result. In what follows I shall rely mainly upon the details of the experimental observations of the Imperial Cancer Research Fund upon the successful propagation of five different sporadic carcinomata through several generations of mice, and for comparison on the study of the processes which result in the production of large tumours in the case of an infective granuloma of the dog. An unfortunate misconception of the significance of the facts has led to the nature of the experimental propagation of cancer being confounded with that of the infective processes, from which it differs fundamentally. The experimental propagation of a malignant new growth means neither more nor less than the continued proliferation of the cells of one animal in another animal. It may also be practised on the same animal without, however, modifying its significance. The parenchyma cells of the tumours which arise at the new sites are the direct genealogical descendants of those introduced They are not provided by the host. The process is as remote from being of an infective nature as that responsible for the formation of secondary deposits with which it is strictly comparable. What reaction there is on the part of the host is limited to the supply of the vascular and supporting structures which the parenchyma cells—displaying again their independence—have power to make subservient to their needs. The process of infection is wholly different. The cells of an infective granuloma introduced at the time of inoculation are merely vehicles—living substitutes for the platinum loop—for the conveyance of the infective agent There are infective granulomatous tumours closely resembling sarcomata of which the causative agent cannot yet be isolated and is not recognisable by any method known to us. In these cases also the process of infection which follows inoculation with portions of the granulomatous tissue is identical with that which occurs after inoculation with isolated pathogenic organisms. The introduced tissue only plays the part of a vehicle. It succumbs and is ultimately absorbed and when new tumours result they are entirely composed of the tissues of the reaction on the part of the host. All the stages in the reaction can be traced from the gradual transformation of the elements of the connective and vascular tissues up to a fully developed tumour identical in structure with that from which the original infection was derived.

In the experimental propagation of cancer the elements of the soil play the insignificant part of subserving the needs of the tumour, of which the essential part is genealogically derived from another animal. By these means a part of one animal, often long dead, is kept alive by what is really an artificial circulation provided by another. In tumours which result from infection the only constituents, apart from the pathogenic organisms, are the elements of the soil themselves. Any comparison which may be drawn between the two processes is correctly limited to the differences and similarities which may exist between the nature of the reaction of the tissues of the host when pathogenic organisms or cancerous cells are proliferating in their midst. What we mean by disease is, in fact, the reaction of the tissues of [illegible] ncies of any kind. In [illegible] result in the formation [illegible] artificial propagation of cancer the reaction is a very subsidiary pheno- [illegible] new growths yields conclusive experimental evidence, in keeping with accumulated clinical experience, that cancer *quâ* cancer does not produce specific symptoms of its presence. Malignant new growths have only been successfully transplanted from one animal to another of the same species. The cells of a malignant new growth of one animal are so much out of their element among the tissues and fluids of an animal of another species that they are unable to maintain their vitality. Their fate is probably the same as that of the blood corpuscles of a strange animal when employed in the manner in which transfusion of blood was originally practised in surgery.

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[1] In the positive cases reported sufficient care has not been taken t

GENERAL FEATURES OF GROWTH IN ARTIFICIAL PROPAGATION.

I have already drawn attention to some of the comparative features of growth in sporadic tumours and shall now briefly refer to some of the phenomena presented in propagated tumours. An attempt to propagate a tumour requires to be carried out under many precautions. Numerous factors have to be taken into account in interpreting the results of [illegible] nerally, the [illegible] ow a grada- [illegible] rcentage of [illegible] percentage and to others again which have given absolutely negative results. The contrast between the tumours at the top and those at the bottom of the scale, therefore, does not imply distinctions in nature, although it signifies that the respective groups differ in the degrees in which they possess the properties which adapt them to the conditions obtaining in artificial propagation. These specific qualities of the cells which determine the short or long duration of life of different species of animals appear to play an important part in the experimental establishment of tumours in a new host and, further, there is also much evidence to show not only that the qualities of the cells of different tumours vary [illegible] at they differ in [illegible] e same tumour at [illegible] tage of successes [illegible] same histological [illegible] in man, for they [illegible] that, in addition to the importance of the site of a primary tumour and the degree of vascularity, amount of movement, and other conditions, which have long been recognised to influence the early or late appearance of metastases (e.g., in the cases of epithelioma of the tongue and the larynx) there is something else of great moment which is inherent—but not always present—in the tumour cells themselves and without which even a suitable soil may remain free from invasion. The surgeon and the pathologist are familiar with the contradictory behaviour of malignant new growths which are reasonably supposed to be identical; how they present variations in malignancy and how with uniform care in operative procedure uniform results are rarely obtained. The inconstancy in the qualities of the cells of the same tumour revealed in the course of our experiments is a contribution to the solution of these apparent contradictions, although it must not be forgotten that we are not yet able to express any definite opinion on the influence of the soil into which tumours are transplanted.

CELLULAR AND INTRACELLULAR PHENOMENA OF GROWTH.

When we turn to consider the more minute processes of growth—the cellular and intracellular phenomena—we [illegible] hat the cells of carcinoma and sarcoma breed true. [illegible] hat any evide [illegible] ion only—tha [illegible] of the cells [illegible] tumour there are several varieties of direct (amitotic) indirect (mitotic) division. The phenomena of indirect division are the more prominent, and different authors have described the various features of the normal bipolar mitosis and several abnormal manifestations of the same process. A not infrequent abnormality is cell division by multipolar mitosis, in which the rods of chromatin are arranged, not on one spindle with two poles, but on several spindles which converge towards a corresponding number of poles. The bipolar and multipolar mitoses as a rule proceed in a way which gives rise to symmetrical figures and distributes equal numbers of the chromatin rods to the nuclei of the daughter cells. However, both the bipolar and the multipolar figures may occasionally appear to be asymmetrical and suggestive of an unequal distribution of the chromatin rods to the different poles. All the chromatin may not enter into the process in other dividing cells, and it is said to be "cast out." The peculiar form of cell division which prepares the reproductive elements for fertilisation has also been described in cancer. This form of cell division presents contrasts to the main features of ordinary bipolar mitosis, from which in the reproductive tissues it is readily distinguished in all its phases. Flemming, therefore, designated it heterotypical. In the reproductive tissues it results in each of the two daughter nuclei receiving exactly half the number of chromatin rods, which an ordinary bipolar mitosis would distribute, and if the daughter cells proliferate the progeny retain the halved number of chromatin rods when in division. The halved number of chromatin rods is only restored to the full number when that fusion of nuclei occurs which is the one constant feature of fertilisation. We have pointed out that the cells which exhibit heterotypical mitoses in cancer differ from cells undergoing this process in the reproductive tissues. The differences extend also to the preparations for division and to the stages which follow it.

The various deviations in cancer from what is looked upon as the normal course of cell division are not exhausted by the above catalogue. There are other irregularities. Many dividing cells possess less than the proper number of chromatin rods, it may be half or less or more than half this number, others have too many. These two groups of nuclei were named respectively hypochromatic and hyperchromatic by von Hansemann. The hyperchromatic nuclei arise by preparation for a cell division which is, however, omitted and perhaps also in other ways. The hypochromatic nuclei may arise by multipolar or by asymmetrical mitoses, by casting out of chromatin, or by the heterotypical mitosis. It is not possible to tell by what method a cancer cell which is dividing has come to possess too few chromosomes, even should they be exactly half as numerous as they ought. There is thus a confused series of normal and abnormal phenomena going on side by side. With one exception all the abnormal phenomena have been shown to occur—although they are less frequent—in the processes of chronic inflammation, in benign tumours and elsewhere; but sufficient time has not yet elapsed to permit of a proper estimate of the significance of the heterotypical mitosis in cancer.[3] We have already stated that it is not a constant feature of malignant new growths; indeed, it may be entirely absent when the anatomical and pathological features of malignancy are present in man, or, on the other hand, be present in the absence of the latter.

All attempts to unravel the confusion of cell division in sporadic tumours have failed to pick out the essential from the negligible phenomena. If our knowledge of how the growth of cancer is maintained is to advance the hitherto unsurmountable difficulties presented by the disorderly phenomena of cell division must be overcome. In artificially propagated tumours the difficulties fortunately give promise of being more easily surmounted. Our long-continued observations on many generations of transplanted tumours have yielded the valuable results that a tumour maintains unaltered its general histological characters under the longest propagation yet attained and also the minute cell characters, including the nature of the differentiation and that constant number of chromosomes which is normal to the tissues of a healthy animal. Cell proliferation proceeds throughout all generations by typical bipolar mitosis. The various forms of irregular cell division which are such striking features of sporadic tumours do not occur and the process of proliferation becomes orderly. There can be no question of the proliferating cells showing too many or too few chromosomes. A hypochromatic nucleus, even one with exactly half the somatic number of chromosomes, is such a rarity that we have not yet seen one. Yet at recurring intervals, which coincide with the reappearance of other phenomena, the heterotypical mitosis is found distributing half the normal number of chromosomes to the daughter nuclei. Since in all other dividing cells the normal number of chromosomes is retained, it follows that if the heterotypical mitosis is anything more specific for cancer than the other irregularities present in sporadic tumours it must be an essential phase intercalated in the process of growth. Fusion of the daughter nuclei would be necessary to restore the normal number of chromosomes and might be expected to establish powers of proliferation and of relative independence such as follow the nuclear fusions of fertilisation, and to result in behaviour similar to that of an organism of a succeeding generation towards the one which has preceded it. Otherwise the heterotypical mitosis can only be an incident by the way in a continual vegetative proliferation by normal bipolar mitosis. If the first interpretation is correct then the apparently uninterrupted growth may be further analysable. We may then expect it to be a discontinuous process maintained by an orderly series of cell changes and the explanation of the stages through which the cells of fully developed tumours pass in the incessant renewal of proliferation will indicate the nature of the changes which set the growth agoing.

We can form an opinion of the stage at which the heterotypical mitosis will be intercalated in the growth of cancer. In animals and plants this mitosis marks a terminal phase in cell proliferation and ushers in the preparatory stages for the sexual production of a succeeding generation. It is permissible to draw an analogy with cancer and to interpret the heterotypical mitosis there as a terminal phase of growth, a view which is strengthened by the occasional occurrence of this peculiar form of cell division in the chronic proliferative changes of superficial glossitis in elderly individuals. In the artificial propagation of Jensen's tumour we have only been able to convince ourselves of the occurrence of the heterotypical mitosis at definite intervals and then always in association with other recurring phenomena, notably the establishment of intimate secondary connexions between the nuclei of adjacent parenchyma cells. The occurrence of the heterotypical mitosis in chronic superficial glossitis may be legitimately correlated with the truth that the cells of malignant new growths are endowed with powers of differentiation in one direction only, which has hitherto been the most powerful argument we possessed in favour of the opinion that a cancer arose in the tissues of the primary site the structure of which it imitated. It will be obvious why cancer need not always follow upon the final stages of cell multiplication but only when the process of nuclear fusion has been properly consummated, to secure which there is no special mechanism, and consummation is therefore attained even more rarely than in the case of the sexual elements, to secure the union of which one is provided.

Attention has been drawn to the fact that all hypotheses in explanation of the origin and nature of cancer break down, not only in not explaining how growth is maintained but also before the problem of the peculiar age incidence of the disease. Several investigations have shown that time limitations modify the fundamental features of cancer in an important way. The effects of time cannot be explained on the assumption that the growth of cancer is uniform and continuous. They harmonise with the features of a form of proliferation which is incessantly renewed and therefore support the cytological observations. The relations which exist between time and various features presented by cancer all bear upon the explanation of the increasing frequency of the disease as life advances. Different but definite limits are set to the rate of growth, to the size of the body—i.e., total amount of growth—and to the duration of life in man and animals. A parallel can be drawn between those specific characters and the equally specific age incidences of cancer. They are all dependent on factors innate in the different forms of life and the time when malignant new growths appear is as much determined by the biological laws peculiar to each species of animal as are the form of the body and the absolute length of life.

The span of life of the individual is not the same as that of the separate organs and tissues which have contributed to its maintenance. Some organs and tissues early attain full development and disappear; others are only active during adult life; and others, again, as long as life lasts. The age incidence of cancer in different organs presents contrasts similar to those found in species with long and short lives. Other factors, however, greatly modify the mere influence of time and we do not perceive in the organs of an individual the sharp distinctions exhibited in the representatives of different species. There are, however, indications of such differences. To take only one or two instances from human pathology, the chorion has a short life and chorion epithelioma appears at an interval after fertilisation which corresponds to its old-age stages of proliferation. The mamma and the uterus attain maturity more slowly and are active for a relatively longer time but carcinoma has its highest incidence when the organs are undergoing involution. The skin remains functional long after middle life and the age at which squamous-cell carcinoma is most frequent corresponds. As the compass of life determines the general incidence of cancer in a species, so also the same factor helps to determine the occurrence of malignant new growths in different sites in any one animal. The age at which the maximum incidence of cancer occurs in any one species results from the combined action of the factors which have been discussed; but at special sites there may be contributory causes whereby the final stages of proliferation are attained more early, where, e.g., chronic irritation or injury has led to excessive cell multiplication. All the many modifications which time limitations effect on the characteristic features of cancer support the conclusion from the experimental and cytological observations; and the view that the unbounded growth of cancer follows on the terminal phases of normal cell multiplication in consequence of nuclear fusion makes the age incidence of the disease a necessary consequence.

The provisional working hypothesis based on the study of how cancer grows requires no subsidiary assumptions to explain all its other features. The circumscribed nature of the primary area, or areas, the relative independence of malignant new growths, their power of continued proliferation, their destructive and infiltrative character, the formation of metastases, the peculiar age incidence, the single differentiation, transmission with all its limitations, the absence of a specific symptomatology, and the addition of malignant growth to congenital tumours, are all naturally explained if it be true that the cells of the body and embryomata tend sometimes in the final stages of proliferation to undergo changes which prepare them for nuclear fusion which is occasionally consummated. These investigations are still proceeding on other tumours of different character and no claim whatever is made to finality in laying before you some provisional conclusions which must stand or fall in accordance with the results of future experience. At present these provisional conclusions possess the great value of stimulating us in our study of a very difficult and involved subject and of assisting us to devise means for experimentally attacking it. I may now briefly summarise the main results of the investigations.

1. Cancer is identical in all vertebrates and in growing accommodates itself in a striking manner to the time limitations imposed by the compass of life in different animals.

2. Under favourable experimental conditions the growth of cancer is undefined, of enormous, and, so far as we can judge, limitless amount.

3. Artificially propagated cancer displays all the characteristic features of the growth of sporadic tumours.

4. The growth of artificially propagated cancer is due to the continued proliferation of the parenchyma cells. We have confirmed this conclusion, originally advanced by Jensen, on his own tumour and on four other different carcinomata.

5. The artificially propagated parenchyma makes the reaction of the host subserve its own needs.

6. Artificially propagated tumours cause no symptoms in the organism to which they have been added.

7. The power of differentiation is definitely in one direction only, even three and a half years after separation from the original host.

8. The number of chromosomes constant for the healthy body tissues is retained, notwithstanding the recurring reduction of this number to the exact half.

9 The balance of evidence is in favour of the growth [illegible] form and continuous [illegible] therapeutics the investigations [illegible] rch Fund thus far establish the early surgical treatment of cancer and of the conditions suspicious of cancer, upon that experimental and rational basis which has hitherto failed Artificially propagated tumours produce metastases as do sporadic tumours Sufficiently early removal of the local transplanted tumour removes metastasis from the region of possibility and the immediate practical outcome of the whole investigation is a strong experimental justification of early operation in cancer We have made many attempts to modify the growth of propagated tumours, they have been, however, purely empirical and must continue so until the fundamental problem which I have outlined has been solved

We have certainly not ascertained all the truth and it would be rash to forget that the positive experimental results are at present based upon observations in mice only This may be too narrow a basis and I must therefore protest that I do not appeal to you in support of any hypotheses explanatory of the nature and origin of cancer but simply in advocacy of the necessity for further investigation into how cancer grows in the hope that we may determine why it grows I have laid before you a provisional interpretation of the few isolated observations we have made thus far, with the conviction that it is capable of being tested by investigations now progressing and this is a very different matter from taking refuge from criticism in a postulate which cannot be submitted to objective investigation

The Milroy Lectures

ON

INDUSTRIAL ANTHRAX.

Delivered before the Royal College of Physicians of London on March 7th, 9th, and 14th, 1905

BY T M. LEGGE, M D OXON, D P H CANTAB,

HIS MAJESTY'S MEDICAL INSPECTOR OF FACTORIES

LECTURE III[1]

Delivered on March 14th

MR PRESIDENT AND GENTLEMEN—To follow the incidence of anthrax on the workers in the different processes in the three main industries concerned, wool horsehair, and hides and skins it is only necessary to remember the following points In the case of wool, with the exception of Van mohair, the material is unwashed until after the fleeces are opened to examine their condition, sorted according to colour and quality, cleansed from dust in the willow machines, and blended in large heaps to obtain a uniform shade of colour in bulk. Dust is inseparable from each operation It next passes through three separate tanks or wash bowls containing soap solution kept at a temperature of about 130° F, so that the effect of washing may be expected to lessen the risk from anthrax in the later processes after drying—namely, carding, combing, finishing and gilling—to which it is subjected prior to spinning In considering danger from horsehair distinction must be made between the short mane hair to be curled for stuffing purposes and the long tail hair to be woven into hair cloth and, again, between material that is dyed and that which is undyed Were all material dyed I believe that the incidence of anthrax in the industry would be materially lessened because for this process to take effect the hair must be left for some hours in the dyeing solution heated by passage of steam through it Although in the trade this process is described as "boiling" it is rare for a temperature of 212° F to be reached throughout the solution Dirt, however, is mechanically removed and probably the virulence of the anthrax spores is diminished Specifications unfortunately require at times that horsehair shall remain undyed and shades of a grey colour are demanded Manufacturers allege that to obtain these grey natural colours material must be used from countries like Siberia in which anthrax is rife Be this as it may, frequently all the early dusty processes of opening, sorting, willowing to free from dust, and drawing into bundles according to length are done with material that has undergone no preliminary washing process Finally to set the curl the hair is exposed to dry heat at a temperature of 250° F for 24 hours or is exposed to steam under pressure, so that risk after leaving the factory is not worth consideration Long hair for weaving purposes is always soaked in a warm soda solution and danger is minimised, as the process of heckling to separate the individual hairs is done while the material is wet Bristles undergo only a process of dry heckling—frequent drawing of the hair through upright steel pins—before they are used in brush making As a rule they arrive sorted and cleaned except in the cheaper kinds, notably "Chinese riflings," which are of low quality and too short to be properly bundled according to length Large quantities of China mane hair are also used in the manufacture of [illegible] s and this, although it frequently [illegible] preparation in China undergoes [illegible] that described in the case of bristles In hides and skins evolution of dust and consequent danger are greatest in the early process of sorting and throwing into heaps according to quality The precise occupation at which the affected persons were employed is shown in Table XII arranged in the order of the processes of manufacture from the arrival of the material at the factory to the time when it leaves in a finished condition

TABLE XII

WOOL

Handling bales at wharf	1	Drying	1
Vanman	1	Carding and combing	16
Warehouse	4	Finishing, gilling and preparing	6
Overlooker	1	Spinning and weaving	6
Occupier	1	Waste pulling	1
Woolsteeping	1	Sweeping floors	1
Opening bales	3	Dyeing	1
Sorting	16	Engine house	1
Willowing	13	Infected outside factory	3
Blending	3		—
Wool washing and wool running	7	Total	88
Mechanic	1		

HORSEHAIR

Vanman	1	Yarn winding	1
Clerk in office	1	Stuffing boxing gloves	1
Warehouse	4	Stuffing mattresses	1
Opening weighing and carrying	9	Emptying sacks	1
Sorting and mixing	3	Wet heckling	1
Willowing	7	General work	1
Drawing and dressing	9	Infected outside factory	5
Curling and carding	11		—
Brushmaking	14	Total	70

HIDES AND SKINS

Dock labourers	16	Portmanteau making	1
Wharves or warehouses	41	Leather seller	1
Fellmonger	1	Picker strap making	1
Tanyards	24		—
Boot making	1	Total	86

OTHER INDUSTRIES

Docks	2	Worker in harness furniture	1
Fruit and vegetable warehouse	2	Vanman	1
Horn manufacture	2	Worker in mother of shell	1
Rag sorting	1	Knife hafter	1
Linen weaver	1	Unloading grain	1
Chemical manure	1	Grain dealer	1
Saddler	1		—
Railway porter	1	Total	17

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[1] Lectures I and II were published in THE LANCET of March 18th (p 689) and 25th (p 765) 1905 respectively

Anthrax in Relation to the Wool and Worsted Trades.

There is interest in comparing the facts now known of the incidence of anthrax in wool and worsted as regards type of the disease, class of persons attacked, supposed dangerous material, and other circumstances with those brought to light a quarter of a century ago when the disease first came prominently into notice by the report of Mr. J. Spear in 1881.[2] He dealt with 32 cases (21 fatal) which occurred during 11 months, November, 1879, to September, 1880, in the neighbourhood of Bradford. Of these nine were typical cutaneous anthrax (two fatal) and the remaining 23 (19 fatal) fully developed internal anthrax. Internal anthrax was, he wrote at that time, "the form of the disease which is the much more common one, at all events the more commonly recorded one amongst wool-sorters," and if there were added cases which were considered mild or rudimentary attacks of the internal form the fatality would appear correspondingly less. During the six years 1899 to 1904 only six cases of the internal form have been reported and there would thus appear to have occurred a remarkable change in the type of the disease prevalent in Bradford, the external and internal form having changed places as regards frequency of appearance. As to the diminution of internal anthrax there is no doubt. Some explanation of the change may be found in the more frequent diagnosis of external anthrax now but this is insufficient to explain the very great reduction in cases of true wool-sorter's disease. Moreover, mild or rudimentary attacks of the constitutional form of the disease are never reported now. Several of the cases investigated by Mr. Spear followed on manipulation of gravely infected Van mohair. More recent cases of internal anthrax in 1898 and 1899 similarly followed one another quickly on manipulation of badly infected Persian wool. With our knowledge of the greater virulence of the bacillus under certain conditions it is not unreasonable to assume that variations in type may be due to this cause and that at some future time there may be recrudescence of the severer form.

The principal circumstance, however, which has altered since the time when Mr. Spear wrote is that under which the manipulation of the wool takes place. Now, in addition to regulations requiring care in the opening of the bales and removal of the damaged wool or hair, fallen fleeces and pieces of skin, none of the dangerous specified wools (Alpaca, Pelitan, Cashmere, Persian, Camel hair, and Mohair) may be opened or sorted except at a place where a constant draught of air maintained by a fan carries the dust away downwards. While it cannot be said that introduction of exhaust ventilation at the sorting tables has removed the danger entirely, as the table shows, claim can be made that it is a material safeguard. Instances could be cited in which occurrence of anthrax seems to have followed as cause and effect on cessation or impairment of action of this fan exhaust. Changes in type of the disease therefore may be due to these altered conditions of working. 25 years ago Mr. Spear insisted also on the fact that "with rare exceptions only those suffered who were employed in the first manipulation—in the sorting process,"[3] qualified, however, by the statement that "the power of the wool for mischief cannot be said to be exhausted here, for in the combing-room the material may possibly prove infective." For several years later there must have been the same absence of cases among the carding, combing, and spinning hands, for in a Home Office Report in 1897,[4] charged especially with suggestion of remedial measures, the later wool-combing processes are not specially referred to. Since then, as shown in the table, cases have been most numerous in the processes subsequent to the washing of the wool. Had the scope of the earlier inquiry covered a longer period than one year and extended to other industries such as the carpet and felt manufacture, no doubt cases in departments other than sorting would have been found to occur more frequently than was supposed. So frequent did these cases become that regulations were introduced requiring as perhaps the most important provision isolation from other processes and mechanical exhaust ventilation for the removal of the dust in the process of willowing or cleaning of the material. Cases, however, still continue to be more frequent in the rooms where the carding and combing processes are carried on. I say rooms advisedly because personally I believe som perhaps most, of them are due to infection from unwashe wool, because though combing and carding and spinnin are the principal, they are not the exclusive, operatio carried on in them. The wash bowl occupies a portion of th room or is connected by a passage and along this a current air may pass from where the unwashed material is bein treated. In the few factories in which incidence on workers the combing processes has been most frequently observed th absence of separation of the processes connected with washe and unwashed material has been noted. This explanatio is insufficient, however, to account for all the cases arisin during the later processes. In the year 1904, for instanc two persons at least were attacked in factories where no ra material but only finished "tops" (probably of Persian woo were used. These tops must have passed through all th various stages of cleaning, washing, and the minute separ tion of one fibre from another in the combing machines one factory before they were conveyed to the other whe infection occurred.

Although the pulmonary type of the disease was fir noticed in Bradford after the introduction of alpaca an mohair as textile materials in 1837 several deaths occurred later years (1846, 1853-4, 1867-8, and 1874) from manipula tion of these materials[5] the danger from Van mohair (intr duced about 1863) seems to have overshadowed that fro other material such as Persian wool at the time of Mr. Spear inquiry. He gives the following list of foreign wools in th order of their apparent noxiousness as it was at that time co sidered to be: (1) Van mohair, (2) Persian, (3) Camel hai (4) Alpaca, (5) Turkey mohair, (6) Pelitan, (7) Cape mohai and (8) Cashmere. Now the order would be: (1) Persia (2) Turkey mohair, (3) Van mohair, (4) East India (5) Camel hair, (6) Alpaca, (7) Pelitan, and (8) Cashmer Possibly the disappearance of Van mohair from the positio of greatest noxiousness is due to the fact that Va mohair alone is required by the regulations to be washe and sorted while damp if at all. The list does no take account of the amount of the various materials used Danger from East Indian wool which, although very sandy is believed to be exported in a washed condition, does no appear to have attracted attention, no doubt because its us is much larger in the felt manufacture than in the worsted Probably the use of Persian wool has increased since 1880 The explanation why it is so largely in demand arises fro the fact that this breed of sheep is one of the few in whic the wool is naturally of a black, brown, or fawn colou Thus it is stated that in the Chipal breed in the district round Bassorah, Bagdad, and Mosul only 20 per cent. of th flocks contain white sheep, the remainder being black, grey fawn, or brown; and the wool is of a finer quality than tha of other breeds exported from Mesopotamia. With th demand for cloth of khaki colour there is no likelihood of diminution in the supply of this Persian wool. Fresh open ings for its manipulation in the worsted factories are con stantly sought. Thus the consul reporting on the trade o Nanking[6] alluding to the uselessness of trade catalogues i general says: "The only one which appeared to me to hav possibilities in it was addressed by a firm in London makin khaki uniforms. I wrote to the senders pointing out tha as the Chinese army was now being reorganised if they woul appoint an agent in China it might be possible for the to obtain a contract to supply uniforms for the foreig troops."

It is customary to attribute the absence of anthrax fro manipulation of the immense supplies of Australian and Ne Zealand wool to the fact that such wool has a larger pro portion of natural grease or "yelk" in it, the presence o which would tend to stop diffusion of dust. To me thi reason is not sufficient to account for the facts and attribute the immunity mainly (1) to comparatively sma incidence of the disease in animals; and (2) to the pre cautions taken to prevent the spread of disease and to secur proper disposal of the carcass. The existence of simila precautions would explain why the disease is apparentl transmitted so rarely from countries such as the Argentin Republic where anthrax among animals is common. Thu in New South Wales[7] in 1902, "the sheep were free fro disease except some few cases of anthrax and the losses fro it were very slight." In 1901 no outbreaks were reported

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[2] Annual Report of the Local Government Board, 1880-81, Supplement containing Report of the *Medical Officer*, p 66.

[3] Ibid., pp 78 and 83

[4] Conditions of Work in Wool sorting and other Kindred Trades, 1897.

[5] Bell · Article on Anthrax in Clifford Allbutt's System of Medicine vol. ii., p. 539.

[6] Trade of Nanking, Annual Series, No. 3004, 1903.

[7] Department of Mines and Agriculture, 1903.

The total number of sheep and lambs shorn in 1902 exceeded 25,000,000. In South Australia[8] in 1902 the list of diseases among sheep does not include anthrax. In the report of the chief veterinary officer of New Zealand for 1899 four outbreaks of anthrax are recorded—the first appearance of the disease since 1895.[9]

Still in seeking for means to render safer manipulation of wool and horsehair from Asia the practice of washing the sheep prior to shearing, willowing it from dirt, and discarding the fallen fleeces in the country of origin would be the next best thing to disinfection of the material were that possible by means of steam. This is what some manufacturers would wish to see done and in March, 1903, the chambers of commerce of Bradford, Halifax, and Kidderminster issued a circular letter pointing out the unsatisfactory condition in which Persian wool was received in the country. Nearly every bale is falsely packed—i.e., the fleeces contain locks (inferior wool), skin, fallen wool, and cotton rags, besides soil, sand, dirt, and dust. They urge especially that persons consigning Persian wool should endeavour, first, to keep out of the bales extraneous matter, and, secondly, to pack locks, fallen wool, and skin in separate bales. Any loss on locks sold at lower prices would be more than recouped by higher prices obtained for honestly packed bales. All the evidence shows, however, that wool is washed less frequently before shipment than it used to be. Thus in 1869 158,000 bales of greasy unwashed wool were sold as compared with 681.500 in 1[illegible] the same years being [illegible] scoured wool 114,000 [illegible] diminution in the quantity of washed fleeces is that the extra cost of washing was not made up to the growers by reduction in freight or the slightly increased market price obtained for it in London.[11] Moreover, the users of wools in this country desire to scour the material themselves in the manner most suited to their particular trade and object to scouring carried out in the colonies and elsewhere. In the report of 1897 already referred to the committee expresses the wish that it were possible for H.M. consuls to report anthrax-infected districts so that by the ear-marking of the bales from such localities imported infection might be traced and arrested.

Mr. Spear[12] was informed that it would not be difficult in Constantinople, where the classification of wools from Asia Minor was made, to secure that fallen fleeces should be classed apart. Pressure in this direction by combined action on the part of manufacturers or of the legislature might have the effect on dealers and native growers abroad of making them take steps to keep apart these fallen fleeces or to separate them in Constantinople. This would of course merely shift the risk from the workers at home to those in Constantinople. The difficulties in the way of carrying out such proposals are many. In the absence of official records based on veterinary reports knowledge of anthrax-infected districts would be untrustworthy and such evidence might tend to [illegible] is unlikely that, in the absence of discriminating veterinary reports, the consuls would be in a position to say what bales were infected. The practice, too, of storing wool dependent on the needs of the market, or on fluctuation in price, would equally tend to make such protection illusory. That the matter, however, has not escaped the attention of some of the consuls is apparent from the following quotation from the consular report from Kermanshah in Persia[13]: "In reply to an inquiry as to why more care was not taken in washing and sorting the wool, the Kermanshah wool merchants declared that no skins, cotton rags, or pieces of string were contained in the wool exported by them. They did not wash the wool so well for export as for spinning in the country, as well-washed wool scarcely fetched a better price in Bagdad than the usual wool exported there." If in this country, with all the precautions which are taken to check the spread of the disease and to prevent the flesh of anthrax-infected animals from coming into the market, illicit dealing is still practised and every year carcasses thus infected are found in the meat markets and butchers' shops exposed for sale, what hope is there that in other countries where there are no regulations, where cupidity is not less marked than at home, and where the disease is probably a hundredfold more rife, material good could be achieved by the branding of bales or by reliance on the exclusion of fallen fleeces in the sorting carried on in Constantinople?

The tariff duties of the United States[14] touch on this point by classifying in three divisions the different kinds of wool imported and levying customs dues of varying amounts according to the quality and previous treatment to which it has been subjected. Thus wools of the first class, including that from Bagdad and China and British colonial wool, among others; and of the second class (including camel hair, angora goat, and alpaca) if imported scoured pay thrice the duty; and if imported washed twice the duty they do if imported unwashed. The duty on these wools also is doubled if the value is increased by sorting or rejection of any part of the original fleece, or, again, if it be reduced in value by the admixture of dust or other foreign substance. High duties are placed on any fraudulent attempt to pass an inferior material as of high quality wool. In the inferior wools of Class 3, including South American, native Smyrna, Russian, camel hair, and "wools of like character such as have been usually imported into the United States from Turkey," the classification is based on an increase in the duty on material containing less than 8 per cent. of dirt. These duties apparently have no reference to the prevention of anthrax, nor is it easy to see, apart from pressure from buyers in the United States, what inducement there is for the removal of dirt in the third class when reduction of the amount of dirt to 8 per cent. increases the amount of duty paid. In the first and second classes certainly twice the duty (24 cents per pound) by reduction in value by admixture of dirt would be an incentive to cleaning the wool. That an effect in the cleaning of the wool from China, however, is produced by these duties is shown by the following extract from the report on the trade of China in 1903. "The best wool comes from the flocks of the petty chieftains outside of China proper, who only shear their sheep once a year. The clip is therefore longer in staple and freer from dirt than that obtained from Chinese sheep, which are shorn two or three times a year. All attempts to prevent more than the ordinary amount of dirt which a fleece must collect have proved ineffectual and wool containing 30 per cent. of real estate still continues to be sent down. The cost of carriage is some £1 6*s.* per cwt., and there is quite sufficient dust in Tientsin to render it unnecessary to pay at this rate for transportation thither of the sand of Central Asia. The imposition by the United States of the heavy import duty on wool of 4 c. gold per pound led to its being thoroughly winnowed prior to shipment and although the quantities recently shipped appear to be less than were shipped, say, ten years ago, the actual amount of clean wool which now goes forward is in reality greater."

Wool in Asia Minor is collected annually at fairs in centres such as Bitlis, Djezireh, and Mogoul. The nomad tribes of Kurdistan bring their flocks to be sheared there and the small dealers bring the wool that they have collected in different parts of the country.[15] Hair and hides in China are collected by Chinese agents in the interior. No foreigners deal directly with the seller in the interior. 50 per cent. of the horsehair comes from Mongolia and 50 per cent. from near Mukden in Manchuria. Tail hair is washed by the Chinese in the interior but manes and combings undergo no treatment as the price at which they are sold would not pay for cleaning. Bristles are collected as follows. The pig when killed is placed in boiling water and the bristles are scraped off. They are washed in hot water, dried in the sun, and roughly bundled according to length and packed in baskets. These baskets are sold to the interior buyer who opens, cleans, and resorts the bristles which he sells to the foreigner who packs them for shipment. No disinfectant of any kind is used. Hides and goat skins are sold by gross weight which includes the mud and the dirt. If the demand is great anything having the appearance of a hide or a skin is included; if slight the bundles contain good skins, for the interior Chinese buyer knows that then the foreigner will be particular and refuse bad skins. These will be stored up until the market improves. It is entirely a question of price.

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[8] Report of Minister of Agric[illegible]

[illegible]

[11] Principles [illegible] G. Bell and Sons, 1904.

[12] Loc. cit., p. 110.

[13] Annual Series, No 3189, 1904.

[14] Customs Tariff Act, 1897, R. F. Downing and Co., New York.

[15] Spear: Loc. cit., p. 85.

ANTHRAX IN RELATION TO HIDES AND SKINS.

The history of anthrax in this country in relation to hides and skins can be best traced from the reports of Mr. Spear[16] and of Dr. W. H. Hamer[17] on the occurrence of cases in London. Mr. Spear's report dealt mainly with an outbreak in a Bermondsey tanyard which occurred in 1882-83 due to a consignment of bales shipped from Shanghai. In the space of a few months nine men were attacked, of whom three died. Owing to the danger attaching to the manipulation of the bales several were disposed of in Paris and various ports in Italy and subsequently news arrived that seven men, who had handled these hides in Paris, had been attacked, of whom two had died. Dr. Hamer dealt with a total of 90 cases which had occurred between the years 1873 and 1893. In 86 the occupation was ascertained. Of these 63 handled the hides while in the possession of the hide broker and 23 (of whom 15 were tanners) after removal to other industrial premises. Infection was believed to have been conveyed from China hides in 26 cases, from East Indian in 12, from other specified kinds in nine, and in 34 the source could not be ascertained. The later records which have been obtained since 1899 show that, although the area from which infected hides may arrive has been widened, material from China and East India is now, as it was a quarter of a century ago, the principal source of danger. And later information agrees with the conclusion arrived at by Dr. Hamer that infection from wet hides is very rare. In only two out of his list of 90 cases was there suspicion that wet hides were the cause. Apart from the lessened diffusion of dust by the wet-salting process, Dr. Hamer suggests that the presence of moisture would tend to cause the spores to assume the bacillar form in which they would be more likely to succumb. The cutaneous type of the disease has remained the same, evidence of pulmonary anthrax being as absent now as it was in previous investigations. Dr. Hamer found some ground for the hope that substitution of wet for dry hides which the trade appeared to encourage would, if continued, lessen the risk of anthrax to those manipulating foreign hides in London. He gives the figures of the amount and value of dry and wet hides imported in the years 1882 and 1892. I have added the figures for 1902 (Table XIII.).

TABLE XIII.

Year.	Dry hides.		Wet hides.	
	Cwts.	£	Cwts.	£
1882	576,196	2,098,895	614,471	1,645,786
1892	368,191	946,354	541,286	1,138,903
1902	286,334	845,484	661,198	1,595,109

From this it appears that the total consumption of hides remains the same in 1902 as in 1892; the increase in wet hides balances the reduction in dry. I believe, however, that any conclusions drawn from the above figures are illusory, as the amount and value of dry hides imported are subject to very considerable fluctuation in the trade returns from year to year.[18] If, for instance, the figures for the year 1900 are taken the amount of dry hides imported would be found to exceed those even for 1882 by 171,551 cwt. Again, while from Bombay and Bengal respectively in 1900 dry hides to the amount of 279,045 and 217,787 cwt. were imported the figures in 1903 dropped to 5261 and 41,619 cwt. It is instructive to show for each year side by side the number of cases of anthrax in which strong suspicion attached to Bombay and East Indian hides and the varying amounts imported from Bombay, Madras, and Bengal in the same years (Table XIV.). Famine prevailed over large districts in India in 1899 which accounted for the enormous quantities of inferior hides shipped to this country in the following year. China hides are recognised in the trade as particularly dangerous and assurance is freely given that this risk has diminished the trade in them. Thus the outbreak in Liverpool in 1900 was attributed to the first introduction of China hides to that port. No diminution is reflected in the Board of Trade returns from year to year which would point to the fact that if imports are reduced at one port they are increased at another. Thus, the value of China hides was estimated in 1899 at £21,455, in 1900 at £12,907, in 1901 at £11,053, and in 1903 at £17,131. The reduction in 1900 can be accounted for by the increased supply of cheap East Indian hides and in 1901 by the great flood in the Yang-tze valley. In 1903 the amount of dry hides imported from China stands only below that from Russia, Holland (of which much may be Chinese), and the East Indies. Evidence from consular reports leads me to suppose that the supply will be increased with the opening up of fresh treaty ports. Thus the consul at Nanking[19] writes: "The export of goat skins has made steady progress since the opening of the port. The value of the trade in 1899 was only £1800, as compared with £32,840 last year. There is undoubtedly a future in Nanking for this class of goods as the supply in Honan is enormous. The same remark applies to hides as to untanned goat skins." Again, the British commercial attaché[20] at Peking writes: "The export of hides has increased in volume 347 per cent. since 1891. Large as is this increase the export of hides does not begin to compare with that of India where conditions governing the supply are almost the same as in China. In both countries cattle are solely bred for agricultural purposes and it is only when they get sick or die of old age that their hides are available for commerce. The export of skins is also a large and growing one, having increased 457 per cent. in value in the last decade." In a later year he says: "Some 40 years ago skins and wool were only remotely thought of ...... and the skins of goats from Honan and Shanghai, which are all converted into the smart American boot, have gone a long way towards building up the wealth of Tientsin."

TABLE XIV.

Year.	Dry hides imported from Bombay, Madras, and Bengal (cwts.).	Number of cases of anthrax attributed to East Indian hides.
1898	117,805	1
1899	144,749	3
1900	507,131	7
1901	127,464	9
1902	51,301	3
1903	49,677	3
1904	—	2

The hide and skin industry of Germany appears to be greater than that of this country. Thus the number of hides imported into Hamburg in 1903 is stated in the consular report[21] to have exceeded that of Antwerp, Havre, and the United Kingdom combined. Reports of the factory inspectors give no account of incidence on dock labourers or on those manipulating the material in warehouses prior to tanning processes. They have contained every year from 1891 to 1902 references to cases in tanneries but without attempt at complete returns. The number in tanneries and leather factories thus referred to is 65 with 13 deaths—20 per cent. In three tanneries at Kirchhain in 1898 there were 11 cases and in 1902 six. Here sheep skins only are dealt in and of one consignment of 2000 skins 60 were believed to be infected with anthrax. In France information is still scantier than that obtainable in Germany. In the district of St. Denis, near Paris, record of the cases has been carefully kept since 1875 by Dr. Le Roy des Barres.[22] During the years 1875-97 he has seen 72 cases distributed as in Table XV.

TABLE XV.

—	No. employed.	Cases.	Per cent.	Fatal.	Fatality per cent.
Horsehair ...	160	15	9·3	3	20·0
Fellmongers	760	57	7·5	7	12·3
—	920	72	8·8	10	14·0

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[16] Annual Report of the Local Government Board, 1882-83. Supplement containing the Report of the Medical Officer.

[17] London County Council: Report of the Medical Officer on Anthrax in London, April 5th, 1894.

[18] Annual Statement of the Trade of the United Kingdom with Foreign Countries and with British Possessions.

[19] Annual Series, No. 2907, 1902.

[20] Trade of China for the Year 1901, by J. W. Jamieson, No. 2912, and for 1903, No. 3127.

[21] Annual Series, No. 3186, 1904.

[22] Annales de l'Hygiène Publique, 1897, vol. xxxviii.

All but one of the 57 cases occurred in the only premises where foreign material was dealt in, although there are at least three other important tanneries. Chauveau[23] describes isolated outbreaks in tanyards at Morlaix and the neighbourhood in which the incidence on eight men and 23 animals coincided with the first use in the district of hides imported from China.

There seems no reason for doubt that anthrax can be conveyed by completely tanned material. Apart from the cases tabulated from tanned hides, where possibly infection may have been conveyed from raw hides present on the premises, anthrax has been conveyed to horses apparently through the harness. Thus two horses contracted anthrax, the lesion in both cases being on the flank where a quite new pair of reins came in contact with the body.[24] Experiments have shown that the tanning fluids are insufficient to destroy the vitality of the spores. Thus Ravenal found spores still virulent after immersion for 224 days in the seven tanning fluids of different strength ordinarily used, nor could he suggest any efficient disinfection of the hides which was not likely to injure them. Houston's[25] experiments demonstrating the presence of anthrax spores in the effluent from the catch-pit of a hide factory show that they must be able to survive also the arsenicating, liming, and other processes. In an outbreak in Wisconsin,[26] America, dried hides were placed in solutions of formaldehyde varying in strength from 1 in 500 to 1 in 10,000. At the end of 11 days the anthrax bacillus was cultivated from the solutions containing from 1 in 10,000 to 1 in 2500. The formaldehyde combined gradually with the hide and damaged the material. Success in this direction has been claimed for certain patent preserving fluids of one of which it is reported that anthrax spores are killed in hides and skins soaked for an hour in a 4 per cent. solution. Houston[27] has, however, tested [illegible] During the outbreak in Liverp [illegible] of soda was recommended and [illegible] after as well as before its use. An order of the German Government, dated May 9th, 1902, describing the precautions to be taken in manipulating certain hides, states that no method of disinfection is known which is at the same time certain in its action, easily carried out, and not injurious to the material. Obviously to be of real benefit disinfection of hides if practicable should be done before the material is opened in the warehouse where most of the cases occur and to secure this is impossible at present. In this country consequently the precautions adopted in handling hides and skins coming from China and East India are slight, and directed solely to protection of the workers' clothing by overalls, of their food by prohibition of meals in rooms where the above-named hides are manipulated, provision of washing accommodation, and simple means for dressing wounds. A brief summary of the symptoms of the disease and the necessity for prompt attention are also given.

ANTHRAX IN RELATION TO HORSEHAIR.

The occurrence of cases in a hair factory at Glasgow in 1878,[28] described by Dr. J. B. Russell, first drew prominent attention to the danger of anthrax to the workers from this material. In his report Dr. Russell cites numerous published reports in France, in one case dating as far back as 1777, in which workmen had been attacked with charbon and boils in opening and sorting bales imported from Russia. In France and Germany, indeed, use of this material appears to have contributed by far the largest share of cases of anthrax. The outbreak in Glasgow in 1879 was due to virulent infection from Russian horsehair. Nine persons were attacked, of whom seven died. Seven of the cases were of the internal type. In 1893 Chauveau[29] described a small outbreak from horsehair in a village in France which has many points of resemblance to that described by Dr. Russell. In less than four months there were seven cases with six deaths. Two of the cases were of the gastro-intestinal type and two of malignant anthrax œdema without external development of a malignant pustule. In this case China horsehair was believed to have been the cause. Since 1878 no case of anthrax was known to have occurred in Glasgow until an outbreak of five cases in 1900. During this second outbreak the particular factory in which all the early cases had occurred escaped, the firm having since 1878 discarded the use of Siberian hair altogether.

The possibility of steam disinfection suggests itself as the only effective means of removing the danger from manipulation of dangerous wool and horsehair. In the case of wool no thorough and minute inquiry as to whether this method is practicable has ever been undertaken. In 1880 a manufacturer in Bradford for the space of 12 months placed all bales of alpaca and mohair in a steaming apparatus at a pressure of five pounds for 12 hours. No experiments were made to see how far sterilisation was accomplished. The firm did not find that the material was injured for spinning purposes. Subsequently the firm discontinued the use of Van mohair wool and the need for steaming disappeared. To obtain certain effects, such as the fixing of a dye material on the wool, mohair after it has been carded is still exposed for one and a half hours to steam at five pounds pressure without injury. When high pressures, such as are commonly employed in disinfecting machines in this country, are used, with the increased temperature, there is increased tendency to damage the material. Thus Dr. W. A. Evans,[30] medical officer of health of Bradford, has on several occasions tried to disinfect dangerous wools by means of a Washington Lyons apparatus and says:—"Although my disinfection may have been successful the wool has almost always been irretrievably ruined, altered in texture and very much in appearance."

The practicability of steam disinfection of horsehair has been thoroughly tested in this country and in Germany. The problem of steam disinfection when applied to horsehair and bristles is presented perhaps in its most difficult form. The natural resistance of the spores is increased by the dirt and grease of the material in which they are imbedded. The hair is tied tightly together and in the case of mane hair or combings the bales weighing about five hundredweights are hydraulically press-packed. Recent experiments by Proskauer and Elsner[31] have shown, too, that anthrax spores artificially placed on horsehair are killed with greater difficulty than when on silk. The experiments in this country by Webb and Duncan[32] have been carried out with known infected material, that is with horsehair in its natural condition in which the presence of anthrax had been demonstrated. The experiments were made in a Washington Lyons apparatus. They found that dust shaken from China hair subjected to a temperature of about 245° F. for 20 minutes appeared sterilised. When, however, the horsehair thus treated had been subjected to the process of carding and one horsehair fibre separated from another the anthrax bacillus was cultivated from the dust so produced. From this the conclusion was drawn that the process of carding liberated the spores which had escaped the first disinfection owing to its environment of grease and dirt. Nevertheless, numerous experiments with dust from combing machines showed that the disinfecting process had killed the great bulk of the bacilli and lowered the vitality of those which had survived. They could not sterilise horsehair in bulk by exposure to steam at about 24 pounds gauge pressure (253° F. actual temperature), even for 45 minutes. When the results of the German experiments became known Mr. Webb reduced the pressure at which he worked and found that equally satisfactory results were obtained with temperatures of 226° and 230° F.

The German experiments conducted in the Imperial Health Office extended from 1894 to 1900.[33] They have been very thorough owing to statements made by manufacturers that the hair made to undergo the preliminary steam disinfection was reduced in quality and, therefore, a source of loss. In the German experiments reliance is based on current saturated steam and not on superheated steam. Anthrax spores are killed by exposure to current saturated steam at 100° C. in five minutes, whereas 20 minutes' exposure is required when superheated steam at from

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[23] Sur Divers Cas de Charbon, Annales de l'Hygiène Publique, 1892 [illegible]

[24] [illegible] zbrands durch Leder.

[25] [illegible] d Report of Sewage Commission.

[26] Wisconsin Station Reports, 1900.

[27] Loc. cit., p. 41.

[28] Annual Report of the Local Government Board, 1878. Supplement containing the Report of the Medical Officer, p. 321.

[29] Annales d'Hygiène Publique, vol. xxix., 1893, p. 224.

[30] Transactions of the Epidemiological Society, 1903–04, vol. xxiii., p. 186.

[31] Zeitschrift fur Hygiene, vol. xliii., 1903, p. 504.

[32] [illegible] Factories for the Year 1900, [illegible]

[33] [illegible] dheitsamte, vol. xv., pp. [illegible]

110° to 120° C. is used. With use of superheated steam spores in the centre of objects to be disinfected may be killed, while those lying on the surface and directly exposed survive. The temperature recorded in these experiments in the centre has been from 99° to 101° C. and in the latter from 105° to 141° C. The only explanation is that the superheated steam as it penetrates into the object gives up its latent heat and acts on the spores in the form of saturated steam.

Leaving out of consideration hair white or light grey in colour, which would be turned yellow, the general conclusion arrived at by the experimenters is that provided the pressure does not exceed two and a quarter pounds, equivalent to a temperature of 219° F., and due precaution is exercised in the management and regulation of the apparatus during the time of disinfection, no injurious effect is produced in the hair which could be considered as diminishing its value or causing it to be a source of loss. Success, however, is only to be attained by minute care in detail: (1) in the construction of the apparatus designed so as to allow the steam to enter from above and to find its exit at the lower part of the apparatus; (2) provision of pressure gauges marking clearly the point when the pressure of two and a quarter pounds has been reached and the provision of thermometers to control the temperature indicated by the pressure gauge; and (3) constant attention to the apparatus during the time disinfection is in progress.

Frequent occurrence of cutaneous anthrax among brushworkers in Belgium has recently caused inquiry to be made there also as to the possibility of removing danger in manipulation of the material. Satisfied of the impracticability of making steam disinfection obligatory in the numerous small workshops throughout the country (a feature of the industry everywhere which adds to the difficulty of controlling the danger) Dr. Glibert, principal medical inspector, has directed his attention mainly to experiments to determine how far simple boiling might be regarded as efficient. Using spores of anthrax which resisted a 5 per cent. solution of carbolic acid for one month, in none of his experiments could he find them capable of developing even after only 15 minutes' exposure. At the same time special precautions must be taken to secure penetration of the heat throughout the material because a thermometer placed in the centre of a closely tied bundle of horsehair 15 centimetres in diameter never registered 100°C., although the liquid in which it was immersed was maintained constantly at this temperature for one and a half hours. These experiments seemed to him the more satisfactory as they followed on unsuccessful results with similar resistant anthrax spores subjected by him (under rigorous conditions) to the accepted procedure of steam disinfection in one of the best equipped continental factories.

To secure certain destruction of all anthrax spores in horsehair absolute reliance cannot be placed on either steam disinfection or simple boiling. Adoption of one or the other is a very material safeguard and steam disinfection is practicable for all kinds of hair except that which is of white colour provided due care is observed. Risk, however, must always be run by those persons who prepare the hair for disinfection.

SOCIETY OF APOTHECARIES OF LONDON.—At a meeting of the Court of Assistants held on March 21st the following resolutions were adopted:—

1. That steps be taken to urge upon the Government the desirability of the amendment of the Midwives Act, 1902, in the following respects. (a) by a provision for payment by the local authority of members of the medical profession called in by midwives in cases of danger or difficulty as defined by the rules framed by the Central Midwives Board; (b) by provision for payment to the members of the Board of their reasonable travelling expenses and other disbursements incurred in connexion with their duties.

2. That a copy of the above resolution be sent to His Majesty's Privy Council.

A vote of thanks was passed to Mr. E. Parker Young for his services as the representative of the society upon the Central Midwives Board during the last two years. Mr. Parker Young, in acknowledging the vote, explained that during his term of office he had been present at every meeting of the Board and had signed nearly 10,000 midwives' certificates. Subsequently Mr. Parker Young was re-elected as representative for another year. The report of the adjudicators for the Gillson scholarship in pathology of the annual value of £90 was considered and adopted, the successful candidate being Mr. E. W. A. Walker, M.A., M.D. Oxon

The Hunterian Lectures

ON

THE PHYSIOLOGY AND TREATMENT OF SURGICAL SHOCK AND COLLAPSE.

Delivered before the Royal College of Surgeons of England on March 6th, 8th, and 10th, 1905,

BY J. P. LOCKHART MUMMERY, M.B.,
B.C. CANTAB., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR OF SURGERY, ROYAL COLLEGE OF SURGEONS OF ENGLAND; HONORARY SURGEON TO KING EDWARD VII.'S HOSPITAL, ETC.

LECTURE III.[1]

Delivered on March 10th.

TREATMENT AND PREVENTION.

The introduction of fluids into the circulation.—The first attempt at this method of treating shock or collapse was by transfusing the blood from the veins of a healthy person to the veins of one dying from loss of blood. Transfusion and intravenous infusion were not only used more than two centuries ago for the treatment of shock and collapse but were much vaunted as a means of curing disease and of indefinitely prolonging life in the aged, and the method was so much abused in Paris in the early part of the eighteenth century that the Government passed laws to stop the practice and imposed serious penalties for those caught performing it. The value of intravenous infusion in the treatment of shock was drawn attention to in 1893 by Mr. Mayo Robson in a paper read before the Clinical Society. Transfusion is now never practised but curiously enough the name still persists and is commonly incorrectly used to describe the intravenous injection of water or salt solution.

There are four principal ways in which fluids may be introduced into the circulation for the treatment of shock: (1) By intravenous infusion; (2) by intra-abdominal infusion; (3) by rectal injection; and (4) by subcutaneous injection.

Very opposite views have been held by different surgeons as to the advantages or otherwise of intravenous infusion in the treatment of shock. The arguments for and against it have been often founded upon purely hypothetical reasoning or upon isolated observations. With the experimental data now available and observations made of the changes in blood pressure with a sphygmometer of the results of this method it is now, I think, possible to arrive at definite conclusions with regard to it. Intravenous infusion raises the blood pressure in all conditions of shock; this has been proved by experiment upon animals by Crile and by observation on patients by myself and others. The rise in blood pressure occurs immediately and gradually increases with the continuance of the infusion. In cases of moderate shock where the vaso-motor centres are still active the pressure is well sustained after infusion, but in profound shock the pressure falls again after a short time unless the infusion is continued. Saline infusion acts by increasing the circulating fluid in the circulation and thereby indirectly raising the blood pressure. Its value is limited in the treatment of shock by the fact that it does not combat the cause of the fall in blood pressure which is the loss of peripheral resistance in the circulation. It is obvious that saline infusion does not act by controlling the capacity of the circulatory system but by diminishing the disproportion between the quantity of circulating fluid and the capacity of the circulatory system.

When salt solution is introduced into the veins in large quantities it begins after a time to escape from the blood-vessels into the tissues and produces œdema. Sherrington, and Cobbett and Roy have demonstrated that in shock a transudation of the fluid elements of the blood takes place through the walls of the blood-vessels into the tissues and that the specific gravity of the tissues is found after shock has persisted for a short time to have decreased owing to the [illegible] om the bloo[illegible] om the bloo[illegible] of the fluid from the circulation after intravenous infusion. This escape of the fluid from the circulation becomes after a time so rapid that if saline infusion is continued the blood pressure is not even sustained but falls while the solution is being run into the veins. A case is reported by *Archard* and Paisseau of a woman who, suffering from severe shock and collapse after an abdominal operation, was treated by continuous subcutaneous saline injection, ten litres of fluid being introduced in this way in 24 hours. She died from pulmonary œdema, and general œdema of the tissues was found post mortem. Crile has demonstrated that after about 320 cubic centimetres of fluid per kilo of body weight have been injected the fluid escapes into the tissues and causes œdema. So far, therefore, as *raising the blood* pressure is concerned the value of saline infusion is limited in the treatment of shock. It is nevertheless one of the most effective means that we *possess* of raising the blood pressure.

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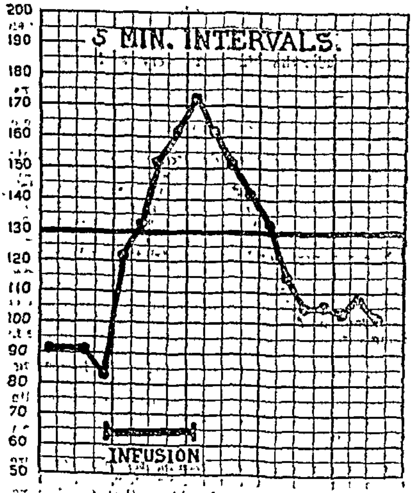
[1] Lectures I. and II. were published in THE LANCET of March 18th (p. 696) and 25th (p. 776), 1905, respectively.

FIG. 12.



The result on the *blood pressure* of a patient suffering from severe shock of an intravenous infusion of salt solution. Four pints were infused.

In a case of dangerous and subsequently fatal shock in which I had the opportunity of observing the *blood pressure* by means of the sphygmometer during intravenous infusion, I observed a rise in the blood *pressure from* 85 *millimetres* of mercury to 170 millimetres in the space of a little over 20 minutes as the result of the introduction of four pints of saline solution into the *veins* of the arm. This is a tremendous rise in blood *pressure*. The *pressure* in this case began to fall again at once and fell slowly until it reached a point just above the original level in one and a quarter hours (see Fig. 12). There is another way in which [illegible] saline infusion is of value in the treatment of shock besides [illegible] already been stated, [illegible] inspissated and its [illegible] ndoubtedly a factor of very considerable importance in producing a fatal issue from shock, as the blood may become so thick that it will not pass through the smaller vessels and capillaries. Watson Cheyne has noted that coagulation of the blood in the pulmonary vessels may occur and materially increase the probability of a fatal issue. Cobbett and Roy have recorded that in dogs in which shock had been artificially produced the blood eventually became so thickened that it would only flow with difficulty from the largest arteries. This being the case it is obvious that saline infusion is of considerable value in counteracting this tendency for the blood to become thickened, and that far from saline infusion causing a dangerous [illegible] he blood, as *has been su*[illegible] capable of reducing t[illegible] Quite apart, therefore, from its value in raising the blood pressure saline in[illegible] to reduce the specific gravity o[illegible]

[illegible] performing infusion. The one most commonly described is that of exposing the vein (usually the median basilic), ligaturing it below, incising it, and tying a glass cannula into the upper end; the fluid is then allowed to flow into the vein from a glass funnel attached to the cannula by an indiarubber tube. A quicker and, I think, a better method is to use a sharp metal cannula and to push it through the skin and vein wall in a direction towards the heart; with a little dexterity this is very easily done and the metal cannula can be got into a much smaller vein than the glass one. In treating shock the results are much better if the patient is infused early instead of waiting to infuse until the patient has reached a dangerous degree of shock. And it is much better to infuse moderate quantities of fluid of about a pint at a time repeated at intervals as the patient's condition seems to require it than to infuse a large quantity at one time. The cannula can be left in the vein and the tube wrapped round the arm ready to reinfuse when necessary. It is very useful to have a blood-pressure record kept with a sphygmometer (which can easily be done by the nurse) and, to be guided as to the amount of fluid and the times at which to infuse by the record of the actual pressure. This is far better than the haphazard method of infusing only when the patient's condition is dangerous. The best temperature for the fluid is about 3° above normal body temperature to allow for [illegible] bing.

[illegible] intravenous infusion is [illegible] drachms of common s[illegible] ieously called normal salt solution on the supposition that it represents a close approximation to normal blood serum in composition. This is, however, not the case; common salt often contains several extraneous chemical substances and even if pure salt is used the solution differs considerably from blood serum. Several forms of physiological salt solution have now been intro- [illegible] which when dissolved in a pint of water give a physiological solution. Halsted's solution which has been used for a long time in his clinic consists of NaCl, 0·9; potassii chloras, 0·03; calcii chloridum, 0·01; and water, 100. In an emergency the solution made up with common salt is very useful and can be used safely. But I believe that many of the symptoms, such as rigors and sweating, which are occasionally seen after intravenous infusion with a solution of common salt are due to the chemical composition [illegible] and that it results from excessive dilution of the blood in the lungs. I have never seen this complication though I have seen and done this procedure a great many times. I should very much doubt its being due to the cause stated as it is hardly conceivable that the blood in the lungs can be diluted to any appreciable extent.

As I have already mentioned, there is no object in infusing very large quantities of fluid as after a time the fluid merely escapes into the tissues and produces œdema. The best guide to the amount of fluid which should be infused is the blood pressure which should for this purpose be measured with a sphygmometer. The rate at which the fluid is allowed to flow into the veins appears to be of considerable importance. A too rapid flow is liable to cause unpleasant symptoms. Thus it has been shown by experiment that a rate of flow exceeding three cubic centimetres per minute in a rabbit produces serious symptoms and Bolognesi has said that though there is no toxic dose of artificial serum there is a definite toxic rate of injection.

In collapse following a severe hæmorrhage where the fall [illegible] exhaustion of the vaso-motor [illegible] circulation resulting from a [illegible] circulating fluid, intravenous [illegible] ition is by far the best and most efficacious remedy. It directly treats the cause of the condition since it supplies fresh fluid to the circulation in the place of that lost. It is true that though we can in this way replace the amount of fluid lost and so re-establish the pressure, we do not replace the corpuscles and so leave the blood much thinner in many of its essential elements. In practice, however, this is of comparatively little consequence. It has been proved that serum alone and even physiological salt solution is capable of taking up oxygen in the lungs and of giving it off to the tissues, so that the circulation can be maintained, even though half the blood in the body has been replaced by physiological salt solution, at any rate in animals. Zachrisson has demonstrated that an animal can be restored to life by saline infusion after a quantity of blood not exceeding 3 per cent. of its body weight had been removed.

As I have already shown, in shock the rise of blood pressure following saline infusion is not sustained but the blood pressure soon falls again to its former level. In the collapse following hæmorrhage, on the other hand, the rise in blood pressure resulting from saline infusion is sustained. The value of saline infusion in the treatment of collapse following extra-vascular hæmorrhage is supported by abundant clinical proof. On one occasion I had an exceptional opportunity of testing its value in collapse of this nature. The patient was a man of about 30 years of age who was operated upon for Jacksonian epilepsy. A large portion of his skull was removed for the purpose of exposing the Rolandic area of the cortex. Before the dura mater had been opened, however, furious venous hæmorrhage occurred from the diploic veins. For some time all attempts to control the hæmorrhage were unavailing and it was not stopped until a very large quantity of blood had been lost and the patient had been reduced to an almost moribund condition. He was quite pulseless, stimulants had no effect, he was quite unconscious, and death seemed imminent. Nearly four pints of saline solution were infused into his veins with the result that he immediately regained consciousness and his circulation was re-established. His blood pressure did not again fall and he completely recovered and beyond a certain amount of anæmia which persisted for a week or two his circulation was entirely restored.

In cases of collapse due to sudden inhibition of the functions of the vaso-motor centres such as follows blows upon the genital organs or in the splanchnic area or any other violent afferent nerve stimulus, saline infusion is often effective, though not to so marked an extent. Here it is the loss of peripheral resistance that is the cause of the condition and saline infusion can only affect this indirectly.

The treatment of shock by intra-abdominal infusion of salt solution.—The method of treating shock occurring during an abdominal operation by the introduction of large quantities of water or saline solution into the peritoneal cavity has long been practised by many surgeons. It was first described in a paper by Lawson Tait in 1887, though Keith and others had undoubtedly practised it many years before this. When we remember the great surface area of the peritoneum and its great power of absorption it is at once obvious that it is a most effective method of introducing water into the circulation.

A great deal can be done to ward off shock or to treat it if present by frequently irrigating the peritoneum during an abdominal operation; or even by simply filling the abdominal cavity with water or, better still, saline solution just before closing the abdominal wound. It raises the blood pressure in exactly the same way as does intravenous infusion. The best solution is a sterile physiological salt solution at a temperature of from 104° to 108° F. There has been a considerable amount of discussion as to whether it is justifiable to use this method in cases where septic peritonitis or other septic conditions are present. Greig Smith advocated it in all septic conditions; the majority of surgeons, however, have condemned it in septic cases on the grounds that it diffuses the septic material and results in infection of a wider area. This view seems at first to be correct but recent researches have shown many reasons why this view is not tenable. Thus Clark and Norris have proved that flushing the peritoneum with saline solution causes a marked increase in leucocytosis, both during and after the operation. They carried out a series of experiments to test whether the introduction of saline solution into the abdominal cavity increases the danger of septic infection or otherwise. These results show that far from increasing the dangers of infection it minimises them. They injected animals intra-abdominally with one cubic centimetre of a bouillon culture of a streptococcus and 100 cubic centimetres of saline solution. Control animals were injected similarly with one cubic centimetre of the bouillon culture only. All the control animals died, the average length of life being 13 hours. Of the experimental animals 44 per cent. lived and of those that died the average life was 88 hours. This certainly proves that dilution of the septic material greatly minimises its power of damage to the peritoneum. Salieri in 1902 proved that the resisting power of the peritoneum could be increased by injection of normal salt solution. More recently Mikulicz and Miyoke have proved that the resisting powers of the peritoneum can be greatly increased by the production of leucocytosis. Mikulicz in his Cavendish lecture states that the intraperitoneal injection of normal saline solution gives rise to a marked hyperleucocytosis in the peritoneal transudate. There can, I think, therefore be little doubt that intra-abdominal infusion is not only safe but advantageous, apart from its action upon the circulation in abdominal operations where septic processes are present. As shock is perhaps most often seen in abdominal operations performed for conditions where sepsis is present I believe this to be a point of no little importance in the treatment of shock by this method.

Rectal infusion of saline enemata.—Rectal enemata of saline solution have a more limited range of usefulness than intravenous infusion. In cases of severe shock where the circulation has almost failed the fluid is not absorbed into the circulation fast enough to be of service, as there is not sufficient circulation to carry it into the great vessels. It is, however, a very useful method in the early stages of shock and as a preventive method.

Subcutaneous infusion.—This method is much more popular on the continent than it is in this country. It has no advantage over intravenous or rectal infusion and has additional disadvantages. Enough fluid to be of any practical utility can seldom be introduced rapidly and unless the circulation is fairly efficient the solution is only very slowly absorbed or not at all. And in addition the injection of so much fluid under the skin is often very painful.

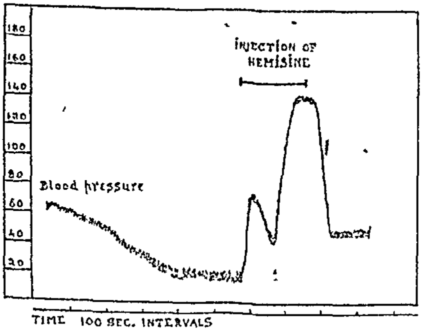
The treatment of shock by raising the peripheral resistance with drugs.—The morbid physiology of shock teaches us that the essential factor in the production of the great fall in blood pressure which occurs in shock, and which is the cause of the condition, is the loss of peripheral resistance in the circulation and that this is due to a general vaso-dilatation from loss of control by the vaso-motor centres. It is at once obvious that if we can find a means of causing constriction of the peripheral vessel and so raising the blood pressure independently of the vaso-motor centres we shall have an effective means of treating shock. There are several drugs which cause peripheral vaso-constriction and so raise the blood pressure independently of the vaso-motor centres. The most important of these are suprarenal extract and its derivatives, especially adrenalin and hemisine, and ergot. These drugs act directly upon the walls of the blood-vessels, causing vaso-constriction, and a very considerable rise in the blood pressure follows their administration. These drugs, in fact, afford us a means of artificially increasing the peripheral resistance to an almost unlimited extent whatever be the condition of the vaso-motor centres. Adrenalin will raise the blood pressure in all conditions of shock when the vaso-motor centres are completely exhausted and even when they are destroyed.

The action of adrenalin in raising the blood pressure was first demonstrated by Oliver and Schaffer. They showed by experiments upon dogs and rabbits that the intravenous injection of adrenalin is followed by a very great rise in the blood pressure, this rise occurring after a latent period of about 20 seconds. The rise in the blood pressure was not sustained for more than a few minutes. If, however, the weak solution of the extract was allowed to flow into a vein the blood pressure rose and remained at a high level for as long as the flow was continued. Gattliel confirmed these experiments upon rabbits and further showed that intravenous injection of the extract of suprarenal gland would raise the pressure considerably above the normal in animals in which the blood pressure had been artificially reduced previously to the injection and that in these circumstances the pressure was sustained for a longer period than in the normal animal. Muhlberg and Miles injected adrenalin intravenously into rabbits whose blood pressure had been greatly reduced from vaso-motor exhaustion following the administration of ether. They found that a very great rise in blood pressure followed the injection which persisted for a few minutes, the blood pressure then falling again to the original level.

Crile has confirmed these experiments upon dogs and has shown that adrenalin is able to raise the blood pressure under all conditions. It raises the blood pressure in profound shock just as easily as in the normal animal. If the medulla and the spinal cord of an animal are cocainised, adrenalin will still raise the blood pressure. When the splanchnic nerves are divided or the cord is divided, or even when the medulla is destroyed, this rise in blood pressure still takes place. An animal that had been apparently dead for 15 minutes from the discharge of an electric current was resuscitated by the intravenous injection of adrenalin, combined with rhythmic pressure upon the heart and artificial respiration. In one experiment Crile kept a decapitated dog alive by intravenous infusion with adrenalin and artificial respiration—that is, the animal was alive in the sense that its heart continued to beat during that period. These experiments show that the action of adrenalin in raising the blood pressure is quite independent of the vaso-motor centres in the medulla.

Unfortunately, adrenalin is very rapidly oxidised by the tissues and its effects are fleeting. Injected intravenously its effects last from two to five minutes so that to be used effectively for raising the blood pressure it is necessary *to administer it by continuous intravenous infusion.* Administered in this way the blood pressure can be maintained for a very considerable time at almost any desired height when the vaso-motor centres are completely exhausted or even destroyed. It is in many ways *unfortunate that adrenalin has to be administered* continuously in order to obtain the best results. Hemisine is a similar drug to adrenalin and is in some ways more convenient as it is put up in tabloid form. I have tried administering hemisine in various ways to see if its action could be prolonged. I have tried giving it per rectum, by the mouth, and subcutaneously; except intravenously administered, however, it has but little effect upon the blood pressure. This is probably due to its local action upon the blood-vessels preventing it from being absorbed into the circulation. Injected intravenously in weak solutions in the human subject it causes a great rise in the blood pressure (see Fig. 13). A weak solution poured into the peritoneal cavity during an abdominal operation upon a child at a stage when the child was suffering from a considerable amount of shock caused a rapid rise in the blood pressure and allowed the operation to be finished and the child to be got back to bed without any further signs of dangerous shock developing (see Fig. 14). Crile records the case of a patient dying from shock who was kept alive for eight hours by the administration of adrenalin.

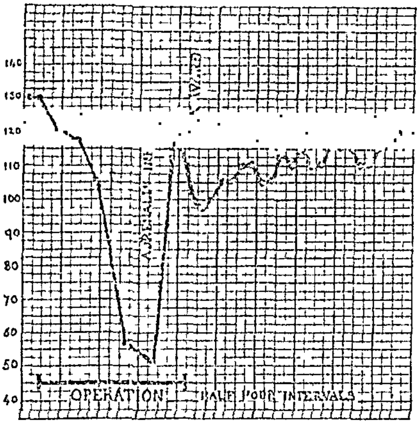
FIG. 13.



The effect of hemisine in raising the blood pressure in shock.

Craig of Columbia reports two cases of surgical shock treated by intravenous saline infusion with extract of suprarenal gland. The first case was one of compound fracture of the elbow caused by a gunshot accident. The patient was pulseless, cold, and suffering from a severe degree of shock. Saline infusion with a solution containing the extract caused a very favourable reaction. The second case was one of a severe compound fracture of the skull. This was treated in the same way and with equally good results. I know of a number of instances in which cases of surgical shock have been treated by slow intravenous infusion with adrenalin solution and the results have been most satisfactory so long as the infusion was continued but in several of the cases the condition relapsed so soon as the infusion was stopped. In no case that has come within my knowledge has any unpleasant symptom developed as the result of the infusion.

FIG. 14.

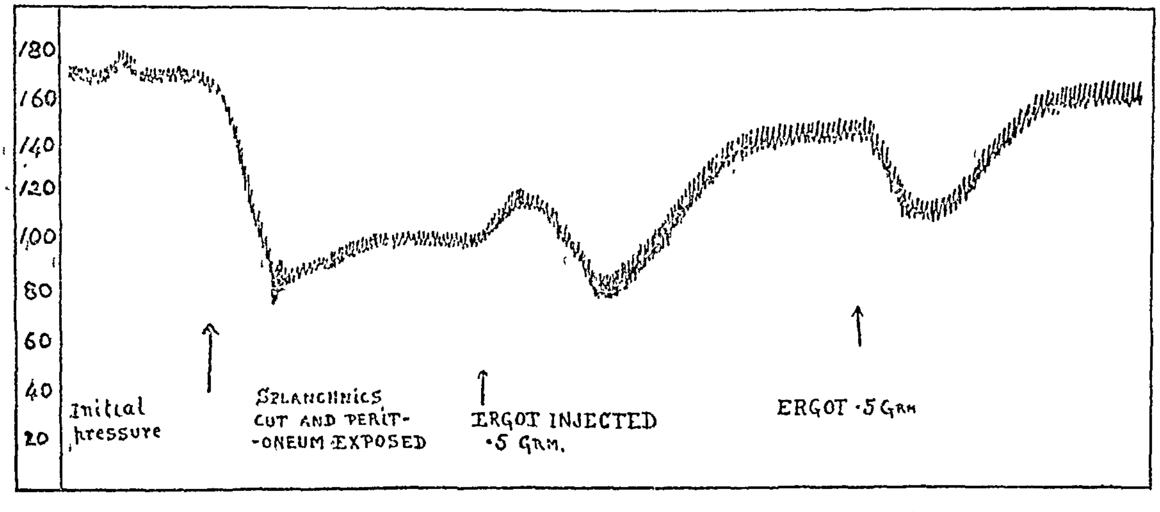


Blood pressure chart. A severe abdominal operation on a child during which shock developed. A 1 in 20,000 solution of adrenalin was poured into the abdominal cavity. The patient recovered.

The number of cases in which adrenalin has been used clinically in the treatment of shock are as yet few but I think there can be no doubt that it affords a very valuable means of treating this condition. It gives us absolute control over the blood pressure and enables us to maintain it at or above the normal level for a considerable number of hours when a patient is suffering from profound shock. I believe it affords us a certain means of preventing a patient from dying on the operating table and that it will prove in the future to be the means of saving life in many cases of post-operative shock. When administered intravenously it should be used in very weak solutions. Crile advises that a solution of from 1 in 50,000 to 1 in 100,000 should be used. I have used it in a solution of 1 in 20,000. At first, at any rate, it is not advisable to use stronger solutions. The solution should be allowed to flow into the vein in the same way as in performing intravenous saline infusion. It should, however, only be allowed to flow in quite slowly and its effects should be watched. The best way, of course, is to take repeated measurements of the blood pressure with a trustworthy sphygmometer and to endeavour to keep the blood pressure at about the normal level by varying the flow of the solution as the height of the blood pressure indicates. A very good rough guide, however, to the amount that should be used and the rate of flow may be obtained by feeling the pulse. In cases of abdominal section it can be conveniently used by putting some of the same solution into the abdominal cavity. I have had a special infusion apparatus made for the administration of adrenalin in cases of shock. This apparatus has a reservoir graduated in centimetres and the rubber tubing is closed by a screw-cock; this allows the solution to be infused five cubic centimetres at a time or at the rate of as many cubic centimetres per minute as is found to produce the best results. If strong solutions are used it causes spasm of the heart from direct action upon the heart muscle. Zaneway records a case where 20 minims of a 1 in 1000 solution were injected intravenously. After an interval of nearly five minutes the blood pressure rose to a great height, reaching 230 millimetres of mercury in the course of the next three minutes. This was followed by a rapid fall, the pulse stopped, there were collapse, vomiting, and delirium, and recovery was not complete for some hours; very serious symptoms in fact resulted, but the dose was most excessive and the fact that death did not result from such a dose shows that the weaker solutions can be used safely. Von Fürth has pointed out that the great rise of blood pressure accompanying its administration might cause apoplexy in persons predisposed to that condition. If used in sufficiently dilute solutions, however, this danger should not arise.

The most serious objection to the use of adrenalin or hemisine in the treatment of shock is that they have to be administered continuously and I have tried to find some other drug which, while acting in the same way, produces a more prolonged result. I have tried various drugs and the one which has given the best results and which seems to solve the difficulty is ergot. By the kindness of Dr. A. Waller, the director of physiology of the University of London, and by the help of Mr. W. L. Symes, who kindly performed the experiments for me, I have been able to test the value of ergot in the treatment of shock upon animals. The experiments were done upon cats. The blood pressure was reduced to the level of shock by division of the splanchnic nerves and exposure of the intestines or by pithing the animal, or by both methods (see Fig. 15). When the blood pressure had been reduced to the level of profound shock, half a gramme of ergot dissolved in five cubic centimetres of salt solution was injected into the jugular vein. The first effect was an immediate slight fall in the blood pressure. This was probably due partly to the cold solution; the pressure then rose slowly and steadily and in about eight or ten minutes had reached a level above the initial pressure. This rise in the pressure was maintained for a considerable time, certainly as long as 20 minutes in some of the experiments. If, when the pressure had reached the high level a second injection was given it again rose to a still higher level. In the pithed animal, whose pressure had fallen almost to the abscissa line and whose respiration had stopped, artificial respiration was supplied and ergot was injected; the blood pressure then rose to over 150 millimetres of mercury and remained at this level for a considerable time (over 20 minutes).

FIG. 15.



The result of the injection of ergot upon the blood pressure of an animal previously reduced to shock by division of the splanchnics and exposure of the peritoneum. After a preliminary fall the pressure rose, and after the second injection reached a point equal to the initial pressure where it remained for over 20 minutes.

Unfortunately, ergot is a very uncertain drug and attempts to separate its active principles have hitherto been failures. Thus different samples of ergot may act quite differently owing to the fact that they contain more or less of one or other of the active principles. It is to be hoped that in time some one will succeed in separating the blood pressure raising principle of ergot from its other constituents. The preparation of the drug which I have used in most of the experiments is Parke, Davis and Co.'s aseptic ergot. This preparation has the advantage of being sterilised so that it can safely be injected into the veins and its blood pressure raising properties seem to be very fairly constant. The solution used consisted of two grammes of ergot diluted with 20 cubic centimetres of normal salt solution of which from five to ten cubic centimetres were injected at a time. The blood pressure commenced to rise in from 40 to 80 seconds after the injection, the pressure then rose slowly and steadily, the maximum pressure often not being reached for ten minutes or more. The pressure was well sustained at the high level for a considerable time. The injection did not cause any bad effect upon the heart. After a time the heart was slowed but the beats were increased in force and length. Marked and continuous contraction of the circular muscle fibres of the intestine could be seen after the injections. These experiments were repeated upon dogs but without result. Ergot appears to be quite inactive in dogs as no result whatever followed its injection even when very large doses were used. There is very good reason to suppose, however, that the results which follow the injection of ergot in human beings are similar to those which follow its injection in cats. It was found in the experiments that the ergot could not always be depended upon. Thus on one occasion an injection of ergot would be followed by a well-marked rise in the blood pressure, while on another occasion an exactly similar dose would produce no effect whatever. I believe this to have been due to variations in the drug, though an apparently identical preparation was used. Some other preparations of ergot which were tried proved quite useless.

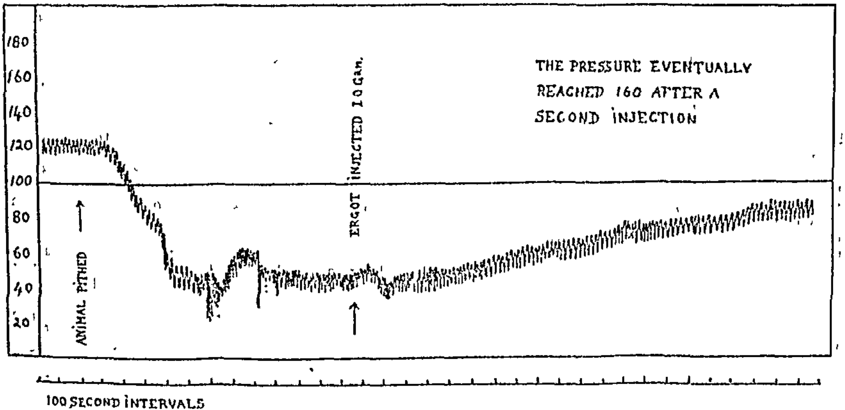
I think these experiments show that ergot raises the blood pressure by direct action upon the peripheral blood-vessels quite independently of the vaso-motor centres and that the blood pressure can in this way be raised to the normal level again when it has fallen as the result of exhaustion or even destruction of these centres. That the injection of ergot is a valuable means of treating shock is, I think, clearly proved. In an animal whose brain had been destroyed by pithing and whose blood pressure had fallen from 120 millimetres of mercury to between 40 and 50 millimetres of mercury the blood pressure was not only restored to the normal level again by the injection of ergot but was raised to between 150 and 160 millimetres of mercury and kept at about that level until the animal was killed at the end of the experiment (see Fig. 16). In one of the experiments in which the animal had been reduced to a condition of profound shock by destruction of the medulla and division of the splanchnics and whose vaso-motor centres were inactive (proved by the fact that electrical stimulation of the sciatic nerve caused no rise in the blood pressure) the injection of ergot was not followed by any rise in the pressure and, the pressure falling, hemisine was injected but without result and the heart failed entirely. The heart failure was found to have been due to a block in the tracheal cannula interfering with respiration. After the heart had stopped beating for six minutes it was made to beat again by rhythmic pressure and the injection of hemisine solution and the blood pressure rose to 190. The hemisine injection was then discontinued. The blood pressure, however, instead of falling again, remained above 90 for over 30 minutes as the result of the ergot which had previously been injected. If ergot is injected hypodermically it acts similarly but not so rapidly.

Jacobi has investigated the action of a derivative of ergot which he calls sphacelotoxin. This substance when injected into an animal causes a great rise in the blood pressure from *its action upon the walls of the blood-vessels, since Jacobi* has demonstrated that it raises the blood pressure after division of the spinal cord. The great advantage of ergot over adrenalin is that its action is more prolonged and that one dose is sufficient to keep up the blood pressure for some time and also that it can be used hypodermically and has not necessarily to be infused intravenously. Ergotin I have also tried but though it raises the blood pressure it only does so for about five or ten seconds and is therefore quite useless. Hazeline, which is a useful local styptic, does not seem to have any effect upon the blood pressure when injected intravenously. Piperidine and its alkaloid coniine cause when injected a very great increase in the blood pressure owing to their action upon the peripheral vessels but, like adrenalin, their effect is transient and, moreover, their prolonged administration causes paralysis. Nicotine injected intravenously causes a tremendous increase in the blood pressure and its action is peripheral since the effect is produced even after removal of the spinal cord. Its effects are transient, however, the blood pressure falling to, or even below, the normal again in a few minutes.

It has recently been discovered that the extract of the infundibular portion of the pituitary gland causes, when injected intravenously, constriction of the peripheral arterioles and a consequent rise in the blood pressure similar to that obtained by the administration of adrenalin. [illegible] is a great advantage.

In using any of these drugs for the treatment of severe [illegible] on, however, as the pressure has [illegible] ministered in very small doses as [illegible] into the peripheral circulation. It is not possible for a single observer thoroughly to test the value of a new method of treatment for such a condition as shock. Shock is a condition which one does not wish to find and which one takes means to avoid and it is not easy to find bad cases of shock which can be treated by new methods. Cases of shock usually occur unexpectedly and often at most inconvenient times, when it is impossible for the surgeon to watch them himself. It is only by the accumulated experience of many surgeons that such methods of treating shock can be placed upon a sound basis of practical experience.

FIG. 16.



The effect produced upon the blood pressure by an injection of ergot in an animal reduced to a condition of profound shock by destruction of the brain and medulla.

THE PREVENTION OF SHOCK.

As is the case with sepsis, so also with shock, it is in the prevention of this condition rather than in its treatment that we shall be successful. Shock is much more easily prevented than it is treated once well established. It has been supposed that shock can be prevented by the administration of strychnine during the operation but, as I have already shown, this is not only erroneous but absolutely harmful, as of itself it tends to produce or, at any rate, to increase shock. Brandy and other stimulants are also and for the same reason equally useless. It is a well-known fact, however, that while a single continuous exertion or stimulus causes exhaustion, an intermittent exertion or stimulus causes hypertrophy and increases the resistance to exhaustion. Now though we know that the administration of strychnine in large doses will cause exhaustion of the vaso-motor centres and so produce shock, it seems also probable—nay, almost certain—that the intermittent administration of small doses of strychnine at reasonable intervals should cause hypertrophy and increase the tone of the vaso-motor mechanism, together with all the other nerve centres. We assume this to be true in fact, or why is strychnine used as a tonic? I think that strychnine may be made use of to prevent shock in this way if it can be administered in small doses at reasonable intervals, for, say, a week or ten days previously to an operation, following which shock is feared.

Improving the general tone of the patient's nervous system by a change of air, &c., previously to a serious operation are [illegible] methods of preventing shock and are [illegible] can be done [illegible] an operation which tend to lower the blood pressure and so to increase or to cause shock and by avoiding or modifying these procedures. One of the most important factors is the anæsthetic. An anæsthetic undoubtedly does much to prevent the occurrence of shock in severe surgical procedures by blocking or minimising the effect of afferent impulses to the central nervous system. It is difficult to prove this as no operation which could possibly result in shock is ever now performed without an anæsthetic (local anæsthesia of course acts in the same way). But before the introduction of anæsthetics shock was much more often seen and was more severe, if one can judge by the results of the operations of those days; though the speed at which they were necessarily done did much, no doubt, to diminish subsequent shock. It is, however, I think, proved conclusively by the fact that severe shock often results from mutilation caused by accidents that would not result, or not to the same extent, if a similar or even more severe mutilation were caused during an operation under anæsthesia. There cannot, I think, be any doubt that other things being equal operations performed under ether anæsthesia are less liable to be followed by shock than those performed under chloroform anæsthesia.

An argument that is sometimes used in favour of chloroform anæsthesia in contradistinction to ether is that hæmorrhage is less profuse and not so likely to be troublesome. The reason for this is, of course, that chloroform causes lowering of the blood pressure while ether tends to raise it. The hæmorrhage can, however, be prevented by careful operating and by the use of local hæmostatics and the prevention of shock is of much greater importance as a rule than the prevention of hæmorrhage. Anyone who takes the trouble of keeping a chart of the blood pressure every few minutes during severe operations will very soon become convinced of the great disadvantages of chloroform as an anæsthetic in these cases. In all severe operations and surgical procedures which are liable to be complicated by shock ether or the C.E. mixture should be used for the production of anæsthesia.

There are certain procedures during an operation which are peculiarly liable to be followed by a sudden fall in blood pressure and these should be avoided. For instance, evisceration. Turning the intestines out of the abdomen during the performance of laparotomy is invariably followed by a sudden and dangerous fall in the blood pressure. This is probably largely mechanical in its action, as it allows of large quantities of blood to collect in the splanchnic area. It is certainly a procedure carefully to be avoided if possible. There can be no possible doubt that the length of the operation is a most important factor in the causation of shock and that the more speedily the operation is performed the less chance will there be of shock resulting. Hæmorrhage, quite apart from its being sufficient to cause collapse, is a most important factor in the course of a serious operation, as if severe it throws a fresh and dangerous strain upon the already overworked vaso-motor centres; this is easily seen in the blood-pressure charts where it will be observed that a severe hæmorrhage in the course of a big operation results in a very marked fall in blood pressure which is but slowly recovered from. Interference with important nerve tracts is another important factor but it can be easily overcome by cocaine nerve blocking.

Keeping the patient warm during operations has always been considered an important means of preventing shock and there is no doubt that it is so. The chief reason for this is that the vitality of all the nerve centres is markedly lowered by any reduction in the temperature of the blood below the normal. The great loss of body heat which results from exposure of the peritoneum during abdominal operations makes it very important that precautions should be taken to keep the peritoneum warm during such operations if any large area is exposed. This may be done by the application of hot sterilised towels to the exposed viscera. But the towels only hold heat for a very short time and changing them as frequently as is necessary interferes with the operation and wastes time. I think the best way of keeping the peritoneum warm is by continuous irrigation with hot water or salt solution. The water should be a few degrees above the normal body temperature, say, 105° F. This has the advantage of preventing any loss of heat while at the same time it is a useful method of preventing shock quite apart from its effect upon the temperature and it does not interfere with the operator. Much, I believe, can also be done to prevent the occurrence of shock by careful attention to the nutrition of the patient. The methods of preparing a patient for operation which are now used, though admirable in many ways, may easily, if overdone, tend towards the production of shock.

The preparation of a patient usually consists in free purgation for a day or two before the operation and in starving him just before the operation. Often the patient is given a very light meal on the evening previously to the operation and nothing on the morning of the operation. This may mean that the patient has not had a real meal for 15 or even 24 hours previously to operation and this, combined with the purging, tends to lower the blood pressure considerably and if overdone may pave the way towards the occurrence of shock. This is most particularly the case with old people and children. Children especially cannot stand starvation even for quite short periods of time and the dangers of shock may be greatly increased if vigorous precautions are taken to prevent post-anæsthetic vomiting by starvation. In cases where shock is one of the dangers of an operation aperients should not be used freely and if it is necessary to get the bowels empty this should be done several days prior to operation. And even at the risk of increasing the vomiting easily assimilated food should be administered to within two or three hours of the operation, so that the patient's vital powers are as high as possible at the time of operation. If the operation is a long one it is a good plan to administer nutrient enemata during the operation or immediately after it. Some form of nourishment should certainly be administered as soon as possible afterwards. Subcutaneous feeding is now a well-established practical method and in certain cases might be made valuable use of.

I believe that the methods of treating shock, such as saline infusion, bandaging the limbs, the administration of adrenalin or ergot, &c., which act by raising the blood pressure, are often not utilised at the time when they can be of the greatest service—that is, at the time when the vaso-motor centres are becoming exhausted and before any real symptoms of shock have developed. Much may be done at this period to prevent exhaustion of the vaso-motor centres by raising the blood pressure. Later, when shock has developed and the vaso-motor centres are exhausted or nearly so, it will be a much more difficult matter to treat it. It is only possible, however, to anticipate shock in this way by having a record of the blood pressure kept during the operation so that the first sign of a dangerous fall in the blood pressure can be detected. At the termination of an operation the application of a tight abdominal binder will do much to sustain the blood pressure and is a good routine measure. This is well shown by some of the charts.

The prevention of shock by cocaine nerve blocking.—If we admit that the shock produced by a severe operation upon one of the extremities is caused by the afferent nerve stimuli reaching the vaso-motor centres in the medulla by means of the main nerves of the limb—and there can be little doubt that this is the main factor in the production of shock in major amputations and other extensive operations upon the extremities—it is then at once obvious that if by any means we can prevent these nerve stimuli from reaching the brain we shall by the same means prevent shock from developing. Crile arguing in this way tried blocking the main nerves of an animal's limb by injecting cocaine into the nerve sheath and then subjecting the limb to an amount of traumatism which he knew from experience was sufficient to cause a marked fall in the blood pressure. He found that no fall in the blood pressure occurred in these circumstances, and, in fact, that if the main afferent nerves of the limb were blocked by the preliminary injection of cocaine, no amount of traumatism to the limb caused any alteration in the blood pressure. Crile and Cushing have used this method of preventing shock in clinical practice and a considerable number of clinical observations have been made demonstrating its value in preventing shock. They have shown that such operations as the quartering operation and amputation at the hip-joint can be performed even upon weakly individuals without any fear of shock resulting provided that cocaine is injected into the main nerve trunks previously to their division. Thus Cushing removed the entire upper extremity with the scapula for sarcoma in a man without any sign of shock resulting by cocainising the brachial plexus previously to its division; while an exactly similar operation performed by him without cocainisation of the brachial plexus resulted in shock so severe that it nearly resulted in the death of the patient. In another case he removed the right leg at the hip-joint in a case of sarcoma in a greatly prostrated young man without any signs of shock either during the operation or afterwards. Crile has reported several similar cases. In one case preliminary cocainisation of the brachial plexus sufficed for an interscapulo-thoracic amputation without a general anæsthetic and no shock resulted from the operation. He has also used preliminary cocainisation to prevent reflex nervous effects in operations for the removal of tumours from the neck where the superior laryngeal nerve was liable to be dragged upon and in operation upon the larynx to prevent reflex inhibition of respiration

Shelton Horsley reports the case of a boy, aged 14 years, whose constitution had been seriously undermined by prolonged sickness and suppuration and who had amputation at the hip-joint performed without any signs of shock developing after preliminary cocainisation of the sciatic and anterior crural nerves. Before commencing the operation the sciatic nerve was cut down upon and exposed and several minims of a 4 per cent. solution of cocaine were injected into it. The anterior crural nerve was partially infiltrated with a 2 per cent. solution. The amputation was then performed under general anæsthesia. The blood pressure was taken with a sphygmometer at intervals during the operation and at the [illegible] millimetres [illegible] the patient. [illegible] k in spite of the fact that owing to the patient's bad general condition previously to the operation a considerable degree of shock was expected.

A case is reported by Hartwell of the Bellevue Hospital of the removal of the entire upper extremity in a man, aged 55 years, for a sarcoma. This method of preventing shock was adopted, 10 or 15 minims of a 2 per cent. cocaine solution being injected into the nerve trunks five minutes before division of the brachial plexus. The condition of the patient was excellent at the termination of the operation and there was no shock. Gessner reports two cases where the shock following a severe amputation seemed to have been prevented by this method. One was an amputation through the thigh; the sciatic nerve was injected during the operation before division. The other case was one of amputation for chondro-sarcoma of the tibia. No shock occurred in either case. In cases of grave traumatic injury to the extremities where shock is present at the time that the patient first comes under observation this method may be of the greatest value. In such cases shock has already resulted from the afferent impulses conveyed to the brain from the injured area. So long as the mangled state of the limb remains afferent impulses continue from time to time to pass by the nerves to the brain; while some of these impulses cause pain, others cause depressor effects upon the vaso-motor centres. And in this way the shock is made worse or caused if not already present.

It is often advised in such cases that the mangled limb should not be removed by amputation until the shock caused by the injury has passed off. The result of this delay is that the causes of the shock continue to operate and in a certain number of cases the patient dies. Delay merely separates those cases where death is inevitable from those which will anyhow recover, while the cases which are on the border line between death and recovery often by delay lose their one chance of recovery. Immediate operation under ether anæsthesia and with cocaine blocking of the main nerves does not in any way tend to increase any shock that may be present from the initial injury but rather tends to lessen it and undoubtedly enables us to save some of the cases which must otherwise die. Such a case of mangling of the arm and shoulder from a railway accident in which cocaine blocking of the brachial plexus was used successfully in preventing further [illegible] is reported by Crile. [illegible] main nerve trunks may either be cut down upon and injected after the production of general anæsthesia and before commencing the operation, or the nerves may be exposed and injected just previously to their division in the ordinary course of the operation. From five to ten minims of a 4 per cent. solution of cocaine should be used for the injection.

This nerve blocking by cocaine is not the same thing as operating under cocaine anæsthesia. It is used in addition to a general anæsthetic and its object is to prevent afferent impulses from the field of operation from reaching the vaso-motor centres in the medulla. The large nerve trunks of the limb are exposed at an early stage of the operation and cocaine is injected into them. Thus in an amputation of the leg an injection is made into the sciatic and anterior crural nerves before these nerves are divided. In operations performed under cocaine anæsthesia the measures adopted to prevent pain are equally effective in preventing shock. Except as the result of loss of blood shock does not develop in operations performed under cocaine anæsthesia. Operations, however, from which shock is likely to result can seldom be performed under cocaine anæsthesia, as the area involved in the operation is frequently too extensive to be cocainised efficiently without prolonging the operation. In abdominal operations it is not possible to apply cocaine to the peritoneum on account of the large amount of the drug which would be absorbed and which might result in poisoning symptoms. Consequently though pain may be prevented shock cannot be entirely prevented by this means. Clinical experience has shown, however, that abdominal operations performed under cocaine anæsthesia are less liable to result in shock than operations performed in the usual way under general anæsthesia. This is, however, probably in part due to the absence of a general anæsthetic and to the surgeon reducing the amount of his manipulations to the least possible, in order to avoid hurting the patient, factors which all tend to prevent shock.

In spinal cocainisation all afferent impulses from the lower limbs and from the greater part of the abdomen are completely blocked and shock cannot result from operations upon these areas. Spinal cocainisation, however, throws out of action the vaso-motor nerves by which the splanchnic area is controlled. The splanchnic area is consequently no longer under the control of the vaso-motor centres and a great fall in blood pressure results from the loss of blood into this area. Observations with the sphygmometer show that spinal cocainisation results in a considerable fall in blood pressure. In fact, spinal cocainisation itself produces shock quite apart from any operation and many of the bad effects which follow this procedure are in all probability due more to the fall in blood pressure which it causes than in any actual toxic effects of the drug. The method of preventing shock by blocking the main nerves with cocaine is one which should prove of considerable value in many operations where important nerve paths are involved. It enables us entirely to prevent shock in all amputations and might also be valuable in such operations as castration, amputation of the penis, excision of the rectum, and in numerous other operations which are liable to result in shock.

A hypodermic injection of morphine given before the administration of a general anæsthetic decreases the patient's susceptibility to shock during the operation. The action of morphine in preventing shock is probably two-fold; in the first place [illegible] to be induced and maintained [illegible] of the anæsthetic and in the second place by its action upon the nervous system it diminishes the intensity of many of the afferent nerve impulses reaching the vaso-motor centres as the result of stimulation of the peripheral nerves at the field of operation. Crile found in his experiments that in animals where anæsthesia was produced by the combined action of morphine and ether, there was much less susceptibility to shock than in animals where ether anæsthesia alone was used. And he came to the conclusion that an anæsthesia produced by the combined action of morphine and ether allowed more extensive operations and operations extending over a longer period of time to be performed than would ether or chloroform anæsthesia alone. I have several times observed that patients who had been given morphine for the relief of pain previously to a severe operation for intestinal obstruction or peritonitis seemed to stand the operation better than patients undergoing similar operations who had not been given morphine. All this seems to show that a full dose of morphine given just before the commencement of a severe operation is of value in preventing the development of shock.

SUMMARY AND CONCLUSIONS.

Surgical shock is a condition produced by exhaustion of the vaso-motor centres and the resulting great fall in blood pressure. Collapse is a similar condition caused by lowering of the blood pressure from hæmorrhage or paralysis of the vaso-motor centres. In surgical operations shock most frequently results from operations upon the abdomen, the most important factors in its causation being injury to, or exposure of, the peritoneum, the length of the operation, injury to organs richly supplied with nerve fibres, as the stomach, uterus, and kidneys, evisceration, and extensive and prolonged manipulations. In operation upon parts other than the abdomen the most important factors in causing shock are injury to large or important nerve trunks or injury to parts richly supplied with nerve endings, the area of the wound, the time of exposure of the tissues, and hæmorrhage.

Another important factor in the causation of shock during surgical operations is the anæsthetic. Ether and the O.E. mixture are the best anæsthetics for cases where there is danger of shock, chloroform on account of the fall in blood pressure which follows its administration being very unsuitable for such cases. The time occupied in performing the operation is always an important factor, more especially in children and old people. The condition of the patient prior to operation is important, especially as regards the condition of his nerve centres. In the treatment of shock stimulants, and especially strychnine, are absolutely contra-indicated as they tend to increase the severity of the condition and to retard recovery. Shock can be produced in an animal by the administration of strychnine alone and it is as reasonable to treat shock by injections of strychnine as it would be to attempt to cure a dying horse by kicking it. The position with the head down and the foot of the bed raised is of considerable value in the treatment of shock and should be more extensively used.

Compression of the abdomen either manually in an emergency or by the application of a tight abdominal binder is a most effectual method of treating shock in all cases. The establishment of an artificial peripheral resistance by the application of external pneumatic pressure affords an absolutely certain method of maintaining the blood pressure, and though not at present a practical method should some day prove of great value. The intravenous infusion of salt solution or physiological serum will raise the blood pressure in all degrees of shock. As a method of treatment in shock it is disappointing as its action is fleeting and it cannot be continued indefinitely. In the collapse of severe hæmorrhage it is effectual and lasting in its effects. The introduction of saline solution into the abdomen at the end of an abdominal operation is a valuable method of combating shock and is not contra-indicated by the presence of pus in the abdominal cavity.

One of the most effectual methods of treating shock that we possess is by the administration of drugs such as adrenalin, hemisine, and ergot which raise the blood pressure by increasing the peripheral resistance independently of the nerve centres. The treatment of shock by the administration of these drugs is as yet in its infancy and only a small number of cases have so far been treated in this way. The experimental evidence is, however, very complete and the few clinical cases where these drugs have been used are very encouraging. The use of these drugs instead of the stimulants which are now so popular, but which have been shown to be useless, will probably result in many lives being saved.

Like sepsis, shock can be prevented much more easily than it can be cured, and as is the case with sepsis so with shock. It is to the careful prevention of shock rather than to its treatment that we must look to get rid of this source of danger in the operations of the future. With the exception of abdominal operations the method of blocking the main nerves with cocaine seems to afford us a ready and most efficient way of completely preventing shock in even the most severe of surgical operations. Morphine, administered both before an operation and afterwards, is a useful aid in the prevention of shock and does not seem to have been used in this connexion as much as it deserves to be. Much may be done to prevent shock by having a chart of the blood pressure kept during all severe operations; procedures which are harmful may thus be avoided, treatment may be commenced at the time when it can be of most value, and, in fact, shock can be thus prevented or treated upon scientific lines.

I believe the best line of treatment in the event of shock occurring or threatening during an operation to be as follows. If the operation is an abdominal one the peritoneal cavity should be filled before being closed with physiological salt solution and if a severe degree of shock is already present hemisine or adrenalin should be added to this solution in the proportion of 1 in 40,000. Whether the operation be an abdominal one or not a firm, tight abdominal binder should be applied at the end of the operation and in bad cases the limbs should be firmly bandaged from the extremities upwards in addition. When the patient has been put back to bed the foot of the bed should be raised at least 12 inches on blocks and all pillows should be removed from beneath the head; the patient should be kept warm and some good form of nutrient enema should be administered and repeated in a short time. No stimulants should be given. A hypodermic injection of aseptic ergot should be given at the earliest sign of shock and repeated if any improvement in pulse tension follows its administration. Except where absolutely contra-indicated an injection of morphine should be given at the end of the operation, whether pain be present or not; and if there is any restlessness afterwards the morphine should be repeated. If, in spite of these measures, the blood pressure remains low and the patient continues in a dangerous condition of shock a solution of adrenalin in physiological salt solution in the proportion of 1 in 20,000 [illegible] infused at a rate of about three to five cubic centimetres per minute. The intravenous infusion should be continued until on stopping it the blood pressure is found to remain at a safe level. In bad cases it may be necessary to continue the infusion of adrenalin for a long period but it affords a certain method of maintaining the patient's blood pressure and therefore his life.

In collapse following severe hæmorrhage intravenous infusion with physiological salt solution should be performed as soon as possible. The amount of fluid introduced into the veins should be as nearly as possible equal to the amount of blood lost. The subsequent treatment should be the same as for shock. In all forms of sudden collapse, including the collapse of chloroform poisoning, the intravenous administration of adrenalin is of immense value in assisting to restore the patient's life. This drug, by raising artificially the blood pressure, allows the heart and the vital nerve centres to resume their functions very easily. It should prove of great value in resuscitating drowned persons and in other similar emergencies.

I have attempted in these lectures to clear up some of the more debateable points in the causation and treatment of surgical shock and to establish the treatment of this condition on a sound, practical, and scientific basis. There is still much to be learnt and many of the views propounded in these lectures can only become universally accepted after they have stood the test of time and experience. The clinical experience of a few men is not sufficient to establish the value of a new treatment for such a condition as shock and it needs the accumulated experience of many and the searching test of time. I am afraid I have but swept away some of the dust from the doorstep of a great subject but if by so doing I have thrown some light upon the important subject of surgical shock and thereby encouraged others to look further into its mysteries, my labour is not in vain.

PERICOLITIS SINISTRA.[1]

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IN the following brief remarks attention will be specially called to a group of cases, examples of which, not being particularly rare, have probably occurred in the practice of most medical men. Apology is perhaps needed for the title, though it is not mine, but it has the advantage of describing both the nature and the position of the morbid process. In order to indicate the nature of the cases here grouped together it may at once be stated that the condition is like appendicitis or, rather, for the most prominent feature in both is the involvement of the visceral peritoneum, perityphlitis; only it is on the left instead of on the right side of the abdomen.

Like perityphlitis, the cases here grouped together may give rise to different conditions, thus there may be (1) local peritonitis of comparatively slight intensity around the descending colon or the sigmoid flexure; (2) a local abscess in connexion with the descending colon which may eventually burst into the general peritoneal cavity and set up (3) general peritonitis.

1. In the commoner and less severe form the clinical features are often spoken of as fæcal accumulation or impaction and have been described as sigmoiditis or perisigmoiditis. Bittorf[2] described four cases as acute circumscribed sigmoiditis, but since the process is not necessarily confined to the sigmoid flexure the inclusive term of pericolitis sinistra is perhaps more suitable. Hemmeter,[3] however, gets over the difficulty by describing the cases included in the group as sigmoiditis and pericolitis.

The clinical manifestations are briefly as follows. After constipation of some duration the patient experiences pain in the left iliac fossa, usually has a somewhat raised temperature, and may vomit. On palpation there are deep tenderness, muscular resistance, and a more or less cylindrical tumour palpable in the left iliac fossa, features which suggest appendicitis on the left side. Leucocytosis and indicanuria have been noted in some instances (Bittorf). The following is a case of this category:—

CASE 1.—A man, aged 23 years, was admitted into St. George's Hospital under my care on August 18th, 1904, with acute rheumatism. It

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[1] A paper read before the Medical Society of London on March 27th, 1905.

[2] Bittorf: Munchener Medicinische Wochenschrift, 1904, S. 147

[3] Hemmeter: Diseases of the Intestines, vol. i, p. 504, 1901.

[illegible] n the hospital with a previous attack, [illegible] fossa, where there were much [illegible] [illegible] ing kept regularly open, the abdomen became natural.

The symptoms are relieved by removing the fæcal accumulation, preferably by repeated enemata at first, and then by purgatives such as castor oil. For the pain Hemmeter recommends an ice bag in the early stages, followed, if swelling persists for four days, by hot poultices.

I have no data from [illegible] forward as to the morbid chan[illegible] *a priori* be supposed that fæcal [illegible] inflammation of the mucous me[illegible] he colon, and so by extension to local peritonitis, and that the process is much the same as that described by Mr. W. Arbuthnot Lane[4] in the ascending colon as the result of chronic constipation. Pal,[5] however, regards the lesion as a primary circumscribed inflammation of the mucous membrane of the colon and not as a pericolitis. Rixford[6] has recorded two cases allied to this class in which inflammation of an appendix epiploica was due to infection conveyed from a neighbouring false or acquired diverticulum of the colon. In his cases the inflamed appendices epiploicæ were palpable as tumours, of the size of a walnut in one case and of a hen's egg in the other, and were removed. It does not appear that there were abscess cavities in the inflamed appendices epiploicæ as there were in Mr. J. Bland-Sutton's[7] cases of fæcal abscesses in appendices epiploicæ due to the passage of small but sharp foreign bodies from the colon in[illegible]'s cases suggest that [illegible] of the descending co[illegible] This explanation would be compatible with the absence of diarrhœa which ordinary inflammation of the mucous membrane of the surface of the descending colon would probably tend to set up, and also with the undoubted fact that pericolitis [illegible] are set up by constipation alone. Marked sacculation of the colon is by no means constant in constipation and it is conceivable that it is only in those cases in which sacculation is present that the conditions favourable to the development of pericolitis are satisfied. It is highly probable that this condition may pass into that of the second category in which there is a localised abscess in connexion with the colon.

2. *A localised abscess* in connexion with perforation of a stercoral ulcer, either in a false diverticulum or in the wall of the colon, may be either intra- or extra-peritoneal, and in both cases may extend widely along the side of the colon, thus resembling the spread of an appendicular abscess. The method of formation of this form of pericolic abscess is analogous to that of a localised abscess above a malignant stricture of the bowel. It appears probable from a case recorded by Mayor[8] that a pericolic abscess due to perforation of a stercoral ulcer may discharge into the colon by ulcerating the coat of the colon from without (exogenous ulceration). A fistulous communication between the bowel and the urinary bladder may also be set up. The clinical features of a pericolic or perisigmoid abscess may be difficult to interpret correctly, especially when no definite swelling can be felt and the diagnosis of carcinoma of the colon is very likely to be made when a mass is palpable.

The t[illegible] ite the formation of intra- ar[illegible] respectively in connexion [illegible] of diverticula in the descending colon.

CASE 2. *Intraperitoneal pericolic abscess.*—A woman, aged 71 years, who had had a femoral hernia for many years, was attacked with [illegible] was admitted, whic[illegible] who has kindly allowed [illegible] l on Nov. 26th, 1903, w[illegible] and sickness. These s[illegible] 18 months but had b[illegible] lays there had been thrombosis of the veins in both legs. On admission there was abdominal swelling rather suggesting ascites with dulness in the flanks, especially on the left side. On Nov. 30th the patient suddenly became much worse, the abdomen became distended, and the temperature, which had never been below 99° F., touched 102°. This was succeeded by diarrhœa and pain in the left flank. The patient remained very ill and a tumour was felt on the left side which was thought to be connected with the pancreas, on Dec. 18th pleural friction was detected over the base of the left lung, and on the 22nd death occurred, preceded by delirium. The necropsy revealed [illegible]

If the presence of an abscess is reasonably certain it should be opened. A fæcal fistula, however, may be expected, and in a case recorded by Georgi[9] fatal peritonitis followed exploratory laparotomy on an abscess close to the sigmoid flexure and due to perforation of a diverticulum.

3. Lastly, rupture of a circumscribed pericolic abscess into the general cavity of the peritoneum may occur and set up fatal perforative peritonitis as in the following case:—

CASE 4.—A man, aged 52 years, was admitted into St. George's Hospital under my care on August 14th, 1894, moribund, from his con-[illegible]

Stercoral or other kinds of ulcers, such as those due to dysentery, either in false diverticula or in the mucous membrane of the colon may of course perforate directly into the general peritoneal cavity and set up diffuse peritonitis. Beer[10] quotes four cases of perforation of a false diverticulum into the general peritoneal cavity.

Upper Brook street, W.

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[4] Lane: THE LANCET, 1903, vol. ii., p. 1673.

[5] Pal, quoted in Nothnagel's Diseases of the Intestines and Peritoneum; American Translation, p. 930.

[6] Rixford: California State Journal of Medicine, October, 1904, p. 296.

[7] Bland-Sutton: THE LANCET, 1903, vol. ii., p. 1148.

[8] A. Mayor: Revue Médicale de la Suisse Romande, tome xiii., p. 421, 1893.

THE VIBRATING SENSATION IN AFFECTIONS OF THE NERVOUS SYSTEM AND IN DIABETES.

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WHEN the foot of a vibrating tuning fork is placed over subcutaneous bony prominences or surfaces in certain parts of the body a peculiar vibrating sensation is felt. If, for example, the foot of a vibrating tuning fork be placed firmly in contact with the ulnar side of the wrist just at the prominence caused by the styloid process of the ulna a peculiar [illegible] ion is felt at the region named [illegible] this sensation is felt through-[illegible] ulna. A similar sensation is felt when the foot of a vibrating tuning fork is placed over the subcutaneous processes or surfaces of many other bones. Attention was directed to the sensation by Egger in France in 1899 and more recently it has been carefully studied by Seiffer and Rydel[1] and by Goldscheider[2] in Germany, by

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[1] [illegible] Deutsche Zeitschrift für Chirurgie, Band lxviii, p. 5, 1903 [illegible] cxxviii, [illegible] abstract). [illegible] 1904.

Minor[3] in Russia, and by Marinesco[4] in Roumania. To this sensation have been given the names of vibrating sensation, vibrating feeling, and bone sensibility. The sensation is said to be always present in health; it is usually absent when other forms of sensation are lost owing to disease of the nervous system. But it has been pointed out that in tabes dorsalis when ataxia is present the vibrating sensation may be lost, although sensations to tactile impressions, to pain, and to temperature may be preserved.

Space does not permit an account of the observations of others and I wish in this note simply to record the results I have obtained in the examination of a number of cases of nervous diseases and diabetes. I have always employed the *same* tuning fork—a large one about six inches long. (I may point out that the vibrations of some tuning forks are felt much better than those of others and hence there is considerable difficulty in comparing the results of different observers.) At some parts of the body the vibrating sensation is felt much better than at others. For rapid clinical work I have found the following points convenient for examination: the styloid process of the ulna, the internal malleolus, the inner surface and anterior edge of the tibia about the middle of the bone, the anterior superior spine of the ilium, and the middle of the sternum. In all cases examined the foot of the vibrating tuning fork was placed over three regions: the styloid process of the ulna, the internal malleolus, and the inner surface of the tibia about the middle of the bone.

Briefly stated my results were as follows. In 50 healthy men the vibrating sensation was felt distinctly on both sides, in every case at the three regions just mentioned. From these and additional observations which I have made, and from the observations of others, I think we may conclude that the vibrating sensation is always present in health. Of 200 medical patients examined 80 suffered from diseases of the nervous system, 45 from diabetes mellitus, and the rest rom other diseases (diseases of the heart, lungs, abdomen, blood diseases, diabetes insipidus, &c.). In the last group of cases the vibrating sensation was always present. If we add these 75 cases to the 50 healthy persons examined we have a total of 125 individuals who were in good health or who did not suffer either from nervous ailments or diabetes mellitus. In all of these 125 cases the vibrating sensation was distinctly felt at the three regions tested.

As regards the 45 cases of diabetes mellitus and glycosuria I was surprised to find that in a few the vibrating sensation was not felt, though sensation to tactile impressions, to pain, and to temperature was normal. The results in these cases of diabetes mellitus and glycosuria were as follows:—

	Cases.
Vibrating sensation felt distinctly at all three points tested in	30
Felt distinctly over the ulna, but very feeble and distinguished with difficulty over the tibia and internal malleolus in	7
Lost over the tibia or internal malleolus in	8

In the last group of eight cases the exact condition was as follows:—

	Cases.
Vibrating sensation lost over the ulna, tibia, and internal malleolus on each side in	2
Lost over the tibia and internal malleolus, but felt over the ulna on each side in.	3
Lost over the internal malleolus on each side, lost over the tibia on one side, present on the other, present over both ulna bones in	1
Lost over one tibia and internal malleolus, present on the other side, and over both ulna bones in	1
Lost over the internal malleolus on the left side, felt with difficulty over the inner surface of the left tibia; felt distinctly at the same points on the right side and over the ulna bones in	1

All the diabetic cases in which the vibrating sensation was lost or greatly impaired were mild forms of the disease and all of these patients were over 40 years of age.

As regards the 80 cases of diseases of the nervous system, in 65 the vibrating sensation was normal; in 15 it was lost over the internal malleolus and inner surface of the tibia. Amongst the conditions in which it was present may be mentioned paralysis agitans, idiopathic muscular atrophy, erythromelalgia, epilepsy, neurasthenia, hemiplegia from various causes, sciatica, infantile paralysis, acromegaly, &c. Amongst the 15 cases of nervous diseases in which the vibrating sensation was lost (over the internal malleolus and the inner side of the tibia) other forms of sensation were also lost in five. Especially interesting is the fact that in four early cases of tabes dorsalis the vibrating sensation was lost over the internal malleolus and the inner surface of the tibia but other forms of sensation (to tactile impressions, to pain, and to temperature) were normal. In two of these cases there was ataxia; in two both ataxia and Rhomberg's symptom were absent. In several other cases of tabes there was loss of the vibrating sensation along with impairment of other forms of sensation (to pain or touch).

Also of special interest were three cases of spastic paraplegia in which the vibrating sensation was lost over the tibiæ and internal malleoli but other forms of sensation (to touch, to pain, and to temperature) were quite normal. In these cases there were rigidity of the legs with paresis, spastic gait, increase of knee-jerks, ankle clonus, and extensor type of plantar reflex. One of the three cases was probably due to spinal syphilis in the dorsal region of the cord (Erb's spinal syphilitic paralysis); in the other two there was slight ataxia at the onset (? cases of ataxic paraplegia). In a case of lesion of the pons (? limited softening) the vibrating sensation was lost over the left ulna and over both tibiæ. Tactile sensation was impaired over the left side only but both legs were spastic. In a patient, aged 70 years, who came under treatment on account of "numbness of the left hand," the vibrating sensation was lost over the right tibia and internal malleolus but there were no other signs or symptoms of nervous disease.

From these observations I think one is justified in drawing the following conclusions:—

1. In the normal condition the vibrating sensation, tested in the manner described, is probably always present at the three points mentioned.
2. In early tabes it may be lost in the legs before impairment of other forms of sensation occurs and before ataxia or Rhomberg's sign can be detected.
3. In certain cases of spastic paraplegia it may be lost in the legs when other forms of sensation are not affected.
4. In some cases of diabetes mellitus and chronic glycosuria it is lost when sensation in other respects is normal.
5. From these facts it is evident that sensation cannot be declared to be normal until the vibrating sensation has been tested.

Though the loss of the vibrating sensation is a symptom of considerable interest it is at present too early to say what its diagnostic value will be in the future.

Manchester.

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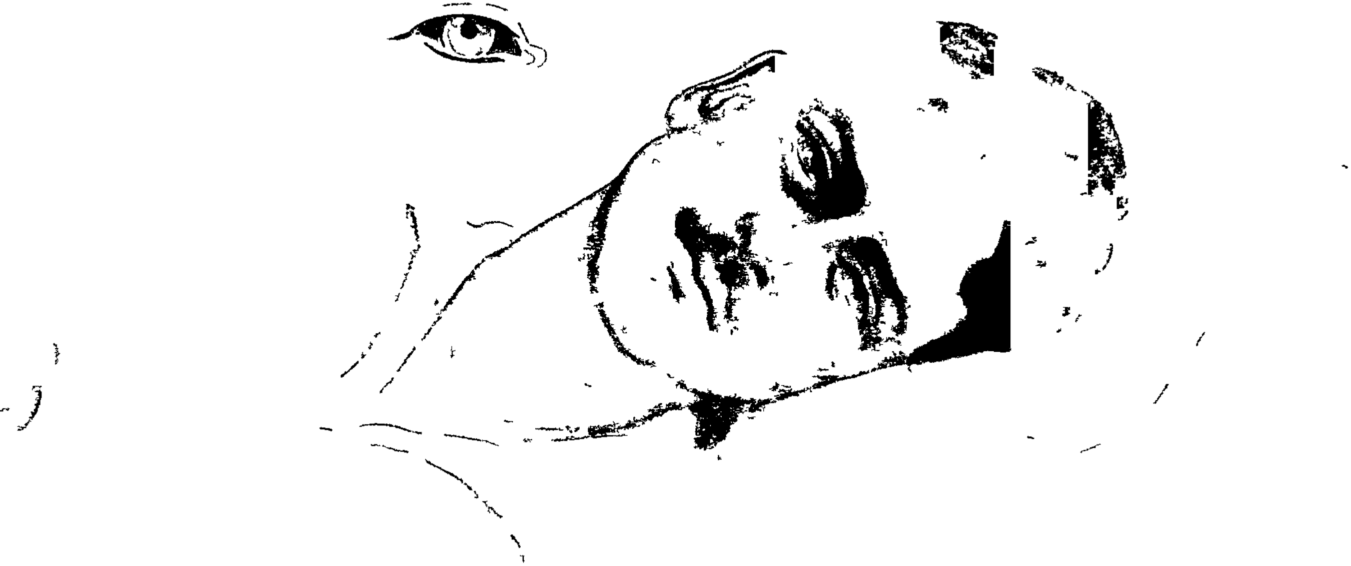
[3] Minor: Neurologisches Centralblatt, No. 4, 1904.
[4] Marinesco: Presse Médicale, August 13th, 1904.

NOTES ON A CASE OF PRESSURE STASIS.

BY R. LANE JOYNT, M.D. DUB., F.R.C.S. IREL.,
SURGEON TO THE MEATH HOSPITAL, DUBLIN.

(*With Coloured Illustration.*)

A MAN, aged 23 years, a fitter, whilst employed in repairs to an electric lift in a large factory got caught beneath the iron counter weight which was descending and an iron bar which ran transversely between the lift guides. The counter weight of over two tons descended on his back, its lower edge, about five inches thick, catching him as he stood upright across both scapulæ; he was doubled down until his bent knees were forced against his chest, his body being prevented from slipping forward by a wire caging and the iron bar beneath him holding his feet. He stated that whilst under the weight he never lost consciousness but became totally blind and remained so until a few minutes after he was released. He heard the men who came to help him talking and repeated their conversation as to what hospital he should be taken to and how. He noticed at once on regaining vision that everything appeared double and that he had dimness of vision in his right eye. He was admitted to the Meath Hospital 20 minutes later and was examined by Dr. W. Boxwell, the house surgeon, and myself. He was in an extreme state of collapse, had a weak thready pulse, and was cold and shivering. His abdomen was quite rigid and hard and his thighs were flexed. He was unable to lie on his back owing to bruising over the spines of the mid-dorsal vertebræ where there was a large effusion of blood. Subsequent x ray examination of his ankles showed that the



TO ILLUSTRATE DR LANE JOYNT'S PAPER ON PRESSURE STASIS

internal malleolus of each tibia had been broken off He had a deep cut on his right shin and a bruise at a corresponding point on the left where the iron bar had met his feet The most marked condition was that of his face which was quite livid the colour varying from isolated red points about the forehead and neck to a dusky red in his ears and cheeks A sharp line of demarcation between the normal and the coloured skin ran across the neck at the level of the thyroid cartilage coursing upwards to the roots of the hair on the nape of the neck Two isolated patches of red minute dots existed in front on the left side below the line of discolouration There was a slight hæmorrhage from his right ear His eyes each showed slight chemosis commencing at the outer and lower quadrant of the sclerotic, this, together with the discolouration of the tissues around the eye, spread in the following two days till no white was any longer visible in the eyes The darkening areola round the eyes contrasted strongly with the colour of his face which began to fade rapidly on the second day It first vanished at the forehead and neck but some red dots showed still, close to the border line The dimness of vision in his right eye ceased in 24 hours and in three days he had no diplopia and stated that he could see as well as ever Shortly after the injury he coughed up some blood stained mucus and for three days had some cough with coarse rales in the chest, this rapidly subsided There was no evidence of fracture of the ribs or vertebral spines He was unable to pass urine for the first 48 hours When first seen, from the rigidity of his abdomen and the collapse it was thought that possibly some rupture of the abdominal organs was present but after the administration of one sixteenth of a grain of strychnine and the placing of hot jars together with pillows so arranged to allow of his very bruised body being comfortable, the shock as well as the rigidity of the abdomen passed off and his pulse never rose beyond 80 Later he was given morphine a few times to relieve the pain in the ankles and shins One week after the date of injury the colour had subsided very much from his face, except from the conjunctiva and neighbourhood of the eyes leaving no stain In ten days the colour of the skin was normal The urine contained neither blood nor albumin From the bloody sputa and mucus it is probable that a condition of ecchymosis must have been caused in parts of the lung but so slight as not to warrant a diagnosis of rupture I am indebted to the house surgeon Dr Boxwell, for obtaining for me the water colour portrait from which the accompanying illustration is reproduced which was executed during the first 24 hours and it shows clearly and without exaggeration the discolouration as then present

In the April number of the "Annals of Surgery" under the title of "Traumatic Asphyxia" was described a very rare condition due to forcible compression of the thorax and abdomen A similar case was recently reported from von Bergmann's clinic Berlin[1] under the title of "Pressure Stasis" The latter title is obviously a more suitable one as being in accordance with the pathology of the case and descriptive of it whereas 'traumatic asphyxia' has an indefinite pulseless ring about it that might be equally well applied to a number of conditions In the paper referred to in the April number of the "Annals of Surgery" Beach has dealt very fully with the so far reported cases and with the pathology of the condition In the last of his cases he excised portions of the discoloured skin and demonstrated that the discolouration is due to mechanical over distension of the veins and capillaries and not to true hæmorrhage This he points out bears out the mechanical theory of Hueter and others While this explanation is true for the greater portion of the face and neck it must be admitted that some of the vessels must have given way or true extravasation have occurred in the lax tissues around the eyes for here the colour changes and pigmentation took place just as in the familiar black eye

The subsequent history of the case here recorded was uneventful and the patient was detained in hospital until his ankles were quite recovered He was subsequently able to walk as well as ever in spite of the double injury That such violent pressure exerted on all the large blood vessels might possibly injure them and so be the starting point of aneurysm was borne in mind and he was finally discharged from hospital with no apparent trace of the violent crush he had received

Dublin

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[1] Medical Press and Circular June 29th 1904

CARCINOMA OF THE BRONCHUS AND LIVER ASSOCIATED WITH GLYCOSURIA IN A YOUTH

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AND

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A YOUTH aged 17 years, was admitted on August 10th, 1904 into University College Hospital suffering from cough shortness of breath, and wasting This cough and shortness of breath first began to trouble the patient in the beginning of May, 1904—that is to say, three months previously to his admission—and at the same time it was noticed that he was losing flesh, his condition, however did not seem to have been bad enough to cause any alarm During the next two months the patient became gradually worse and began to expectorate a large amount of frothy sputum which on several occasions was tinged with dark blood In the beginning of July there was intense irritation of the skin—so severe that the patient often scratched himself until he bled, at the same time his appetite which previously had been moderate, suddenly became excessive, 'unnatural' was the term used, and in spite of it he was getting thinner daily Some three weeks later he began to complain of great thirst which nothing could relieve and then noticed that he was passing a very much greater quantity of urine than usual For a few days previously to admission his face and legs became swollen and he looked so ill that he was taken to the Brompton Hospital for Consumption as it was suspected that he was suffering from pulmonary tuberculosis This disease was excluded as the result of examination and the patient was sent on to University College Hospital for admission He had had no previous illness not even any of the usual acute specific fevers, but enjoyed excellent health playing cricket and football regularly There was nothing of importance in the family history

On admission it was seen that the patient was very ill He was extremely wasted and pale with some slight cyanosis, there was no wandering or loss of consciousness The temperature was 100 6° F Both lower extremities were covered with purpuric spots of irregular outline varying in size from that of a pin's head to that of a threepenny piece, many of these had broken down and were suppurating Both feet were œdematous but there was no dropsy elsewhere In the centre of the back over the right scapula close to the anus and on the left arm were swellings loosely filled with fluid discoloured on the surface and somewhat inflamed The respirations were laboured and rapid (48) and the patient was only able to rest when propped up in the bed There was a continuous hard cough and he brought up a small amount of purulent sputum stained with blood On examination of the chest well marked bronchial breathing could be heard at the left apex and in the second intercostal space on that side there were numerous fine rales, these were the only physical signs obtainable in the lungs but a thorough examination was not made as the patient was so ill The pulse was 132 full and bounding in character The heart sounds were normal The upper limit of the liver dulness in the nipple line was the sixth intercostal space and the lower edge of that organ could be felt one and a half inches below the costal margin its surface was irregular The patient was suffering from considerable diarrhœa, the stools were very loose and contained much undigested food The urine was of specific gravity 1037 it was loaded with sugar and gave a faint diacetic acid reaction with ferric chloride

A diagnosis of pyæmia was made owing to the presence of fever the multiple abscesses and the purpura but this opinion was rendered unsatisfactory by the fact that there was sugar in the urine The patient was worse the next day but not markedly so and he did not seem to be in very urgent danger, the pulse was not so good and there was a little more cyanosis However, about 2 P M, whilst his bed was being moved from one side of the ward to the other, he suddenly collapsed and died in a few seconds. Consciousness was maintained till the end.

At the necropsy the condition found was as follows. In the lower lobe of the left lung there was an irregular mass of growth about two and a half by one and a half inches in size. It seemed to originate near the root of the lung and, roughly speaking, to spread down the course of the bronchus of that lobe; it surrounded this structure and in places had invaded and almost occluded it. The lung below was collapsed but the bronchial tubes in this area were not dilated. This mass was adherent to the adjacent part of the pericardium. There were some small deposits in the upper lobe of the same lung but none in the opposite one. There were two small areas of blood-stained infiltration beneath the parietal pleura on the left side but no fluid was present in the pleural cavities. The growth was white and tough on section. In the abdominal cavity there was some blood-stained fluid. The liver was greatly enlarged and weighed 92 ounces, and projecting from its surface were numerous round masses of growth varying in diameter from a quarter of an inch to one and a half inches; none of these masses were umbilicated but the centres of the larger ones were soft. Near the lower edge of the organ was one of the largest of these masses. It was not so regular in shape as the others and its surface was fungating; attached to it and hanging down into the abdominal cavity was a large dark red clot of blood. On section the liver was found to be studded with masses of growth, the smaller being hard and white and the larger soft and breaking down in the centre. The gall-bladder and ducts were normal. Malignant deposits were also found in the retroperitoneal glands and in those of the posterior triangle of the neck. The calvarium contained several small areas of infiltration which appeared both on the inner and outer surfaces of the bone. A very careful search failed to reveal any more growth about the body.

On microscopical examination all the specimens of growth were pronounced by a competent authority to be columnar-celled carcinoma. The pancreas was normal. Thin blood-stained pus was found beneath the areas of discoloured skin above referred to.

In this case there seem to be several points of interest—the youth of the patient and the questions as to which was the seat of the primary growth and whether the glycosuria was due to the accidental association of diabetes mellitus or was due to the presence of growth in the liver. With regard to the former of these questions we are inclined to think that the seat of the primary growth was in the bronchus because the mass of growth in this situation was very much larger than any of the growths in the liver and because the growth in the lung was single (with the exception of one or two very small deposits), whereas the liver was full of disseminated growths of all sizes like the commoner condition seen when that organ is involved secondarily. The presumption is that the dissemination of the growth took place by means of the blood stream and the occurrence of secondary deposits in the calvarium strengthens this view. As to the second point, some evidence is being collected which points to the possibility of glycosuria being caused by various changes in the liver, notably neoplasm and cirrhosis. It is interesting to note in this case that the symptoms usually associated with diabetes mellitus—the large appetite and pruritus—first showed themselves some time after the symptoms due to the growth in the bronchus had established themselves.

A SOLUBLE BUTTON FOR INTESTINAL ANASTOMOSIS.

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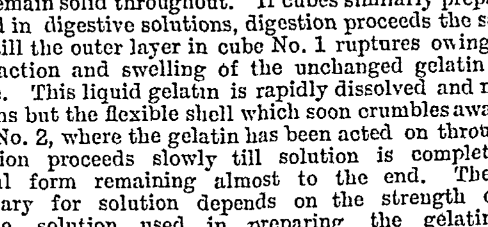
ONE of the great disadvantages to the use of mechanical supports in performing intestinal anastomosis is the uncertainty that the support will be discharged after it has fulfilled its function, it being sometimes necessary to perform a second operation for its removal. If a button could be obtained which would be easy to manipulate and which would remain *in situ* for the necessary length of time without, in the meantime, injuring the intestine and then undergo solution the principal objection to this method of intestinal union would disappear. After many experiments I have come to the conclusion that gelatin which has been treated with chrome alum meets these requirements, and this material has the additional recommendation that it can be prepared in such a manner as to be more or less resistant to the action of the digestive secretions according to the activity of these in the part operated upon or to suit the particular purpose which the surgeon may have in view. Buttons made of formalised gelatin have been advocated, but unless these are used simply as a temporary adjunct to stitching, they have to be exposed for such a length of time to the action of the formalin that they become indigestible and thus resemble metal supports.

It is a well-known fact that when chromic acid is mixed with gelatin and exposed to light, or when its salts are so used, the gelatin, after a time, becomes insoluble, even in boiling water. As a result of this treatment, however, the gelatin becomes brittle, especially if it has been kept in a moist condition for any length of time before boiling, the degree of brittleness depending on the strength of the chromic solution or the time that this has been allowed to act. Alum, again, hardens gelatin but not sufficiently to prevent its rapid solution in the intestinal secretions; but if chromic acid and alum be combined, as in chrome alum, both insolubility and hardness are produced, whilst the brittleness resulting from the action of chromic acid alone is diminished. When a strong solution of gelatin is gelatinised and a half-inch cube is soaked for from half an hour to an hour in a concentrated solution of chrome alum and then boiled in water it will be found that the surface remains solid whilst the centre becomes liquid. If a similar cube be left in the alum solution for from 12 to 15 hours and be then boiled the mass will remain solid throughout. If cubes similarly prepared be placed in digestive solutions, digestion proceeds the same in both till the outer layer in cube No. 1 ruptures owing to the liquefaction and swelling of the unchanged gelatin in the centre. This liquid gelatin is rapidly dissolved and nothing remains but the flexible shell which soon crumbles away. In cube No. 2, where the gelatin has been acted on throughout, digestion proceeds slowly till solution is complete, the cubical form remaining almost to the end. The time necessary for solution depends on the strength of the chrome solution used in preparing the gelatin and also on the strength of the enzyme employed. If the chrome solution be weak, digestion takes place comparatively fast, even although the mass of gelatin has been permeated by it, whilst if the solution has been strong and has been allowed to act for a considerable time the gelatin becomes almost indigestible. Thus by varying the strength of the solution or the time that this is allowed to act, or by both these means, almost any degree of insolubility can be obtained, though the stronger the solutions the more brittle does the gelatin become. I have found that the most suitable strength for intestinal buttons is 10 grains of chrome alum dissolved in one ounce of *cold* water. The buttons, which are not unlike Murphy's in shape (Fig. 1), are made by pouring a strong watery solution of gelatin into moulds of suitable size, these having been previously lined with a layer of strong muslin or dressing cloth. This fibrous material becomes saturated with the gelatin and incorporated with the outer part of the button and gives additional strength, whilst at the same time diminishing the tendency to brittleness. When the gelatin has set the casts are removed and are placed in the chrome solution, of which there should be an ounce or so for each button. The length

FIG. 1.



of time during which they should remain in this depends on the size of the button and also on the degree of insolubility desired, but casts up to three quarters of an inch in diameter should soak for from 10 to 12 hours by which time the solution will have penetrated the whole mass They are then kept in 50 per cent alcohol till required, the moisture preventing them from drying and so contracting too much whilst the alcohol increases their toughness It is very important to note that when finished the projection on the male part should fit accurately the opening in the female half so that some pressure is necessary to send it home and to increase this adhesion it is better to have the tube made slightly oval in section When this button is exposed to the action of the digestive secretions the gelatin is slowly digested whilst the small piece of muslin collapses and is voided with the intestinal contents A button three quarters of an inch in diameter prepared as described resists solution from five to seven days

The method of fixing this support is almost the same as that employed in using Murphy's button A purse string suture is passed round each end of the divided intestine and the button which has its halves opened but not quite detached (Fig 2) is placed in position and the sutures are pulled tight and tied The two halves are now pressed together and the operation so far as the intestine is concerned is complete If desired a few points of suture may be put in over the support but these are not necessary if the halves fit accurately Considerable force has to be exercised to detach the parts and this resistance to separation is very soon increased owing to the gelatin expanding slightly Should the parts not fit tightly the opening in the female half should be smeared with a layer of thick hydraulic dental cement and the ends then pressed together This cement sets in a very few minutes and firmly solders the button in position To obtain accurate contact of the peritoneal surfaces of the divided intestine the tube of the button should be wide in comparison with its whole diameter otherwise the puckering produced by pulling the running stitch tightly round a narrow tube is so great that the surfaces are prevented from coming into close contact

FIG 2

I have to thank Mr W D Anderson for valuable help and suggestions in moulding and casting the buttons

Glasgow

A NOTE ON A CASE OF GRAVES'S DISEASE

BY W BLACK JONES, M D B S LOND, D P H

THE following case of Graves's disease may be of interest A man aged 38 years consulted me in August, 1904 He had suffered from palpitation for six years but had been much worse for 18 months There was no family history of cardiac trouble On examination both eyeballs were found to be slig[illegible] than the left [illegible] and pulsation [illegible] was slightly [illegible] sixth interspace the cardiac dulness was increased, and on auscultation a soft systolic murmur was heard at the apex and conducted outwards The pulse was of low tension and irregular many of the beats were so weak as not to be perceptible at the wrist The c[illegible] per minute [illegible] the patient [illegible] business, [illegible]

The following treatment was adopted The patient was prescribed a course of the Llangammarch mineral water a glass to be taken three times daily and a course of baths, one on each alternate day He was encouraged to take a moderate amount of exercise including hill climbing He soon began to improve the pulsations were less frequent and less violent and soon subsided to 94 per minute He left after a three weeks course in much better health

In March 1905 the patient reported that he had been steadily improving and that he was quite free from palpitation He can attend to his business without discomfort, walks several miles a day and hunts once a week He had not taken any drugs since he left Llangammarch

The favourable result in this case consisting as it does of a disease that is little amenable to treatment is in my view chiefly due to the balneological methods adopted at this spa The mineral water which has been previously described in the columns of THE LANCET, contains among other ingredients chloride of barium This salt has an action in slowing the pulse similar to that of digitalis and has been shown to be of considerable value in the treatment of various forms of cardiac disease

Llangammarch Wells

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

Ankylostomiasis as it affects Miners

A MEETING of this society was held on March 28th, Sir WILLIAM H BROADBENT being in the chair

Dr THOMAS OLIVER read a paper on Ankylostomiasis as it affects Miners He said that much of what he wished to say was based upon observations made during his trip to Westphalia and Hungary Ankylostomiasis or miners' worm disease while prevalent in the mining districts of mid Europe was known to exist only in one county in England at the present time—viz Cornwall It was not known how the malady was introduced into the Dolcoath mine in Cornwall but as there was a constant stream of miners going there from the colonies and from Europe Asia and America, it must have been carried by infected workmen Considerable uneasiness was being felt in Britain as to the spread of the disease Ankylostomiasis had already formed the subject of reports to the Home Office by Dr J S Haldane and Dr A E Boycott and had in addition formed the basis of a special inquiry by a committee of the British Association for the Advancement of Science It was since the opening of the St Gothard tunnel, 14 or 15 years ago, that Europe had come to realise what a terrible scourge ankylostomiasis was Although the worm was described by Dubini of Milan in 1841 it was Perroncito of Turin who demonstrated the relationship of the anæmia of the miners at the St Gothard tunnel to the ankylostoma duodenale It was until recently believed that the larva of the ankylostoma gained entrance into the alimentary canal by men eating with unwashed hands or by drinking contaminated water but Looss of Cairo, who accidentally infected himself by a culture, had shown that the larva could penetrate the skin and by a circuitous route ultimately reach the upper part of the small intestine This mode of entrance was well shown by the lantern slides exhibited The worm could not reproduce itself in the human intestine Ova were constantly being passed out of the bowel by the fæces Under a favourable temperature (62° to 80° F) and in presence of moisture the ova became transformed into active mobile larvæ These organisms could live for many months in the wet sludge in the mines When the larvæ had reached the intestine and had become transformed into the sexually matured worms, male and female, they attached themselves by their hooklets to the mucous membrane of the bowel from which they received nourishment As several of the ankylostomata especially the females, often contained blood, miners anæmia had been attributed to the blood sucking propensities of the worm but this view was not generally accepted Looss was opposed to it The opinion held by Dr Oliver was that the ankylostomata produced toxins which were absorbed into the circulation of the host and that these, circulating in the blood, induced changes therein such as were met with in anæmia. That ankylostomiasis had been productive of much harm on the continent was shown by the fact that in Westphalia alone it cost the employers and the Miners' Union £100,000 in two years in their efforts to combat the disease. Dr. Tenholt of Bochum, the medical head of the Westphalian Miners' Union, was directing the sanitary measures which sought to exterminate the disease. At one mine Dr. Tenholt had already had 4000 infected miners through his hands. Two years ago, at the Lothringen pit, near Bochum, 70 per cent. of the men were ill from ankylostomiasis, a few months ago only 8 per cent. In Westphalia the compulsory introduction of water sprinkling into the pits was believed to have caused the rapid spread of ankylostomiasis. Hungarian mines were even worse infected than those of Germany. The present position of the ankylostomiasis question in France and Belgium was discussed by Dr. Oliver as also was the preventive and curative treatment of the disease. Preventive measures could be summed up in cleanliness of the workers, the maintenance of a low rather than a high temperature in the mines, and keeping the pits as dry as possible. As regards medicinal treatment by aperients, also by thymol and other intestinal antiseptics, opinions were at variance. One interesting point mentioned by Dr. Oliver was the toxic effects that sometimes followed the administration of large doses of filix mas, as seen in amblyopia which might be temporary or permanent.

Sir **WILLIAM BROADBENT** paid a tribute to the great interest of the paper and referred to the thoroughness with which the investigation of this disease had been carried out. The question as to how the anæmia was produced was still unsettled and further inquiry on this point might yield important information on the subject of anæmias generally.

Sir **PATRICK MANSON** thought it likely that England would at no distant date be invaded by the scourge of ankylostomiasis and that the country might suffer as severely as Germany had done. The disease and its origin only served to emphasise the point that the healthiness of a climate was almost dependent on the presence or absence of parasites. The skin infection and the circuitous route followed by the larva probably allowed the latter to acquire a strong protection against the action of the gastric juice before it reached the stomach and it had been shown that when the parasite was introduced by the mouth it was destroyed by the gastric fluids. In the prevention of the disease a most important point was the education of the miners to a proper knowledge of the methods of infection and of the life-history of the worm. The methods adopted by the Chinese in dealing with fæcal matter were probably effective in preventing the spread of intestinal parasitic diseases. In Sir Patrick Manson's experience thymol never failed to cure the condition but it was most important to give it in large and repeated doses—half a drachm every two hours for several doses. It was necessary to avoid the ingestion of any fluid, such as alcohol, which would dissolve the thymol during the time that the treatment was being carried on. Cases of the disease occurred in Europeans who had lived in the East and were sometimes mistaken for cases of pernicious anæmia.

Dr. **OLIVER** replied.

MEDICAL SOCIETY OF LONDON.

Pericolitis Sinistra.—Epidemic Infective Colitis.

A MEETING of this society was held on March 27th, Mr. **JOHN LANGTON**, the President, being in the chair.

Dr. **H. D. ROLLESTON** read a paper on Pericolitis Sinistra which is published in full at p. 854 of our present issue.—Dr. **F. DE HAVILLAND HALL** remarked that the cases narrated by Dr. Rolleston did not tend to improve the bad reputation which the large intestine had already established among physicians and surgeons. He was inclined to think that the rheumatic diathesis might play a part in the causation of the first group of cases mentioned and he would like to know whether salicylates had been tried. Dr. Rolleston's second group of cases belonged evidently to a different category in which the inflammation was probably of local origin.—Dr. **H. A. CALEY** agreed that cases of pericolitis were generally preceded by chronic constipation but there were probably some cases which supervened suddenly as in one which he quoted and which resulted in acute localised peritonitis. He agreed with Dr. Rolleston that most cases of pericolitis of the descending colon originated in the mucous rather than in the serous coat of the colon. He believed that chronic pericolitis was commoner than was generally supposed. Cases were met with in which besides a history of constipation there was an increased resistance or definite thickening in the region of the sigmoid flexure. Simple colitis was, he believed, much more common than ulcerative or perforative colitis.—Dr. **E. SYMES-THOMPSON**, referring to the therapeutic aspect, said that where there was a tendency to recurrence it was wise to treat the mucous membrane with lubricants, such as vaseline combined with salol, internally.—Dr. **ROLLESTON**, in reply, remarked that the possibility of rheumatism being a factor in the causation of both appendicitis and pericolitis had often occurred to him and he was inclined to agree with the views expressed by Dr. Hall.

Dr. **A. E. CARVER** (Torquay) read a paper on a Series of Cases of Acute Infective Colitis. In the autumn of 1902 there occurred at, or were admitted into, the Great Northern Central Hospital, London, a number of cases of acute colitis. Of only ten of the most severe cases was any prolonged record available. Of these, seven were children between one and a half and nine years of age and three were adults. Of the seven children six were females and one was a male. Of the six females five died and one recovered. The male patient died. Of the three adults all were females, of whom two recovered and one died. The disease had certainly occurred more frequently in children and in them it ran a course as follows. The onset was sudden, consisting of violent diarrhœa with the passage of much blood and mucus. The patient was very quiet and after the first 24 hours the face was flushed, the temperature was slightly raised, and the expression was anxious. The tongue was coated with a thick, moist, white fur, the terminal half inch and the extreme edges being, however, clean and red. Abdominal pain was marked but only before and during the passage of a motion. There was tenderness to a varying extent but most constant over the region of the ascending colon. There was not much change till the seventh or eighth day, when the patient began to show signs of exhaustion, and though the motions became of a pasty, fæcal character about the tenth or eleventh day and no blood was passed after that date, the patient gradually sank and died about the fourteenth to the eighteenth day. In adults the disease ran a milder course. Post mortem the following lesions were often found. There was constantly some enlargement of the mesenteric glands. The walls of the large intestine were much swollen from œdema, and scattered over the surface of the mucous membrane were numerous hæmorrhagic points of about the size of a pin's head. There were also very numerous ulcers, shallow as a rule and circular in outline. The rectum was not affected. Microscopically there was loss of tissue in the mucous membrane to a varying extent; there was also a fairly intense small cell infiltration in the submucous tissue and this had extended to a slight degree into the muscular coat. From the manner in which the disease spread it was evidently of an infectious nature and the evidence seemed to point to water as the agent by means of which the infection was carried, although a diminution in the number of cases and an abatement of the symptoms had been observed when the mothers of the children were instructed to boil the milk. The bacillus enteritidis sporogenes (Klein) was constantly present in the stools. The houses from which many of the cases were drawn were densely overcrowded. Treatment was not very successful.—Dr. **DE HAVILLAND HALL** recalled other epidemics of colitis and the acute colitis associated with Henoch's purpura and other maladies. But the epidemic described by Dr. Carver was of a totally different nature. Here the most striking features were the extreme severity and the high death-rate.—Dr. **C. E. BEEVOR** had had some of the cases under his care. The most extraordinary features were the rapidity of onset and the rapid and fatal issue.—Dr. **E. D. MACNAMARA** referred to an epidemic of colitis having specific characters rather than those of true tropical dysentery which he had observed in Manila, the symptoms of which resembled those of the epidemic described by Dr. Carver.—Dr. **CARVER**. in reply, stated that the death-rate of the severe cases worked out at 60 per cent., but if the milder cases had been included it would probably have been much less.

The **PRESIDENT** announced that the Fothergillian prize for 1905 had been awarded to Sir Frederick Treves.

CLINICAL SOCIETY OF LONDON

The Diagnosis of Gastric Dilatation and Gastroptosis by the X Rays —Stenosis of the Ureter —The After History of Cases of Enterectomy —Streptococcal Pachymeningitis

A meeting of this society was held on March 24th, Dr Frederick Taylor the President, being in the chair.

Dr Norman Dalton and Mr A D Reid communicated a paper on a Method of Ascertaining the Position and Size of the Stomach by Means of the X Rays and a Tube filled with Subnitrate of Bismuth. The method was first used in 1901 but it was only since Mr Reid had succeeded in photographing the stomach tube as it lay in the stomach that the results could be recorded and exhibited. The ordinary stomach tube was passed once a day for two or three days beforehand so as to accustom the patient to its presence in the stomach. The stomach was made empty by washing it out or by withholding a meal. Then with the patient lying on his back the x rays were turned on beneath the couch, an œsophageal tube filled with subnitrate of bismuth being at the same time slowly passed into the stomach while the epigastrium was watched through the fluorescent screen. The position of the umbilicus was indicated by a fixed metal disc and the curve of the ribs *by a metal wire.* In a typical case the tube could be seen to emerge from beneath the ribs a little to the left of the middle line and then to descend until it reached the greater curvature of the stomach rather to the left of the umbilicus. Then the point of the tube slid upwards and to the right along the pyloric end of the greater curvature while the stem became convex towards the left. When the point became arrested at the pylorus the rest of the tube adapted itself to the greater curvature, and the photograph of it in that position gave practically the representation of the greater curvature. Lantern slides taken from the photographs were exhibited, showing the tube in various positions in the stomach. In one case the curve and the position of the tube indicated gastroptosis which was verified at a subsequent operation for gastro jejunostomy. In another case moderate gastrectasis was indicated on the screen and was afterwards found at an operation to be present and to be due to old pyloric adhesions. Subsequent experiments showed that in the cadaver the tube pushed the greater curvature before it so that the point did not ascend towards the pylorus but remained opposite the umbilicus. It was therefore probable that in an extremely atonic stomach the tube would not pass beyond a point corresponding to the umbilicus. In other cases it had been proved at the operation that the curve of the tube gave a faithful delineation of the greater curvature though no photograph of the tube in a normal stomach had yet been obtained because so much of the stomach was covered by the ribs the diaphragm and the left lobe of the liver that the shadow was faint. The method was compared with the injection of air or fluid; it certainly enabled a physician to recommend an operation with the greatest confidence. Mr Reid made some remarks on the technique of taking the skiagrams. The Crookes s tube was inclosed in an opaque box with an adjustable circular diaphragm placed over a three inch aperture opposite the anode, the smallest diaphragm being used that would include the required area. When the bismuth tube had been inserted as far as it would go the patient was directed to hold his breath and an exposure of from ten to 20 seconds was made the plate being placed on the abdomen. The apparatus must be sufficiently powerful to enable a good skiagram to be taken in this time; that used in taking those exhibited consisted of a ten inch variable primary coil worked off the 100 volt continuous main with an electrolytic interrupter working at 15 ampères on the primary of the coil with either a heavy anode or water cooled tube.—Mr Lawrie H McGavin queried whether the stomach would not be displaced by the tube in a living person as it was in the cadaver.—Sir Dyce Duckworth imagined that such displacement would depend on the pressure exerted. He was more doubtful as to whether the tube followed exactly the greater curvature of the stomach.—Dr Dalton in reply said that the stomach wall might be displaced by the point of the tube but could not be displaced when the tube was lying flat and parallel to the wall. No pressure could be exerted on the stomach wall as the tube at once became curved.

Mr Douglas Drew read notes of three cases of Stenosis of the Ureter upon which he had operated. The first case was congenital narrowing of the upper end of the ureter causing hydronephrosis in a woman, aged 34 years. The treatment consisted of incising the stenosed portion of the ureter and suturing it to the adjacent part of the pelvis of the kidney (pyelo uretero plasty) and resulted in complete recovery. The second case, in a woman, aged 50 years, was of a similar nature, but the narrowing affected the upper four inches of the ureter which was exposed. The kidney itself was but little affected although the pelvis contained 25 ounces of fluid. The condition of the ureter was not remediable—at the same time it did not appear desirable to sacrifice the kidney. The ureteral orifice was enlarged as in Case 1, in the hope that it might be enough to cure the hydronephrosis but within three weeks the tumour made its reappearance. Nephrectomy would be necessary. The third case in a woman, aged 28 years, was one of pyonephrosis from calculi impacted in the ureter. Nephrotomy and ureterotomy were performed and subsequently nephrectomy owing to stenosis of the ureter. After evacuating the pus from the kidney, as no cause was found in the organ to account for the condition the ureter was exposed and a fusiform enlargement was found upon it one inch from the pelvis of the kidney. On incising this three minute calculi (which were exhibited) were found embedded in granulation tissue lining the ureter. The kidney was drained for three months during which time no pus was present in the urine indicating that it was obstructed, and as the sinus would not heal nephrectomy was performed and the patient made a satisfactory recovery. Mr Drew remarked on the importance of exploring the ureter in cases of hydro and pyo nephrosis when the cause of the condition was not found in the kidney.—Mr A E J Barker agreed as to the rarity of stenosis in the lower part of the ureter. He had however, operated on several cases of stenosis in the upper part and had split the ureter from the renal end but he advocated the passage of a long catheter from the pelvis of the kidney into the bladder so as to maintain a wide lumen.—Mr W G Spencer asked why the term congenital should be applied where symptoms had appeared so late in life and he suggested the possibility of inflammatory and other causes especially in women where the stenosis might be due to inflammation after labour.—Mr Drew, in reply, justified his use of the term congenital and stated that there was no evidence or history of sepsis in his cases.

Mr Barker read a paper on three cases illustrating the Condition of the Small Intestine after Extensive Enterectomy. They showed that the condition of paresis of the intestine commonly seen about an acute obstruction was not completely relieved by the release of the constriction, but might persist more or less for years a point apparently hitherto overlooked. The first two cases were operated on respectively two and a half years and 21 months before a second operation involving laparotomy had to be done. In both large tracts of small intestine had to be removed and each showed at the second operation that the bowel above the anastomosis had not returned to its normal size or activity as contrasted with the part below the junction. Mr Barker attributed this weakening and thinning of the proximal portion not only to the distension of the gut above the obstruction but to the saturation of all the coats and nerves with toxins developed in the fermenting bowel contents. The third case which had been operated on two years before for obstruction showed the same condition; the obstruction was not relieved but *the small intestine was attached to the* sigmoid flexure. There was in this case clear evidence of atony of the bowel and thinning of its walls two years later when the second operation was performed.—Mr J D Malcolm asked whether the existence of a cicatrix in the intestinal wall might not be a cause of distension and paresis owing to its interference with peristalsis.—Mr Spencer remarked on the extensive resections (in one case amounting to six feet) which had been performed and advocated bolder and more extensive resection on the proximal side of the injured gut especially after gangrenous conditions.

Sir Dyce Duckworth and Dr C M Hinds Howell communicated a case of Streptococcal Pachymeningitis. The patient a boy, aged 14 years was admitted to St Bartholomew s Hospital on Nov 14th 1904 under Sir Dyce Duckworth. There was a history of 18 days' indisposition, with headache and occasional vomiting previously to his admission. The temperature on admission was 102° F. and the pulse was 90. The patient was very irritable and complained of pain behind the left ear, and the head was drawn down slightly to the left but nothing abnormal was found on examination of the ears. A trace of albumin was present in the urine throughout. Nothing abnormal was noted in the nervous system excepting a diminution of the knee-jerks. On Nov. 21st there was an increased amount of albumin in the urine, with blood and casts, leucocytosis amounting to 15,400 per cubic millimetre, and slight twitchings of the face; the cerebral irritation had increased. On the 24th there were Cheyne-Stokes's breathing, paresis of the right side of the face, and ankle clonus, with Babinski's and Kernig's signs. Dyspnœic attacks followed on the 25th and the pulse became irregular. On the 27th the patient became comatose and died. The temperature between Nov. 14th and 23rd was generally about 103° F., but it fell during the last two days of life. The pulse frequency was about 80 to 90 throughout, only becoming irregular towards the end. The post-mortem examination showed a large quantity of pus over the vertex of the brain, sub dural in position, the pia-arachnoid being natural. The lateral surfaces of the brain were deeply depressed and furrowed from the pressure of the pus, which was found bacteriologically to be streptococcal. Pyæmic abscesses were found in the lungs, the kidneys, and elsewhere. The brain was exhibited.—Dr. DALTON mentioned a somewhat similar case in which the nasal sinus had probably been the seat of pyæmic infection; and Sir DYCE DUCKWORTH replied that the nasal sinuses had not been examined in his case.

CHELSEA CLINICAL SOCIETY.

Chronic Constipation and its Medical and Surgical Treatment.

THE annual clinical debate of this society was continued at the Chelsea Dispensary, Manor-street, King's-road, London, on March 21st, Dr. T. VINCENT DICKINSON, the President, being in the chair.

Dr. W. COLLIER (Oxford) said they certainly saw many cases of chronic and persistent headache the basis of which was constipation. They saw also cases of anæmia kept up by constipation and they came across a great number of patients who suffered from symptoms of both mental and physical fatigue, and those symptoms passed off when they paid due attention to their bowels. So that they had a right to conclude that constipation was the cause of a great deal of ill-health. Another very important point was the question of the frequency of the condition in the female sex above 30 years of age and among the poor; he believed at least two-thirds of those who came for treatment suffered from constipation. Another proof of the extreme frequency of constipation was that they had only to turn to the advertisement sheets of their daily press and notice the enormous number of advertisements of quack remedies. With regard to treatment, they might divide their patients into two classes: those who were able to pay for advice and those who were not. Those who were paying for advice they might treat largely without drugs; those who were not able to pay fees they were compelled to treat very largely with drugs. In the treatment of chronic constipation they had two objects in view, they desired to increase peristaltic action and they also wished to increase intestinal secretion. How best could they increase peristaltic action without drugs? He should say one of the best forms of rational treatment was by voluntary movement. On thinking over that subject he was struck by the fact that for the 20 years that he had been in practice he had had to deal with a very large number of rowing men but he could not remember a single rowing man who had ever come to him to be treated for chronic constipation. Why was that? He thought it it was because of the nature of their exercises. If they thought of the action during rowing they saw what happened. The abdomen was intermittently pressed with a certain amount of violence against the thigh muscles. What was the result? He considered that that pressure led to some forcing of bile from the liver into the intestines and bile was a natural aperient and the pressure further increased the peristaltic action. And not only that, but the rowing exercise undoubtedly strengthened the abdominal muscles and those muscles in their contraction also pressed on the intestines. And there they had the keynote of the matter. They could treat chronic constipation largely by voluntary movement. Of course, they could not send all their patients into boats but they could put them on chairs and induce them to go through the same movements as in rowing. Or they could get them to indulge in other movements, such as the squatting movement; that was to say, rapidly and forcibly dropping on to the knees in a squatting attitude and quickly assuming the erect posture again. That did exactly the same thing—it pressed on the liver and also irritated the intestines. They could easily think of other movements having the same object. One movement he was very fond of was to get a person to lie down and to cross the arms on the chest and then raise himself to the sitting position by the contraction of the abdominal muscles. They came next to the question of manipulation and that brought him to speak of massage. He was bound to admit that he thought there was an enormous amount of humbug so far as the treatment of constipation was concerned in the so-called skilled massage. He was a great believer in irritating the abdomen but he did not think it required any skilled masseur. Turning to the question of diet, he thought that their national diet was extremely bad, it was far too dry, too non-irritating. Not half enough fruit was eaten. Another point of importance which had to be considered was the question of fluids. He observed that because many people took alcohol with their meals, they took it in moderation and hence did not get a sufficient amount of fluid. He always paid great attention to the amount of water taken and he suggested the drinking of water at various times of the day. There was one point about water which they ought to remember and that was that most of the English water contained a large proportion of chalk and that chalk in itself was constipating. Therefore when he prescribed water he always took care to suggest that it should be boiled, for in that way much of the chalk became deposited. It might be necessary to supplement the treatment by the use of drugs. A drug of which he was very fond was one which the late Sir Andrew Clark used largely—namely aloes. He was a firm believer in giving aloes in small quantities often repeated, half or a quarter of a grain of aloine, with sulphate of iron and nux vomica, given twice a day about 5 o'clock and 8 o'clock. If that was not sufficient he often gave colocynth. There were some cases in which they wanted to get the stools of a watery nature and in those cases he was inclined to give sulphate of magnesium and sulphate of sodium. He combined those drugs with the liquid extract of cascara sagrada, half a drachm of each. Next as to the question of treatment of the poor. Why was it that the poor suffered so much from constipation? He thought it was largely due to two causes. First of all to the sedentary habits of the people; and secondly, to the fact that their food consisted very largely of white bread and tea. Tea, of course, contained a lot of tannin and the white bread which was eaten in England was not irritating enough. It seemed a monstrous thing that at the hospitals and in private practice they should be compelled to continue to teach people to swallow drugs wholesale in the way that they did, but he was afraid that they would be compelled to continue to do so unless they could alter the national diet and that was a very difficult matter. They could not order the poor to take green vegetables and fruit because of the expense. There was one suggestion which he had tried to induce his poorer patients to act upon and that was to take olive oil for constipation. Olive oil was a good deal cheaper than cod-liver oil, and he found that if people would only try it a few times they would have no objection to it. He thought olive oil was a valuable aperient. And he would ask why should not they endeavour to get people to cook their food in olive oil? When they went to Austria or Spain or Italy they found that nearly everything was cooked in oil, why should not the people in England cook with oil? The probability was that if they adopted that course they would do something to get rid of that national disorder. In treating constipation among the poor it was quite impossible to find time to give them individually the hints he had referred to, and, moreover, he felt quite sure that if he did they would not pay attention to them. Poor people did not care so much for their advice as for their drugs. With regard to the question of an enema, of course, in a troublesome case an enema or two were given, but he had not had much experience of treating patients with enemas over any considerable period. He thought the objection to the enema was that there were a great deal of discomfort and a good deal of time taken up in giving it, and if they could get the bowels to act in other ways it was better for the comfort of the patient The only other remark he would make was with regard to the suggestive paper by Mr Lane He had read that paper with great interest and it certainly, to his mind would add to their interest in the post-mortem room He had never had these changes to which Mr Lane referred pointed out to him before and in the future in examining the dead body of a middle aged person they would be looked for Certainly the suggested operation would have the most stimulating effect upon physicians and general practitioners, because it would impel them to a more active treatment of chronic constipation they would want to preserve their patients from that fate They would also be able to lift the warning finger to patients and say that if they did not carry out their instructions then their fate would be that they would have to hand them over to the surgeon and that a considerable portion of the large intestine would be put completely out of court

Dr F J SMITH said he claimed to have had some experience in the appearances of the abdominal viscera after death but he had never seen the anatomical condition described by Mr Lane He disagreed with Mr Lane's statements in regard to the position assumed by the appendix but agreed with him on physiological points and held with him very strongly that chronic constipation led to symptoms which might in their turn lead to an unendurable continuance of life without relief Modern self consciousness and neuropathy combined with the skill of modern surgeons and the enormously reduced mortality of abdominal operations might possibly have brought many to a position in which they preferred the relief offered at so little risk to a continual worry about their bowels He felt sure that as Mr Lane's *method of relief became more widely known those numbers* would enormously increase The ease the safety, and the simplicity of the treatment offered did not, however forbid

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the operation and its after effects Concerning simpler measures for overcoming chronic constipation Dr Smith advocated the administration of three or four large enemata of soap and water with olive oil daily He considered that the essential reason why patients drifted into a condition demanding relief by radical measures was that they would not take the trouble necessary to keep free from symptoms Lest he should be taken to be making undue objection to the method suggested by Mr Lane Dr Smith concluded by narrating a case under his care at the London Hospital in which the patient was willing to take the risks of the operation and he had asked his (Dr Smith's) colleague Mr J Hutchinson jun, to see the patient with a view to performing the operation

Dr H CAMPBELL THOMSON limited his remarks to the influences that disorders of the nervous system had in connexion with chronic constipation He explained how the mental state of the patient entered into the question and discussed the close relationship which existed between paralytic affections *of the intestine and the mechanism of secretion* When the paralysis of the intestines was acute as when, for instance it was associated with general peritonitis or intestinal obstruction the secretion was greatly modified both in quantity and quality He could not say with any certainty exactly what modification was produced where paralysis was less complete and of slower onset, but there could be little doubt that changes did take place and that they were not advantageous to the healthy working of the bowel The most obvious examples of paralyses of the intestine were seen in the acute cases some of which as he had shown elsewhere might be also associated with acute paralytic dilatation of the stomach but just as loss of power in a limb might come on rapidly or very slowly according to the cause so might powerlessness of the intestine be found in all degrees of severity and chronicity In many of the severe and long standing cases of constipation which medical measures failed to relieve the loss of power might be of such degree and standing that it was practically irrecoverable and it was for such cases as those that the operation introduced by Mr Lane was likely to be especially beneficial In conclusion

no desire whatever to place

a cause of constipation out

object had been to bring it forward as one of the causes which might, if not recognised sometimes lead to failure of treatment and to such a condition that an operation was at last the only means left by which the functions of the intestine could be restored to health

Dr LEONARD WILLIAMS said that to put the matter shortly, operative measures in the treatment of chronic constipation were not justified until a patient had attained to about the age of 50 years Before that period of life every case of the *malady* was curable by hygienic *regimen* and suitable medicinal treatment After that age the abnormally distended and displaced parts of the abdomen became bound by adhesions into vicious positions and restoration to the normal became impossible without the gentle ministrations of the surgeon and the anæsthetist The essential factors in the production of any case of chronic constipation were deficiency of fluid in the intestinal tract and inadequate peristalsis Deficient moisture in the intestines should be met by the proper management of the skin In discussing the treatment of chronic constipation by partaking largely of foods containing a considerable proportion of indigestible residue Dr Williams pointed out that what the intestines in such cases required was not extra work but physiological rest so that when they did work they might do so to some purpose He emphasised the importance of maintaining in full working order the muscles which formed the external abdominal wall and he had generally found it necessary to prescribe exercises for that purpose After explaining the various exercises which he recommended Dr Williams passed on to discuss the great advantages of the spa treatment in chronic constipation observing that the best subjects for treatment at those spas were as a rule those who were never sent there from this country at any rate—namely, children He then *analysed* in detail the methods in vogue at the different spas and recommended certain prescriptions The object was to educate the intestines to do their work normally and for that purpose the stimulation must be slight and above all things sustained He commented on Kussmaul's oil enema method and mentioned that for the habitual constipation which was liable to occur in old age he had found belladonna to be the best remedy, a quarter of a grain of the extract made into a pill with a quarter of a grain of the extract of nux vomica should be given every night until the bowels could be trusted to act without it

The PRESIDENT briefly thanked those who had taken part in the debate and the proceedings terminated

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ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF OBSTETRICS

Procidentia Uteri —Cleidotomy

A MEETING of this section was held on March 10th Dr ALFRED J SMITH the President being in the chair

Mr E HASTINGS TWEEDY read a paper on a Curative Operation for Procidentia Uteri He did not believe that any procedure having for its object the removal of the uterus and the entire closure of the vagina provided a sound surgical remedy He had on three occasions performed an operation that appeared to him on theoretical grounds to fulfil all the requirements of a complete cure in the worst conditions of prolapse Briefly stated the operation consisted of opening into the abdomen both in front of and behind the cervix This enabled the operator to grasp the broad ligaments between the thumb and the forefinger and to protect the ureters and the uterine artery, while the bases of the broad ligaments were denuded by stripping the vaginal mucous membrane of the lateral fornices from them Ligatures were passed through these structures close to their pelvic extremities and these ligatures when tied together in front of the cervix caused the latter to be elevated in an upward and backward direction The basal fibrous structures (Mackenrodt's ligaments) were still further secured in front of the uterus in the neighbourhood of the internal os by several fine sutures The final steps of the operation consisted of amputation of the cervix, anterior vaginal fixation of the uterus and an anterior colporrhaphy combined with a Hegar's colpo perineorrhaphy —Dr J H R GLENN said that the original operator passed the stitch through the back of the cervix and drew it upwards and backwards towards the promontory of the sacrum the fundus falling forwards An anterior fixation was also done —Dr H

JELLETT said that in many cases of prolapse some form of operation was necessary. He was in favour of vaginal fixation and some form of narrowing operation of the vagina. He had no dread of pregnancy afterwards, never having had any trouble. He had lately opened an abdomen in which anterior fixation had been previously done and it had had excellent results. He thought that that operation, combined with narrowing, was usually quite sufficient and if not Mr. Tweedy's operation was an excellent one.—Dr. R. D. PUREFOY said that there was some difference of opinion with regard to the various structures which kept the uterus in position. Dr. Savage had demonstrated that the structures which chiefly prevented procidentia were the utero-sacral ligaments. The procedure which Mr. Tweedy had shown was in certain cases an excellent one but was manifestly not suited to all cases of procidentia. Huguier pointed out that in many cases hypertrophy of the cervix was the cause of procidentia and this could be dealt with by amputation of the cervix.—The PRESIDENT said that he had read the original description of the operation but thought it exceedingly theoretical. He did not see how, in tying the sutures, it was possible to avoid compressing the ureters. He agreed with Dr. Jellett as to the value of vaginal fixation—combined with colporrhaphy—in ordinary cases of prolapse. He had also got good results from abdominal fixation.—Mr. TWEEDY, in reply, said that, like Dr. Purefoy, he had formerly attached great importance to the sacro-uterine ligaments but he had now adopted the view that the ligaments he had pointed out were perhaps of more importance in keeping the uterus in proper position, especially in that of elevation. There was frequently a deep laceration of the cervix in bad cases of procidentia and in such cases Mackenrodt's ligaments were probably torn.

Dr. JELLETT showed an infant on whom Cleidotomy had been performed in consequence of impaction of the shoulders at the pelvic brim. After the operation traction still failed to effect delivery and so the posterior muscular attachments of the scapula were divided. This enabled the whole scapula and shoulders to move forward on to the chest and delivery was then easily accomplished. The fœtus measured 45 centimetres round the shoulder girdle with the shoulders in their normal position and 34 centimetres when compressed after the division of the bones and soft parts. He considered that the use of the blunt hook was difficult and dangerous. In performing the cleidotomy he spent about three minutes over each clavicle and about five minutes in separating the posterior attachments of the scapula. There was no bruising of the maternal parts and the mother's life was never in danger. It did not occur to him to rotate the body, but probably he would have done so if he could have got at the body. It might have brought about the same result as the division of the scapular attachments. The period of gestation seemed in this case to have been prolonged.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on March 17th, Dr. B. A. Whitelegge, the President, being in the chair.—Dr. A. E. Boycott read a paper on Ankylostomiasis. Some points in the life-history of the parasite were still imperfectly understood but enough was already known for practical purposes. It differed from most in having no "intermediate host" and each species was infective to one animal only, and this only at one period of its saprophytic development, while there was no sexual generation outside the host. One species only, ankylostoma duodenale, attacked man in Europe and Africa, and though Stiles had described an ankylostoma Americanum as a distinct species the differences were but small. The worms were found in the upper part of the jejunum in man in numbers varying from a few to several hundreds, where the female laid numerous eggs easily detected in the fæces. Hatching within 24 hours they passed through three moultings in the course of a week, developing a well-marked chitinous sheath. It was still a sexless larva but had reached the stage of "encapsulation," in which alone it was infective, the eggs or younger larva being swallowed with impunity. So soon as the full-grown larva gained access to the human bowel it underwent rapid development, acquiring, after a renewed series of moultings, male and female sexual organs in different individuals. The larva attained its full growth in about five days and the second period of growth from the encapsuled larva to the reproductive stage occupied about as many weeks, though the encapsuled larva and the perfect worm were each capable under favourable conditions of retaining their vitality for months or even years. In the great majority of cases the larvæ gained access to the intestine of the host per os but the possibility of their penetrating the skin had been established by recent observers. The optimum temperature for incubation and the development of the larvæ was about 24° C. = 75° F., the limits being about 16° C. = 61° F. and the temperature of the blood, but the encapsuled larvæ would live for months at any temperature between 10° and 30° C. Drying and submergence were alike fatal to the eggs but the larvæ required water and while young the presence of oxygen, the absence of which explained their inability to develop in the alimentary canal. The encapsuled larva was, however, capable of living and moving actively for days or weeks in an atmosphere of hydrogen or nitrogen or in vacuo. Their alleged resistance to chemical reagents was apparent only and owing to the protection afforded by the chitinous sheath, for young larvæ were very easily killed and with the encapsuled it was determined not so much by the strength of the solution as by the time required for the penetration of the sheath. The adult larvæ were surely killed in four hours by 0·1 per cent. of sublimate, 0·25 per cent. of izal, or 1·0 per cent. of carbolic acid, and in 24 hours by 4·0 per cent. of sodium chloride or 0·1 per cent. of izal. Some fæces appeared to contain something that inhibited the development of the larvæ, though the eggs were present in great numbers. It was not their chemical reaction and they contained very little soluble salts. Bruns found that the more he diluted the fæcal matter the larger was the percentage of the larvæ reared and aqueous extracts of some fæces would kill the larvæ hatched from others. The essential symptom of ankylostomiasis was anæmia, varying from a reduction of 10 to 20 per cent. in the capacity of the blood for absorbing oxygen to a degree equal to that of the worst cases of pernicious anæmia and, of course, fatal. The direct mortality was considerable but the chronic ill-health and incapacity for work through weakness and dyspnœa were of even greater economic importance. Some men seemed to enjoy a sort of immunity or "impunity," harbouring the worm but presenting no symptoms, though none the less a danger to others. The incidence on the exposed population varied from 2 or 5 per cent. to 75 per cent. in parts of Assam and 100 per cent. in some Cornish mines. The severity of the symptoms depended not so much on the number of the parasites as on their toxicity and this, again, on their more or less favourable surroundings, as moisture and temperature. Thus the Westphalian coal miners were comparatively free until irrigation was introduced with a view to prevent explosions of coal-gas and, on the other hand, the Levant mine in Cornwall, though warmer and filthier than others, was almost alone in its exemption, the floors and walls being saturated with the salt water soaking through the roofs of the galleries running under the sea. They knew enough now to enable them to exterminate this pest from climates where the requisite temperature was met with only in mines and tunnels at great depths, since reproduction was impossible outside of the body and the hatching and growth of the larvæ were equally so within. It was always in their power to expel the parasites by *large* doses of thymol repeated until the eggs had disappeared. In mines and similar places the larvæ would die out spontaneously if not reintroduced and the extinction of those already there could be facilitated by free irrigation with disinfectants. But the most important measure was the prohibition of defæcation except into vessels provided and charged with disinfectants. This, with the medical treatment of men found to be already suffering, had completely saved the workers in the Simplon tunnel from the terrible sufferings of those engaged on the St. Gothard 20 years before and had reduced the percentage of infected men in the Westphalian coal mines from 20 to 3·6, but there was everywhere a residuum of men whom no regulations could coerce and in some places, as the Cornish mines, it was useless to attempt it. In tropical countries, with high temperatures on the surface, the disease was very prevalent, though hitherto unrecognised, and the work of prevention hopeless. Only in the year 1900 did Ashford show that the "anæmia" certified as the cause of 24 per cent. of the deaths in Puerto Rico was due to ankylostomiasis and last year Haldane did the same for the "Dolcoath anæmia," known in Cornwall since 1894 but hitherto unexplained.—In the discussion that followed Sir P. Manson said that in Ceylon the disease was more fatal than cholera and that most tropical anæmia was of the same kind. He believed that the larva entered the body through the skin, especially among people who habitually walked barefooted He had found calomel a valuable anthelmintic —The President remarked that though as yet unknown in the coal mines of Wales and Yorkshire it had recently appeared in those of Lanark —Dr Boycott in his reply stated that in several alleged instances of reproduction out of the body that had been brought under his notice other nematoids had been mistaken for these In experiments *in vitro* dead larvæ were digested but living ones resisted The anæmia was due to the toxins, not to any "blood sucking" or destruction of the corpuscles by the parasites Thymol was incomparably the best anthelmintic, though beta naphthol was very good

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN —A meeting of this society was held on March 17th, Dr L G Guthrie being in the chair —Dr O F F Grunbaum showed a boy, aged nine years, with Alopecia Universalis The hair of the head came out in patches two years ago, complete baldness resulting in one year Then the eyebrows and most of the eyelashes seemed to fade away The nails were normal No cause was found —Mr. G Pernet recommended liberal diet, tonics, thyroid extract, and stimulating lotions —Dr R Hutchison exhibited a case of Late Rickets in a boy, aged nine years For some months the legs had been gradually bending There was marked epiphyseal enlargement of the lower ends of the radius and the ulna, of the knees and the ankles, with typical rickety curvature of the femora and the tibiæ The skull, the chest, and the viscera showed no changes The boy had rickets at the age of three years and had never completely recovered from it —Mr Sydney Stephenson showed a boy, aged nine years with Tuberculosis of the Lacrymal Sac Tubercle bacilli were found in scrapings from the interior of the diseased sac There was a family history of tuberculosis The boy had had enlarged cervical glands treated by operation and still presented *chronic ulceration of the nasal chambers* probably tuberculous —Mr Stephenson also showed a typical case of Keratomalacia in a girl, aged eight months The condition was one of sloughing of the cornea in a young child suffering from marasmus It was rare in England It corresponded with "Hikan," an epidemic disease of Japan, with the ophthalmia Braziliana of South America, and with the destructive keratitis common in Russia during the great *Lenten fast* *The eyes were kept shut, there was no discharge* of muco pus and both corneæ were converted into greyish white sloughs —Dr J Charlton Briscoe showed a girl, aged 13 years, with Tremor of the Right Arm, very rapid, better felt than seen It was absent during sleep, was constant while awake, increased after exertion, and diminished after rest The muscles of the forearm and hand were not involved No other change in the nervous system was found The onset *was sudden*, three months ago, with anorexia and lassitude —Dr Guthrie suggested that the condition was due to a mild encephalitis or thrombosis of some of the finer vessels of the cortex on the left side —Dr G A Sutherland thought the condition "functional, a diagnosis with which Dr Briscoe agreed —Dr F Parkes Weber showed a child, aged 12 years, with Jaundice and very considerable Chronic Enlargement of the Spleen The lymph glands were not enlarged and the blood showed nothing abnormal The mother had had six stillborn children —Mr J Howell Evans showed a case of Osteoma of the Bregmatic Wormian Bone —Dr G S Hett showed a case of Tuberculosis affecting the Lungs, Cervical Glands and Ears —It was discussed by Mr H L Carre-Smith, Dr Sutherland, Mr Howell Evans, and others

ERRATUM —In the report of the last general meeting of the British Laryngological Rhinological, and Otological Association published in THE LANCET of March 25th the first specimen exhibited was said to be shown by Dr Samuel Bradford These words were a misprint for "Dr Samuel Lodge of Bradford"

LEICESTER INFIRMARY —On March 22nd, in the presence of a large and representative assembly, the Marchioness of Granby *opened the new out patient block* of the Leicester Infirmary The waiting hall of the new building is 85 feet long by 29 feet wide and around it are grouped the physicians' and surgeons' consulting rooms, examining rooms for males and females and a small room for minor operations A room is also provided for ear, throat and dentistry cases, with dressing rooms, and there is also a room for ophthalmic purposes with its own small operating room In a recess in the large *hall a refreshment* counter has been provided

Reviews and Notices of Books.

Tent Treatment for the Tuberculous Insane By A E MACDONALD, M D, LL B, Medical Superintendent, Manhattan State Hospital, East Published by the Committee on the Prevention of Tuberculosis of the Charity Organisation Society of the City of New York and the National Association for the Study and Prevention of Tuberculosis 1904

THIS is a brochure reprinted from a directory of institutions and societies dealing with tuberculosis in the United States and Canada Dr MacDonald is, if we mistake not, a pioneer in the matter of tent treatment of the tuberculous insane The annual reports of the Manhattan State Hospital have of late years recorded his experiences and reference has been made to the subject in THE LANCET of Oct 10th 1903, p 1029 He has demonstrated by an experiment covering a period of 40 months at the time of writing that the consumptive insane may be treated to their own advantage and to that of their fellow inmates and attendants throughout the various seasons of the year in this manner The original intention was to remove the patients to the permanent buildings for the winter months but experience showed this to be unnecessary The tents were adequately heated by stoves It is not the purpose of Dr MacDonald's present communication to go into details of the results obtained by tent treatment For these readers are referred to the annual reports of the *Manhattan State Hospital and to special articles* in the *Journal of Insanity* The author here contents himself with stating that the patients suffered no injury or hardship but, on the contrary, benefited, as shown by decrease in the death rate from pulmonary tuberculosis both absolute and relative, and by marked increase in bodily weight of those affected Many persons were discharged to their homes from the tents with the pulmonary disease to all appearances completely arrested, others whose insanity continued were discharged in a like state of arrestation of lung disease to the wards and these latter were still quite well at the date of writing, two years afterwards Incidentally it is mentioned that not only the patients but also the nurses living in the tents enjoyed almost complete immunity from other pulmonary disorders Whereas pneumonia caused 131 deaths in the hospital proper during the three years of tent treatment, not a single case developed in the tents Common colds, also, frequent in the wards and in the attendants home were unknown among the tent dwellers The experience at Manhattan is against the claim for high altitude, for the tents *were located* but a few feet above the tide water level and "the site of the camp is swept in winter by winds of high velocity coming over ice bound waters, and it suffers as much as, or more than, any other part of the city of New York from the trying changes of temperature and humidity which are so characteristic of its climate" The experience at Manhattan would appear to justify the trial of tent treatment in asylums for the insane in this country

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Atlas und Grundriss der Kinderheilkunde (*Atlas and Rudiments of the Diseases of Children*) By Dr R HECKER and Dr J TRUMPP Munich J F Lehmann 1905 Pp 482 Price 16 marks

THIS new work on the diseases of children is the thirty second volume of Lehmann's series of hand atlases of medicine The authors express in their joint preface the hope that their united efforts may contribute to the understanding of the larger systematic works on pædiatrics and to the management of the more ordinary cases which are met with in general practice They consider that a want of systematic clinical teaching on the subject of the diseases of children in many of the German universities renders the publication of a well-illustrated atlas not only opportune but absolutely necessary if young qualified practitioners are to cope with the varieties of diseases among children which usually form the bulk of their practice. Although it may be questionable whether there is any trustworthy substitute for clinical experience and teaching in the wards, nevertheless we are inclined to believe that a large number of practitioners in Germany will find this little volume not only a valuable substitute but also a useful supplement to the bulky text-books on the same subject which are provided for their use and instruction. The majority of these larger books are so laborious to read and so deficient in illustration that few general practitioners find the time or the opportunity to read them. The little book before us well fulfils its title of atlas. It contains 48 coloured plates and 144 uncoloured illustrations. Certain of both of these groups of illustrations are, perhaps, a little fanciful, out of proportion, and in a few instances quite inaccurate. This is noticeably so in the case of the full-page illustration which presents the skeleton of an achondroplasic individual. In this illustration the length of the head from the apex to the chin is slightly longer than the trunk as measured from the clavicle to the lowest point in the pelvis—proportions which are not only obviously inaccurate but strangely perversive of the truth. Some of the coloured illustrations of the exanthematous rashes and of certain conditions of the skin are not of a very high standard, while that of Koplik's spots is more suggestive of aphthous stomatitis than of the pathognomonic exanthema of measles. Again, on p. 41 appears an illustration of the manner of examining the throats of children. To our mind it represents a method which should be most carefully avoided. The good features of this book apart from the profuseness of the illustrations are, first, the brevity and the conciseness of the general account of the course of the various diseases mentioned and of the ordinary symptoms; secondly, the excellence of the pathological summaries; and, thirdly, the systematic arrangement and the classification of the morbid conditions included in the scheme. Like many other German works, this compilation appears to have been written with painstaking care. It is well up to date and includes an account of most of the recent work in diseases of children. The excellence of the print, of the paper, and of the binding is to be commended.

LIBRARY TABLE.

British Journal of Children's Diseases. Vol. I. Edited by GEORGE CARPENTER, M.D. Lond. London: Adlard and Son. 1904. Pp. 594. Price 15*s.*—The volume under review represents a bound edition of the first 12 numbers of the *British Journal of Children's Diseases.* Considering the short time during which this journal has been in existence it has already met with remarkable success, not only in the number and the variety of the contributions but in the high standard of excellence which characterises many of the original articles, the extracts from current literature, and the illustrations. Among the features of this journal are the publication of signed reviews, the full reports of the Society for the Study of Disease in Children, and the excellent little paragraphs which appear monthly under the title of "Excerpta Puerilia." Two or three of the original articles which appear in this volume are of considerable importance. One of them is by Mr. R. Clement Lucas on an Ill-developed Upper Lateral Incisor Tooth as a Forerunner of Hare-Lip or Cleft Palate and another one is by Mr. J. H. Evans on the Relation of Certain Extra- and Intracranial Hæmorrhages in the Newly Born. The editor and the publishers are to be congratulated on the success of the first volume of this new journal.

Reports of the Society for the Study of Disease in Children. Vol. IV. Edited by GEORGE CARPENTER, M.D. Lond. London: J. and A. Churchill. Pp. 378. Price 12*s.* 6*d.*—The reports of the above society for the session 1903-04 are included in this volume and constitute a compilation of some valuable clinical material. The institution of this society some four years since has unquestionably greatly stimulated the study of the diseases of children in this country and the series of reports which have so far been published provides an acceptable record of many highly instructive and interesting cases which might otherwise have been lost to medical readers. Many of the illustrations are of first-rate excellence and throughout there is evidence of care in the work of editing.

New Streets: Laying Out and Making Up. By A. TAYLOR ALLEN, Engineer and Surveyor to the Portslade-by-Sea Urban District Council. London: The Sanitary Publishing Company. 1905. Pp. 175. Price 3*s.* net.—The avowed object of this work is to serve as a handy book of reference to those engaged in operations conducted under the Public Health Act, 1875 (Section 150), and the Private Street Acts, 1892. It deals with the laying out and making up of new streets and contains plans, specifications, estimates, and apportionments, together with precedents of notices to be served on owners in connexion with the works indicated. As such it will perhaps be found a convenient guide and reminder for those not needing to refer to a bulkier volume or to books dealing more specifically with the subjects comprised. It is a little doubtful, however, whether it can, as the author suggests in his preface, be conceded that instructions given in a condensed form are useful for the guidance of the student. The student is best instructed who performs as much as possible of the boiling down and condensing process for himself. Mr. Allen, in a page of original text, under the heading "Gradients," states that he is "one of the few surveyors who believes that all wide carriage ways, where traffic is considerable, should have the channel in the centre instead of at the sides, thus obviating the tendency of vehicles to slide down the haunches of the road towards the kerb." Why it should be preferable that vehicles should tend to slide towards the centre from the sides of a road he has not perhaps space to explain, nor does he say how drivers who under the usual form of road construction cannot get their horses' feet into the channel, and need not get their wheels into it either, would like the innovation suggested.

The Municipal Year Book of the United Kingdom for 1905. Edited by ROBERT DONALD. London: Edward Lloyd, Limited. 1905. Pp. 622. Price 3*s.* 6*d.* net.—The continual development in all departments of municipal life inevitably involves an extension with every edition to all sections in this book. A brief general review is given of the work of each local authority in alphabetical order, under the name of the city, town, or district, and, wherever possible, the statistical and other information is arranged in a series o special sections in tabular form. A double index—that in the front of the volume and the page numbers for each section at the end of the general summaries—makes the references as simple as it is possible to make them. The practice of interpolating pages of advertisements amongst those of the text appears to us to be an objectionable one. The print of the book is excellent. It is a most useful volume.

MEDICAL EXHIBITION.—We are asked to announce that "a medical exhibition of a high-class and strictly professional character will be held in London during the autumn of this year. The attendance will be strictly confined to medical men, no others being admitted." Particulars can be obtained from the secretary, 44, Bishopsgate Without, E.C.

# Reports and Analytical Records
FROM
THE LANCET LABORATORY.

CERATINE PETROLEUM JELLY.

(PRICE'S PATENT CANDLE CO., LIMITED, BELMONT WORKS, BATTERSEA, LONDON, S.W.)

AN excellent feature of this petroleum preparation is its purity. Consisting entirely of pure hydrocarbons it is free from any liability to become rancid. We have examined both the yellow and the white ceratine petroleum jelly. The white ceratine is absolutely white and the yellow ceratine has the appearance of ordinary vaseline. Ceratine is well adapted for toilet purposes on account of its blandness and purity and in some instances it would serve as an admirable basis for ointments. Ceratine may be procured with or without perfume.

SCOTCH WHISKIES

(WALTER BALLANTYNE AND SONS, ST. BOSWELLS, SCOTLAND.)

We have examined two specimens of whisky of the above firm. The specimen V.O.O. Special Liqueur Highland Whisky proved on analysis to be an all-malt spirit, whilst the specimen marked Finest Old Highland Whisky showed the characteristics of a part-malt spirit. The analysis of the former was as follows: alcohol, by weight 41·55 per cent., by volume 49·02 per cent., equal to proof spirit 85·90 per cent.; extractives, 0·12 per cent.; and mineral matter, 0·03 per cent. The secondary products, given in grammes per hectolitre of absolute alcohol present, were as follows: acetic acid, 36·00; aldehyde, 10·00; furfural, 2·66; ethers reckoned as ethyl acetate, 82·00; and higher alcohols, 200·00: total secondary products, 330·66. These figures coincide with those obtained with a genuine all-malt spirit. The whisky is well matured, possessing a fine delicate flavour in spite of the fact that it is an all-malt spirit. It represents what true matured whisky should be. The analysis of Finest Old Highland Whisky gave the following results: alcohol, by weight 42·29 per cent., by volume 49·81 per cent., equal to proof spirit 87·29 per cent.; extractives, 0·13 per cent.; and mineral matter, 0·02 per cent. The secondary products, given in grammes per hectolitre of absolute alcohol present, were as follows: acetic acid, 48·00; aldehyde, 6·00; furfural, 1·50; ethers reckoned as ethyl acetate, 51·00; and higher alcohols, 100·00: total secondary products, 206·50. These figures indicate a part-malt spirit and it is therefore hardly correct to describe the spirit as Highland whisky, since all whisky produced in the Highlands is all-malt spirit. Nevertheless the blend is a satisfactory one and mild to the taste.

MALTICO.

(THE MALTICO FOOD COMPANY, KINGSTON CROSS, PORTSMOUTH.)

In a previous analytical notice of maltico in THE LANCET of May 23rd, 1903, we pointed out that compared with the solid constituents of human milk the composition was satisfactory except in regard to fat which was deficient. This deficiency has been made good and, chemically speaking, maltico now shows a composition identical with that of human milk, taking, of course, the amount of water in each case into account. A recent analysis of maltico gave the following results: moisture, 3·00 per cent.; mineral matter, 2·70 per cent.; proteid, 15·25 per cent.; fat, 23·40 per cent.; and carbohydrates (chiefly maltose with some dextrin), 55·65 per cent. The average analysis of dried human milk is as follows: mineral matter, 1·70 per cent.; proteid, 12·70 per cent.; carbohydrates (milk sugar), 57·60 per cent.; and fat, 28·00 per [illegible] parison one part of maltico by [illegible] weight of water should give a fluid having approximately the same composition as human milk. The product is satisfactory as regards taste and is very convenient for the preparation of a food for the use either of infants or invalids; its value is increased by the fact that its constituents are very largely soluble in water.

MARSALA WINE (OLD PARTICULAR BRAND).

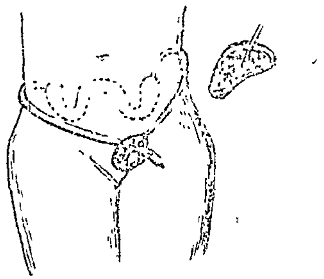
(WOODHOUSE AND CO. AGENTS: COCK, RUSSELL, AND CO., 36, GREAT TOWER STREET, LONDON, E.C.)

Marsala wine partakes of the characteristics of old brown sherry and it is produced much in the same way as are the famous wines of Jerez. The analysis of Marsala wine approximates to that of sherry. Like sherry, it contains a relatively large proportion of vinous ethers, the development of which is encouraged by the use of sulphate of lime in the wine press. The following were the results of the analysis of this specimen: alcohol, by weight 16·46 per cent., by volume 20·24 per cent., equal to proof spirit 35·47 per cent.; extractives, 6·80 per cent.; sugar, 4·64 per cent.; mineral matter, 0·30 per cent. (containing sulphate of potash); volatile acidity reckoned as acetic acid, 0·10 per cent.; and fixed acidity reckoned as tartaric acid, 0·46 per cent. The wine possesses excellent *goût* and is well matured, partaking in this respect of the character of a tawny port.

New Inventions.

RAE'S CURVILINEAR TRUSS.

IN the truss shown in the illustration a firm equable pressure is applied to the hernial orifice by means of a spring in the form of a stout wire about as thick as a quill pen. This spring rises upwards from the pad to just above the hip-bone and passes round to the wearer's back, where it is bent into a shape somewhat resembling the letter W and is comfortably padded as the wide dotted lines indicate. From this point a belt of soft webbing completes the circuit of the body and is hooked to the front pad in the usual way. The maker claims that the pressure can be accurately regulated by bending the spring over the knee in the required direction, for this special kind of wire can be bent without either breaking or losing its tension. Various pads suitable for the different forms of hernia can be supplied and the point of pressure can be adjusted within wide limits by means of screws which fix the pad to the spring. The shape given to the spring is such that no part of it presses on a bony prominence. No understrap is required. The maker is Mr. Richard Rae, 56, Richmond-road, Shepherd's Bush, London, W.



A SPRING STEM PESSARY.

IN our issue of March 4th, on page 578, we drew attention to a new form of pessary, a sample of which had been sent to us by Messrs. S. Maw, Son and Sons. We now learn from that firm that the pessary was originally made at the instigation of Mr. W. Roughton of New Barnet, but with a rigid stem, the novelty claimed for the one described in THE LANCET of March 4th being that it has a flexible watch-spring stem.

THE LANCET.

LONDON: SATURDAY, APRIL 1, 1905.

Peritonitis.

AT the present time inflammation of the peritoneum is considered to be almost invariably the effect of the perforation of a hollow viscus or due to the direct introduction of micro-organisms from without. Formerly it was customary to speak of peritonitis as "brought on by exposure to cold, more especially when the skin has been previously relaxed by a warm atmosphere or by fatigue." It is true that it was recognised that intestinal perforation might cause peritonitis but such an etiology was considered to be rare and therefore comparatively unimportant. Now that it is acknowledged that bacterial invasion is the essential cause of peritonitis it naturally becomes of importance to know to what organisms we are to attribute this inflammation. For it is evident that in all cases the microbic infection cannot be identical seeing that the clinical results differ widely even when the extent of infection is apparently the same. Such an inquiry has been undertaken by a large number of investigators but probably the most complete and elaborate study of the bacteria of peritonitis is that which was undertaken by Mr. LEONARD S. DUDGEON and Mr. PERCY W. G. SARGENT, and which has been described in the Erasmus Wilson lectures recently delivered by them before the Royal College of Surgeons of England and published in THE LANCET of Feb. 25th and March 4th and 11th.

In entering on the study of the bacteriology of peritonitis it was natural that an inquiry should be made into the possibility of the condition which has been styled chemical peritonitis. It will hardly be disputed that theoretically the introduction into the peritoneum of irritating chemical substances might give rise to peritonitis but this is not the point in dispute. The question is whether it is possible for an effusion of blood or other non-microbic fluid to set up an inflammation of the peritoneum without the assistance of any micro-organism. Most observers have answered the question in the affirmative, maintaining that it is possible for the effusion of blood in the peritoneal cavity to set up peritonitis without microbic assistance. Those who have held this opinion have ascribed the inflammation to the fibrin ferment or some other chemical product of the effused blood. In this view the lecturers were unable to concur, for they have investigated twenty cases of intraperitoneal hæmorrhage. Seventeen were the result of extra-uterine pregnancy and in every one of these a white staphylococcus was obtained from the blood clot and of the three remaining cases, in which the hæmorrhage was caused by rupture of the spleen or the liver, two also showed the same staphylococcus, while the third was operated on within two hours of the accident. To this staphylococcus albus Mr. DUDGEON and Mr. SARGENT ascribe great importance and to this point we shall return later, but here we may say that we are inclined to concur in the view that the unvarying presence of this coccus in all intraperitoneal hæmorrhages of more than a few hours' duration which they have examined goes far to justify the ascription of the peritoneal inflammation which occurs to its influence. It is well known that after the rupture of a tubal pregnancy a certain amount of fever is usually present and it is more likely that this pyrexia is due to a bacterium, if one can always be found, than to a toxic chemical substance derived from the blood.

Much evidence has been adduced in these lectures in favour of the view that each etiological variety of peritonitis has its own bacterial flora. In perforating ulcer of the stomach a good deal of uncertainty has existed as to the organisms associated with the resulting peritonitis, though the amount of work which has been done on gastric perforations has not been very great. The pneumococcus has been credited with an important share in the production of perforating gastric ulcer but the evidence in its favour is of no very great strength. Therefore the observations recorded in these lectures are of the greater value as it is evident that much care has been taken in the investigations. The lecturers have isolated a strepto-diplococcus from the edge of the ulcer in every case and in four cases out of seven it has been found in the peritoneal exudate also. The same organism was found in a perigastric abscess and also in a subdiaphragmatic abscess and in the pleural sac of a case in which the diplococcus had been found at the edge of the perforated gastric ulcer. A full account of the morphology, staining reactions, and pathogenic properties of the organism is given and from these it is clear that the coccus cannot be looked upon as identical with the streptococcus pyogenes; a great point in this connexion is the fact that its pathogenic properties are by no means great for in no case did it kill the inoculated animal though it caused severe symptoms for some hours. Again, of the seven cases of perforated gastric ulcer in which it was discovered only two died and in one of these the death occurred on the tenth day from pneumonia and without any peritoneal symptoms. In the other fatal case diffuse peritonitis was found and it is worthy of note that this was the only case in which the presence of the bacillus coli was ascertained. Another subject discussed in these lectures is called by the lecturers septicæmic peritonitis. They apply this term to cases in which the peritonitis is secondary and due to micro-organisms brought by the blood stream, though they acknowledge that there is no absolute proof that this is the mode of infection. In one case a child had "diffuse erysipelas" and on the tenth day signs of peritonitis developed and the child died within 24 hours. Here the streptococcus pyogenes and the colon bacillus were found. The lecturers considered that peritonitis due to the streptococcus pyogenes is generally a septicæmia. When peritonitis is due to this germ the streptococcus is absorbed so rapidly from the peritoneal cavity that death occurs before the tissues are able to offer any response to the attack. A brief account is given of some investigations made to determine which leucocytes play the most important part in protecting the body against micro-organisms introduced into the peritoneal cavity. The results, which somewhat conflict with the views held by most observers, seem to show that the coarsely granular eosinophile cell is one of the most important phagocytes in the early stages of peritoneal infection, while the finely granular polynuclear cell is the chief phagocyte in the later periods of peritonitis.

Perhaps the most interesting and important conclusions at which the lecturers have arrived are those relating to the action of the staphylococcus albus in peritonitis. The adjective pyogenes is purposely omitted from the name as this organism differs in several points from the *staphylococcus pyogenes albus*. It has usually been held that the presence of a staphylococcus albus in a culture from a peritoneal exudate is due to an accidental contamination from the skin but the lecturers have succeeded in obtaining very clear agglutination reactions which go to show that the staphylococcus albus cannot be a mere contamination as at least six days are needed for the production of the reaction. The peritoneum possesses great power of absorption and this has been shown by MUSCATELLO to be due chiefly to the diaphragmatic peritoneum, though the stomata formerly described can no longer be recognised. The absorption of solid particles, such as bacteria, is carried out by phagocytes which appear almost instantly in response to a peritoneal irritant. This normal lymphatic absorption seems to be capable of dealing with a large amount of toxins and bacteria but should any absorption occur through the blood-vessels a rapidly fatal result may ensue and this is the great danger if the peritoneum is damaged. The exudation of fibrin resulting from a bacterial irritation of the peritoneum is, the lecturers hold, distinctly protective seeing that it lessens the absorption of toxic material by the subperitoneal blood-vessels and at the same time it limits the egress of organisms from the intestine. The importance of this in practice is clear. The thorough cleansing of the peritoneum by washing is undesirable, the lecturers hold, and it is, moreover, impossible. Facts are adduced to show that whenever intestinal obstruction occurs, or even an aseptic fluid such as blood is poured out into the peritoneal cavity, a number of organisms rapidly appear, apparently coming from the intestine. The first to make its appearance is usually the staphylococcus albus, an organism of very low virulence; and the lecturers conclude from their observations that it exercises some kind of protective action in peritonitis, chiefly by determining the advent of phagocytes but also by forming adhesions. When the staphylococcus albus has a good start the more virulent colon bacillus possesses much less power because the peritoneum has been prepared to resist it. Of all the micro-organisms found in peritonitis the most virulent appears to be the streptococcus pyogenes and a fatal result is almost certain should it be present. As to the treatment of acute peritonitis it is clear that as it may be due to many different organisms of very different degrees of virulence no uniform treatment is possible. Fortunately, the most virulent infection, that of the streptococcus pyogenes, is rare, for we are at present powerless to treat it, though a multivalent anti-streptococcic serum appears to be the most hopeful method. In the vast majority of cases the colon bacillus is the chief infective agent and therefore it is well to treat most cases of peritonitis of intestinal origin as cases of infection by the colon bacillus. The lecturers suggest that dry sponging applied locally to the affected region is better than washing, which may carry the infection to unaffected parts, while if those remote regions are already infected no amount of washing is likely to be of any avail. When there is a mild infection, as in gastric perforation and intraperitoneal hæmorrhage, the washing should be thorough. As to drainage it is pointed out that in the severer forms, where drainage is most desirable, the presence of much adhesive exudate renders drainage impossible. Investigations such as these, when made with the care which these lectures disclose, are of the greatest value and cannot fail to advance our knowledge of the processes of peritonitis. Caution is, however, necessary. In the application to practice of the theories based on such investigations our bacteriological conclusions must always be tried by the touchstone of clinical experience; by that alone can we be certain of their real value.

Double Consciousness.

AMONGST the most interesting and puzzling of psychical phenomena are those of so-called double consciousness, concerning which there has been considerable discussion in the press lately. This term in its fullest significance connotes something more than a mere modification, impairment, or clouding over of consciousness, such as may occur in various conditions of health and disease (for example, in dreaming and in febrile delirium); it implies nothing less than a dual personality. In a fully developed case of this kind there is a dual existence and the individual in either phase is ignorant of his actions in the other. The events of a particular phase are only recalled with the reappearance of that phase. In the second or altered phase the individual, notwithstanding that his character, manner, and capabilities may be completely altered, conducts himself in a rational and purposeful way. Exceptional cases are on record in which the person affected has remained definitely in the altered or abnormal state, which was superior to the original personality. Usually the abnormal state does not last for more than a few days. Instances are recorded in which a bridge of memory has been supplied between the normal and the altered phases by means of hypnotism, the patient in the hypnotic trance giving a complete history of his proceedings in the abnormal state when previously he could give no account of himself.

Such well-marked examples of dual consciousness as are above referred to are very rare, the separation of the two states being usually less distinct, and the abnormal phase is commonly below the normal in respect of complexity of conduct. Examples, more or less pronounced, of double consciousness are to be met with in somnambulists, in persons hypnotised and under the influence of suggestion, in various forms of insanity, in cases of febrile delirium, in post-alcoholic conditions, in neurotic persons recovering from bodily illness, and lastly, and probably most frequently, in post-epileptic states or states of masked epilepsy. On investigating the history of persons exhibiting the phenomenon it is commonly found that there is a neuropathic inheritance. Amongst the insane cases of altered personality, more or less pronounced, are numerous and the state of altered consciousness varies much in duration. Some notable instances of alternating personality are to be found amongst cases of so-called "circular" insanity, though in these there is little or no interruption in memory. From a medico legal point of view abnormal states of consciousness associated with somnambulism, epilepsy, and hypnotic suggestion, or occurring in neurotic individuals without such association, are of great importance. In 1887 AZAM published an elaborate monograph entitled "Hypnotisme, Double Conscience, et Altérations de la Personnalité," since which time several instances of the last two conditions have been reported in this country in the Proceedings of the Society for Psychical Research and elsewhere.

A very remarkable and carefully studied case of multiple personality was recently reported to this society by Dr. ALBERT WILSON. No less than ten varieties of the abnormal personality were noted. The patient was a girl, aged 12½ years, of healthy parentage, who had herself been healthy in mind and body until she was attacked by influenza, after which the changes of personality manifested themselves. Some of these were complete, others incomplete, some sudden, others gradual in appearance. In some the patient was totally, in all partially, ignorant of her life during other states. Acquirements such as drawing, writing, and also normal faculties present in certain states were lost in others. Whilst in a blind condition the patient developed the faculty of drawing with the aid of touch alone, this sense being enormously increased in delicacy. The character and the behaviour in some states differed widely from those in others. The various phases varied in duration from a few minutes to ten weeks. The normal state gradually became less frequent and of shorter duration till it finally disappeared. The various stages lasted about three years in all, until ultimately a particular abnormal stage was reached in which the patient remained at the date of the report. In this she was intelligent and able to work. The patient, it is important to note, had two or three epileptiform seizures but there was no reason to regard the altered psychical states as post-epileptic. The various manifestations in this case appear from the testimony of competent and independent observers to be undoubtedly genuine. There has been abundant speculation as to the causation of the states known as dual consciousness and dual personality and this is not surprising having regard to the interesting nature of the problem. Theories of vaso-motor disturbances in this or that area or level of the cortex cerebri do not call for serious consideration in the absence of any demonstrable basis and hypotheses which assume that there are different levels of the pyramidal layer of the cortex to which correspond different personalities are on much the same footing. These are merely explanations, *aus der Luft*, plucked from mid-air. Our present knowledge of the physiology of the constituents of the cortex cerebri does not warrant attempts at explanation of the various phenomena of consciousness.

Science in Romance.

ON March 24th there passed away at Amiens, in his seventy-seventh year, JULES VERNE, a man who during his life was in the enviable position of having contributed more than perhaps any one of his contemporaries to the delight and instruction of his fellows. The romance of science has long been a commonplace, but the converse term, the science of romance, is not perhaps always regarded with that intentness which it deserves, for in many instances the prophetic vision of the romance writer has foreseen possibilities which have not been realised until many years later. To refer only to two prophecies. SWIFT'S extraordinary guess at the number and times of rotation of the satellites of Mars was so far opposed to all known astronomical laws as to seem the wildest of hypotheses and yet how wonderfully correct it proved to be. EDGAR ALLAN POE, again, made his HANS PFAAL reach the moon by inflating a balloon with a gas which he extracted from a certain metallic substance by treating it with an acid, which gas was some 37 times lighter than hydrogen and was a constituent of azote. Many years after this was written chemists were startled by the discovery of helion, a gas which, though not a constituent of azote, is found in association with it. Moreover, when first discovered helion was assumed to be lighter than hydrogen. Subsequent investigations have, however, shown that it is twice the weight.

JULES VERNE, though he was perhaps the first modern writer to perceive the possibilities of modern science as an element of romance in fiction, cannot be said to have foreshadowed any great discovery. Submarine boats were not new when he conceived the wonderful *Nautilus* and although submarines are now quite common inventors have not as yet reached Captain NEMO'S success in making electricity from the constituents of sea water. Navigable balloons of a kind have been constructed but they are not worked on the principle of the "*Victoria*" which, as designed by Dr. FERGUSON, rose or fell by expansion or contraction of the contained hydrogen, so that the aeronauts were able to find a current of air blowing in the desired direction, without losing either gas or ballast. But VERNE certainly used scientific facts in a most brilliant manner for the manufacture of exciting stories. Nothing could bear an air of greater verisimilitude in accordance with the canons of science than his story of "From the Earth to the Moon," except perhaps that entertaining history of the voyage through space on a comet which crashed through the earth and bore away a portion of the Mediterranean sea-board, including a fragment of Gibraltar. In "Dr. Ox's Experiment," again, how delightfully he put forth the effect which saturating the atmosphere of a small Dutch town with oxygen had upon the phlegmatic inhabitants. VERNE was never betrayed into making the absurd mistakes into which less scientifically minded writers of romance have been led. We well remember in the early days of the x rays a story about a thief who swallowed a diamond. This was detected by the acumen of an amateur detective who took an x ray photograph of the diamond by using a camera. To say nothing of the fact that x rays cannot be refracted the diamond is the one gem which is transparent to these rays. In medical matters, again, the writer of fiction very commonly goes hopelessly wrong. The anæsthetic, one whiff of which administered by waving a handkerchief in front of the victim's face causes instant unconsciousness, and the mysterious powder made from plants growing in the Andes which at once cures the deadliest diseases, are instances which will occur to anyone who has studied fiction.

But, on the whole, the ideals of ancient philosophers and of romance writers are becoming every day more and more realised. The ever-burning lamp of the ancients has in a manner had its fulfilment in the discovery of radium; the dreams of intercommunication without the intervention of any material substance have been realised by the work of CLERK MAXWELL, HERTZ, MARCONI, and LODGE, while it is not impossible that the so-called magnetic sympathy with which many seventeenth century writers busied themselves may be found before long to have its roots in the "n" rays or some similar form of energy. Radio-activity has upset all preconceived notions of the relations between matter and energy and it may well be that in years to come our children will be able to use forces now undreamt of in the same way in which we nowadays use heat or those forms of electricity which we do to a certain extent understand. No race of flying men like that so graphically described by PETER WILKINS has yet been discovered but it may be that such exist on another planet. The capabilities of knowledge are almost infinite and the wisest man among us is he who is most fully conscious of his own limitations of knowledge.

Annotations.

"Ne quid nimis."

GUY'S HOSPITAL.

Guy's Hospital, as is well known, was founded nearly 200 years ago, or to give exact figures in 1720. In 1828 William Hunt bequeathed a sum of about £180,000 to the hospital and the institution flourished and continued to do good work without any appeal to the generosity of the public until 1884 when owing to falling rents and agricultural depression the income from endowments had diminished by about 50 per cent. At this date the first appeal to the public was made and the principle of making some of the beds "pay beds" was introduced. In 1901 another appeal was found to be necessary on account of the buildings having become out of date and old fashioned. The sum asked for was £180,000 for rebuilding and other improvements and it was further mentioned that £25,000 per annum besides the income from endowments were necessary for the hospital to be kept in full working order. The governors now repeat the appeal of 1901 the response to which, to use their own words, "was inadequate." The necessary works have been carried out but the hospital is £84,000 in debt; its assured income is about £51,000 per annum but its total annual expenditure is calculated at £66,000 per annum. There is thus a deficit of £15,000 per annum for which, as well as for money to liquidate the debt, the governors are now appealing. The hospital has done, and is doing, noble and valuable work so we wish the appeal of the governors of Guy's Hospital every success and hope that the money will be forthcoming.

THE VENTILATION OF THE HOUSE OF COMMONS.

ACCORDING to a report recently presented to both Houses of Parliament the abolition of horse traffic in the streets of London would do much to improve the condition of the air of the House of Commons. There is no doubt that by the exclusive use of motor vehicles the air in all our big towns, and therefore of the houses and offices in these towns, would be made, bacteriologically speaking, much more satisfactory. We say bacteriologically advisedly, because motor-cars in their present form undoubtedly conduce to the pollution of the air with unpleasant and imperfect products of combustion. According to Dr. M. H. Gordon's report on the quality of the air of the House of Commons of the four faults brought to light one only is physical and three are bacteriological. The air supplied to the debating chamber under the present system is altogether too dry. We believe that this physical defect is of far greater importance in connexion with the quality of air than is generally recognised. At any rate, the peculiar and essential quality of air known as freshness is undoubtedly largely dependent upon its humidity and the enervating effects and malaise which follow a prolonged stay in a confined though freely ventilated space frequently have their origin in part in a subnormal state of humidity. Bacteriologically, the air of the House of Commons is faulty in the following directions. First, the air entering at the north inlet is liable to be polluted by dirt detached from the boots of persons walking over the grating fixed above this inlet. Secondly, the air below the floor of the debating chamber is polluted by bacteria derived from Members' boots, and the third source of bacteriological contamination originates in the material derived from the mouths and upper respiratory passages of persons speaking, coughing, or sneezing within it. It seems to us that the only satisfactory way of dealing with the peculiar circumstances of the House of Commons would be to adopt some efficient application of the plenum system, but this would involve, we fear, a serious alteration in the structural arrangements of the House. It is clear that Members' boots are likely to remain a source of contamination so long as the ventilation proceeds from the floor of the House upwards. We cannot agree with the recommendation made by Dr. Gordon that sulphuretted hydrogen should be used in order to test whether certain doors are air-tight. Sulphuretted hydrogen would, of course, be readily detected by its offensive smell, but why use an offensive agent for the test? There are many other substances the merest traces of which can be detected by the sense of smell and besides sulphuretted hydrogen would have a blackening effect upon any metallic adornments in the house or on lead pigments if they should happen to have been used, as is most probably the case.

URINOSCOPY.

UNDER the above heading we publish in another column a letter from a correspondent who informs us that in South Wales there still exist "medicine men" who profess to be able to "read the water." It seems strange in these days of universal education to find that such a mediæval belief still exists and that, moreover, in a country like Wales the zeal of which for education has been so prominently before the public recently. As lately as the seventeenth century books were published giving instructions to the practitioner as to the methods for the diagnosing of diseases by a mere inspection of the urine. Moreover, by an inspection could be told not only the disease but also the age and the sex of the patient. One such book printed in 1599 was called "A Key to Unknown Knowledge or a Shoppe of Fine Windowes," while another treatise was written by Robert Record. There exists also a delightful tract ascribed to Arnold de Villanova, entitled "Cautelæ Medicoum," which shows very well how the mediæval physician looked upon urinoscopy. As for determining the sex that was done by a series of carefully put questions, and finally the author of the tract remarks with charming candour, "The seventh caution is this, and it is one which is often most useful. Very likely you will gather nothing at all from an inspection of the urine. In that case say that the patient is suffering from obstruction of the liver. The person who has brought the urine will then say, 'No, Sir, it's his head or his legs or somewhere else.' Then you must say, 'Well, that comes from the liver or the stomach.' Be sure to use the word 'obstruction' for they don't understand it and it is often very useful that people should not understand what you say." Perhaps our correspondent will be good enough to inform us whether the modern urinoscopist proceeds in the same manner as did his mediæval ancestor. As to the legal aspect of the case all quackery aims at obtaining money under false pretences but practically speaking there is no remedy. One way to stop it would be that which we have recommended over and over again—namely, that all unqualified persons practising medicine for gain should be made to pay a heavy annual fee for a licence.

PLAGUE IN INDIA.

THE information which we were able to forecast for our readers last week with regard to a scientific commission to inquire into the plague in India has now been made public. An Advisory Committee has been constituted by the India Office, the Royal Society, and the Lister Institute, which has for its object the study of the bacteriology of plague. The committee consists of Sir Michael Foster and Dr. J. Rose Bradford, nominated by the Royal Society; Colonel David Bruce and Dr. C. J. Martin, nominated by the Lister Institute; and Surgeon-General A. M. Branfoot, President of the Medical Board of the India Office, who will act as chairman. While we are glad that the Government of India and our legislators at home are at last sufficiently awake to the seriousness of the situation to be attempting to do something we do not view the attempt with much enthusiasm. The terms of reference to the Committee include only the study of the bacteriology of plague, for which purpose, we may add, it is a well constituted body; but no one will expect much from their work that is likely to lead to early administrative measures for the arrest of the disease. This is not said in any disagreeable spirit of criticism. To look to the cause before looking to the cure is a golden rule in scientific medicine, but could not the cause have been investigated some time during the past two or three years, say when the number of deaths per annum was about as great as it now is per fortnight? Now, when the deaths have reached the appalling total of over 1,000,000 in the year, we think that organised administrative measures based upon what is known should be undertaken. They might well be set in motion concurrently with the scientific proceedings of the Advisory Committee.

ACETONURIA IN CHILDREN.

THE significance of acetonuria has been the subject of much research since von Jaksch in 1885 drew attention to its occurrence in a variety of conditions as well as in diabetes —e.g., in certain febrile processes, in malnutrition, in carcinoma, and in some psychoses. In 1888 A. Baginski studied its occurrence in children, hoping to discover in it the cause of the convulsions of rickets, in which hope he was disappointed. He found acetone in the urine of children suffering from various febrile affections such as pneumonia, measles, scarlet fever, and diphtheria. Shortly afterwards Schrack working in von Jaksch's clinic found that diet exerted an influence upon the amount of acetone excreted, since in seven children who were fed on a diet chiefly composed of meat a large increase in the output of acetone was found. More recently the researches of Hirschfeld and Rosenfeld have more clearly elucidated the conditions leading to an increased output of acetone. These observers have shown that a deficiency in carbohydrates is the chief factor concerned and it was this fact that led Hirschfeld to state that carbohydrates were not sufficiently employed in some cases of diabetes. It is now very generally accepted that an insufficiency of carbohydrates in the diet is the cause of the increased elimination of acetone. This fact disposes of the old view that the source of acetone in the body is carbohydrate. Recently doubt has been thrown on the view that its origin is from proteid and the fact that on giving fat or fatty acids to patients deprived of carbohydrates the amount of acetone eliminated is increased renders it probable that fat is the prime source of the acetone. Dr. Ludwig F. Meyer of Berlin has investigated the conditions leading to acetonuria in the infectious fevers in children and has published his results in an interesting paper in the *Jahrbuch für Kinderheilkunde*, Band ii., Heft 3, S. 438, 1905, from which the above historical *résumé* has been abstracted. His own investigations were made in 37 cases of diphtheria, 26 of scarlet fever, and 15 of measles. The urine was examined qualitatively for acetone by means of Legal's test. In normal urines a negative result was obtained with this test, whereas the result was positive in 70·3 per cent. of the cases of diphtheria, in 69·2 per cent. of those of scarlet fever, and in 60 per cent. of those suffering from measles. He also investigated the acetone quantitatively in some of the cases by distilling it off, converting it into iodoform, and weighing the precipitate so obtained which in a few of the cases corresponded to as much as 150–160 milligrammes of acetone per diem. He was also able to demonstrate the presence of diacetic acid and of β oxybutyric acid in those urines with a considerable amount of acetone. Dr. Meyer summarises his conclusions as follows. Acetone, diacetic acid, and β oxybutyric acid are frequently present in the urine of children suffering from acute infectious fevers and are due to carbohydrate inanition; they rapidly disappear on the administration of sufficient quantities of carbohydrates by the mouth. Fat increases the amount of acetone bodies in the urine. Oxybutyric acid is an indication of a more profound disturbance of the processes of oxidation than acetone or diacetic acid. The infectious fevers can, therefore, give rise to a condition of acidosis but not of such a degree that toxic symptoms are to be feared from it, although this acidosis is of similar character and of like origin to that occurring in diabetes and other conditions.

JAMES I. AND TOBACCO.

IT is scarcely to be wondered at, in an age when smoking is universal, that the tercentenary of the publication by King James I. of his "Counterblast to Tobacco" should have been allowed to go by unnoticed. The "Counterblast" was first printed in 1604 and by 1605 had probably been read by most thoughtful people. The King certainly dealt some tremendous blows at the pipe-smokers of his day. Tobacco and the lues venerea both came from America and the royal author impressed on his "deare countrey men" his conviction that the one was an antidote for the other and that to smoke a pipe was to advertise oneself as a sufferer from a virulent and nameless disease. Tobacco he held to be the symbol of national corruption and decline. Like all bad things it came from a mean source. "And now good Countrey men let us (I pray you) consider, what honour or policie can move us to imitate the barbarous and beastly maners of the wilde, godlesse, and slavish Indians, especially in so vile and stinking a custome?" The smokers of Shakespeare's day believed the use of tobacco to be good for the brain. "It is thought a sure aphorisme in the physickes, that the braines of all men, being naturally cold and wet, all dry and hote things should be good for them; of which nature this stinking suffumigation is, and therefore of good use to them. Of this argument, both the proposition and assumption is false, and so the conclusion cannot but be voyd of it selfe." The King continues in this strain for several pages. Manifestly he chiefly hates tobacco because of its smell and one is inclined to wonder whether this was not more pungent in his day than now. When they smoked the Elizabethans and Jacobeans did not mince matters. "For the vanities committed in this filthy custome, is it not both great vanitie and uncleanesse, that at the table, a place of respect, of cleanlinesse, of modestie, men should not be ashamed to sit tossing of tobacco pipes, and puffing of the smoke of tobacco one to another, making the filthy smoke and stinke thereof, to exhale athwart the dishes, and infect the aire, when very often, men that abhorre it are at their repast? Surely smoke becomes a kitchin far better than a dining chamber, and yet it makes a kitchin also oftentimes in the inward parts of men, soiling and infecting them, with an unctuous and oily kinde of soote, as hath been found in some great tobacco takers that after their death were opened."

ACUTE LYMPHATIC LEUKÆMIA IN INFANCY.

ACUTE lymphatic leukæmia is rare in infancy. In the *Boston Medical and Surgical Journal* of Jan. 12th Dr. R. C. Larrabee has recorded a case in a child, six weeks old, which seems to be the youngest age at which the disease has been observed. A girl of this age was taken to hospital. She was the only child of Russian Jews and the family history was negative. She was born on May 14th, 1903. The mother had an easy and normal labour and was attended from the out-patient department of the Boston Lying-in Hospital. At birth the child weighed six and three-quarter pounds and appeared to be perfectly normal. She was breast fed. After the sixth day, as she cried incessantly, the breast feeding was supplemented by a mixture of milk and boiled water. She was taken to hospital on June 25th because of a slight attack of diarrhœa and vomiting of one day's duration. On examination she was found to be fairly developed but poorly nourished, weighing seven pounds and one ounce. The liver was normal. The spleen was felt extending from under the ribs to slightly below the level of the umbilicus; its edge was sharp. Numerous nodules varying in size from that of a pea to that of a marble were felt in the groins and the axillæ. The abdomen was slightly distended, tense, and apparently tender. Examination of the blood on June 27th gave: hæmoglobin, 60 per cent.; red corpuscles, 4,392,000; and white corpuscles, 918,000. A differential count gave: polymorphonuclear neutrophiles, 0·5 per cent.; small mononuclear basophiles (lymphocytes), 93·2 per cent.; large basophiles (large mononuclears and transitionals), 5·9 per cent.; and eosinophiles, 0·1 per cent. The basophile (non-granular) mononuclears, which comprised over 99 per cent. of the leucocytes, were of all sizes, so that the distinction between large and small forms was arbitrary. In some there was considerable protoplasm but in most there was only a narrow rim about the nucleus. Some appeared like free nuclei. A prolonged search revealed very rare normoblasts and equally rare mast cells. There was slight poikilocytosis. The digestive disorder was treated and arsenic was given but even in minute doses it was badly borne by the stomach and had to be interrupted. Although the diarrhœa was only partly relieved the child gained half a pound in weight and appeared to be doing well until July 25th, when she was taken to hospital in a state of collapse, with marked cyanosis, dyspnœa, retraction of the chest in breathing, and other evidence of obstruction of the larynx or trachea. There was no membrane in the throat but in one nostril was a small yellowish mass the nature of which in the child's condition could not be ascertained. The voice was not entirely lost. There were a few small hæmorrhagic spots on the abdomen. The child was immediately admitted for intubation or tracheotomy but she died before anything could be done. A necropsy was not permitted. Leukæmia is much rarer in infancy than in later childhood. In 1900 McCrae collected 13 undoubted cases of acute leukæmia in childhood to which he added one. Only one occurred in an infant. More recently cases of acute lymphatic leukæmia have been recorded at 20 months, 13 months, 12 weeks, 18 months, one year, and nine months. The case reported above ran its course almost without symptoms which would suggest the diagnosis of acute leukæmia. Hæmorrhages into the skin, a frequent symptom, occurred only on the day before death. But for the rule at the hospital to make a thorough physical examination of every patient and to examine the blood in every case presenting enlargement of the spleen or lymphatic glands the case would have been regarded as an ordinary one of summer diarrhœa. The question of the immediate cause of death is difficult. At first the respiratory obstruction was supposed to be due to diphtheria but opposed to this were the facts that the voice was not entirely lost and that no other evidences of diphtheria were present. Perhaps the obstruction was due to enlargement of the thymus which, according to Pinkus, is always present in leukæmia. On the other hand, the obstruction may have been due to leukæmic infiltration of the mucous membrane of the larynx, which has also been observed.

MUNICIPAL DEPÔTS AND THE STERILISATION OF MILK.

THE gradual establishment of municipal milk depôts in this country is bringing very prominently into discussion the question as to what should be the methods upon which such depôts should be conducted. It is now nearly six years since the first milk depôt was established in this country—namely, that at St. Helens by the corporation of that borough in 1899. Other corporations have followed suit with more or less similar methods. In a paper on this subject which Dr. G. F. McCleary, the medical officer of health of the metropolitan borough of Battersea, read at a meeting of the Royal Sanitary Institute on March 25th, he expressed the opinion that the methods adopted in this country are not entirely satisfactory. The necessity for sterilisation should, he thinks, be dispensed with, since mother's milk is not a cooked food and the aim should, therefore, be to supply milk in an uncooked state. The difficulty then arises that if raw cow's milk is to be supplied the whole of the processes involved in the production of that milk would have to be placed under the effective supervision and control of the responsible officers of the sanitary authority. This would mean, of course, that the sanitary authority would have to possess its own cows. In Dr. McCleary's opinion the following conditions in such circumstances could be fulfilled: 1. The municipal dairy farm should be in the country and not too far from the town and the municipal cows should be healthy and should live as much as possible in the open air. The sanitary conditions of the farm should be insured. 2. The cows should be milked in the open air and the whole process of milking should be conducted with the strictest aseptic precautions. 3. Immediately after milking, the milk should be cooled rapidly to a temperature not higher than 40° F.; the milk should be modified if necessary and promptly bottled. 4. The bottles should be packed in ice, placed in a specially constructed motor wagon, and conveyed to the distributing centres in the town. These methods may seem to imply such a strict attention to details as to be beyond practical application but, as Dr. McCleary points out, they are in operation in the city of Rochester in New York State. Precise precautions are carried out at this depôt to sterilise not the milk but everything with which it comes into contact. Another defect of the British milk depôts pointed out by Dr. McCleary is that practically no provision is made for the effective individual medical supervision of the children. There is no doubt, he thinks, that the value of our depôts would be much increased if a regular medical consultation formed part of the work and especially if that consultation were opened to nursing mothers. Finally, Dr. McCleary concludes that (1) municipal milk should not be sterilised milk but clean milk produced under the strictest possible aseptic precautions. For this purpose the cows must be owned by the municipal authorities. 2. Municipal milk should be supplied primarily to three classes of consumers of milk—namely, nursing mothers, children over nine months old (who would not in the natural course of events be breast-fed, or at all events not wholly breast-fed), and infants under nine months for whom breast feeding is impracticable. Lastly, it should be the object of the municipality to increase the number of nursing mothers so as to diminish the number of infants placed in the last category.

A CASE OF TRAUMA OF THE POSTERIOR PART OF THE SECOND FRONTAL CONVOLUTION FOLLOWED BY ATAXIA, NYSTAGMUS, AND EPILEPSY.

AN interesting case was reported to the American Neurological Association and was subsequently published in the *Journal of Nervous and Mental Disease* for February last by Dr. F. X. Dercum, in which a man, aged 24 years, whose family history was good and who enjoyed good health, received a blow on the head from a baseball bat. He was stunned and subsequently lay in bed for some weeks with delirium passing into mental confusion. Examined two months after the injury the condition was as follows. There were two extensive scars in the frontal region, one on either side of the median line, that on the right side being the larger and more serious; there were also present ataxic gait, tremors and ataxic movements of the left hand and arm, nystagmus on lateral movement of the eyes of an irregular and ataxic kind, difficulty in standing on either foot, especially on the left, and intense headache. An exploratory operation in the right frontal region was advised but was refused. About a year after the accident an attack of an epileptic nature, succeeded by severe frontal headache, occurred. The patient was re-examined. The grasp of the left hand was found to be defective and he stood with difficulty on the left foot; there were persistence of tremor in the left hand, ataxia of the left limbs, diminished sensibility of the left arm, and diminution of the left knee-jerk. The condition of the eyes was as before. Rather more than a year after the accident he was operated upon, an osteoplastic flap being removed in the right fronto-parietal region from the border-line of the hair to just behind the Rolandic fissure. The dura mater was yellow and adherent to the pia-arachnoid over an area of from four to five centimetres. The cortex on incision was found to be darker and redder than normal and softened. The posterior portion of the second frontal gyrus was the region specially involved. The patient made a good recovery from the operation and examination from time to time showed improvement in the symptoms. At the final examination, a little over four years after the accident, the condition was as follows: the ataxia was absent, the patient stood well on either leg, the knee-jerks were normal, the tremor in the left hand was disappearing, there was slight awkwardness in movements of this hand, nystagmus was still present on lateral movement of the eyes, there was no feeling of numbness, and headache was rare. No epileptic attack had occurred for over a year and only one was recorded after the operation. The patient was unable to do hard work. The special interest of the case lies in the ataxia and the nystagmus in Dr. Dercum's view. He states that it is known that lesions of the frontal lobe may give rise to ataxia, sometimes bilateral In connexion with the nystagmus it is pointed out that the second frontal gyrus is a centre which stands in direct relation to movements of the eye. But whilst conjugate deviation has been noted in lesions of this region nystagmus has not been previously observed, though reference is made to a similar case of nystagmus reported by Klien at the time of appearance of the above paper. Attention is drawn to the general character of the convulsive seizures although the lesion giving rise to them was limited.

PROPOSED CONFEDERATION OF THE LONDON MEDICAL SOCIETIES.

UNDER the above heading we publish in another column a letter from Sir William S. Church drawing attention to a meeting to be held on April 10th at the Royal College of Physicians of London, at 5 P.M., when the question of the desirability of uniting the central medical societies of London will be discussed. At the annual meeting of the Royal Medical and Chirurgical Society held on March 1st the project was referred to in the President's annual address and was well received by those present and, as we reported last week, on the occasion of the anniversary dinner of the Medical Society of London held on March 15th, it was mentioned by Sir William Church and sympathetically received by his audience. There can be but little doubt, in our opinion, that a confederation of the medical societies of the metropolis would be of great benefit in many ways. We hope that the forthcoming meeting will be largely attended and that a conclusion favourable to confederation may be come to.

THE SUPPLY OF ELECTRICITY.

AN analysis of the accounts for the year ended March, 1904, of the electricity supply undertakings established in the County of London, together with miscellaneous statistics relating to the area of supply, capacity, output, and average price obtained, has been published by the London County Council. The most interesting part of this analysis to the consumer is that which deals with the various prices charged for current per unit by different companies. The medical man, too, who has uses for the current other than that of lighting may well consider under what category he ought to pay—viz., whether that of lighting or of power and heat. In most cases the maximum price which is authorised to be charged for each unit is 8*d.* but in a few instances it is 7*d.* or 6*d.* and in the case of the Chelsea company it is as high as 10*d.* As a matter of fact, in no case in the County of London is the maximum price charged. The methods of charging for current are two. There is the flat rate system whereby current is charged at a fixed rate per unit whether the demand has been regular or intermittent. The maximum demand system appears, however, to be generally the most satisfactory so far as the economical working of an undertaking is concerned, though it is difficult, we fancy, to convince the consumer that this method is an advantage to him. The principle of the maximum demand system is that the rate charged per unit depends on the regularity of the demand. The system involves, in addition to the usual meter, the use of a demand indicator, the purpose of which is to register the maximum demand made for current at any one time during the period (usually a quarter) of the account. It is thus possible to work out the equivalent number of hours per day during which the maximum demand has been maintained and a sliding scale of charges is applied accordingly. The public, however, in general prefer the flat rate as being, perhaps, the more ntelligible method of the two. To give an example, in he case of a certain company the price charged per unit is 6*d.* flat rate or 7*d.* per unit for the first two hours' average laily consumption of maximum demand during two winter quarters and for the first hour's average during summer quarters, and 3*d.* per unit in excess of this consumption. It would be much to their advantage if consumers would give greater heed to the meaning of the charges presented to them and if they would give more attention as to what the consumption of the electric current really means.

THE INSTITUTE OF MEDICAL SCIENCES FUND: A MUNIFICENT GIFT.

THE scheme for building and endowing an Institute of Medical Sciences under the control of the University of London has, as our readers know, received not only the approval and practical sympathy of His Majesty the King but has been favourably received by the medical and lay press and by a very large section of the London teachers of medicine and the allied sciences. Some large donations have been given already by prominent public men but the latest contribution towards the scheme is the most generous that has yet been received. Mr. Alfred Beit has informed the honorary treasurers "that having read the report of the committee appointed by King Edward's Hospital Fund on the financial relations of the hospitals and medical schools and the correspondence and articles thereon in the *Times*, he has decided to increase the amount of his donation from £5000 to £25,000." By this gift Mr. Beit desires to commemorate the great kindness of his friend Dr. Jameson, C.B., the Premier of Cape Colony, and the services of members of the faculty of medicine during an illness from which he has now happily recovered. At the next meeting of the Senate of the University of London a vote of thanks will surely be accorded to Mr. Beit, as has already been done by the Faculty of Medicine (see page 896 of our present issue), but in the meantime we may be allowed on behalf of the medical profession as a whole to thank him heartily.

A CASE OF INTESTINAL ANTHRAX.

AN instance of this, in the United Kingdom at any rate, very rare form of anthrax is recorded in the minutes of the meeting of the Glasgow health committee which was held on March 8th. On Feb. 1st, says Dr. A. K. Chalmers, the medical officer of health, a lead worker died from intestinal anthrax and Dr. Currie made a careful inquiry into the various sources from which the deceased might have been infected. His occupation was the grinding of white lead in *refined* linseed oil and in the course of his work he came into contact with the following substances which under varying conditions have been associated with outbreaks of anthrax. The substances were four—namely, linseed oil, spent oak bark, tallow used for lubricating a machine, and waste with which the deceased wiped his hands. The oil could be excluded because it was refined linseed oil, which during the process of refining is exposed for many hours to a heat sufficient to kill any anthrax spore in about five minutes. As to the spent bark, it is true that cases of anthrax have occurred in association with tan works, but they have arisen from hides before being submitted to the liming process. As the bark is used upon limed hides and the liming destroys the anthrax infection the spent bark could not be held responsible. The tallow was refined tallow which had been rendered at such a heat as to make it free from anthrax and the waste was cotton and jute waste which is not associated with anthrax. Moreover, no case of anthrax had occurred at the works from which these four substances were derived. As to the man's food, it was similar to that which many of his companions had eaten. Among other articles of food he, in common with others, had partaken of part of a pie and of part of a steak, the meat being traced to possible sources of origin but no definite anthrax infection could be traced. The report continues.—

> That many should partake of the dangerous meat and only one should die is not out of accord with the life-history of the anthrax organism. The organism has two forms—the bacillus and the spore. In the interior of infected flesh it exists in the form of the bacillus, and, as the bacillus, it is readily destroyed by the gastric juice. So much is this the case that a whole [illegible] for food in an English city before its [illegible] and yet no deaths from anthrax were [illegible] the flesh. The anthrax spore, on the other hand, is one of the most resistant of living things and is unaffected by the digestive act. If, therefore, a fortuitous circumstance should favour local spore formation in an infective piece of meat, and if this local area of sporulation should escape the full incidence of heat in the process of cooking, a condition is established in the meat by which one consumer may absorb a fatal charge of spores while others who share the flesh with him may escape unharmed. Under such a condition this isolated death may have occurred.

The extreme rarity of this form of anthrax infection in this country is shown by the fact that Dr. J. H. Bell, in his article on Anthrax in "Allbutt's System of Medicine," vol. ii., p. 538, 1897, says: "No such case has been recorded in this country."

THE SMALL-POX HOSPITALS OF LIVERPOOL.

THE Local Government Board has issued a report by Dr. R. J. Reece which furnishes an important addition to our knowledge concerning the influence of small-pox hospitals in spreading this disease among persons living in their neighbourhood. At different times during the recent severe and protracted epidemic of small-pox in Liverpool three isolation hospitals were in use: the small Priory-road Hospital on the eastern edge of the city, the larger Park Hill Hospital in the south, and Fazakerley Hospital which lies outside Liverpool to the north. The first two have large populations resident in their vicinity. Dr. Reece has made an elaborate study of the local incidence of small-pox during the recent epidemic and his report is illustrated by a series of maps showing the houses which were *affected during every fortnight of* the two epidemic years, 1902 and 1903. The result of his inquiries is to show that inhabited areas within a mile of each of the three hospitals have suffered more severely than the city as a whole and that within these hospital areas the dwellings nearer the hospital have sustained a far heavier incidence of small-pox than those further away. He also shows that the exceptional incidence of small-pox within these areas has corresponded in point of time with the use of these hospitals for the treatment of acute cases of small-pox. Evidence of this was afforded in connexion with each of the three hospitals but was most striking in the case of that at Park Hill, which was used only for a comparatively short period, but during that time appears to have occasioned a local outbreak of very exceptional severity among those who dwelt in its neighbourhood. Dr. Reece concludes that the influence of the hospitals has been responsible in material degree for the considerable and sustained prevalence of small-pox in Liverpool in 1902 and 1903. We propose in a subsequent issue to give an account of the interesting data upon which these conclusions have been based.

PUBLIC HEALTH IN JOHANNESBURG.

THERE must be few, if indeed there are any, municipalities equally populous which approach Johannesburg in the disproportion of the sexes. The last census enumeration was made on April 17th, 1904, and from the preliminary report of the census commissioner (Dr. George Turner) it appears that there were 158,580 inhabitants, of whom 118,917 were males and 39,663 were females. The racial distribution was as follows: Europeans or whites, 52,042 males and 31,860 females; and all coloured races, including South African aboriginals and Asiatics, 66,875 males and 7803 females. Whether a community constituted on those lines possesses elements of stability may be an interesting question for sociologists. Dr. Charles Porter, the medical officer of health, in his report on the period from July 1st, 1903, to June 30th, 1904, gives the following as the marriage-, birth-, and death-rates per 1000 among the white or European population: marriage-rate, 28·4; birth-rate, 28·9; and death-rate, 17·2. Among the Asiatics the death-rate was 19·5 per 1000 and among the coloured African races it was 32·4 per 1000. The area of Johannesburg is 52,330 acres and the density of the population is 3·12 persons per acre, but within the area in question Asiatics live in "warrens" which are seriously overcrowded and Dr. Porter recommends the removal of these persons to an "Asiatic location." The chief causes of death in the mortality returns for the white population are diarrhœa and dysentery with 313 deaths, including 207 of children under one year of age, and pneumonia with 171 deaths. "Rock-drill pneumonia," or "miner's phthisis," caused 36 deaths. Among coloured persons who died within the municipal area pneumonia was by far the most fatal malady, causing 762 deaths; tuberculosis of the lungs was credited with 195 deaths; whilst "rock-drill pneumonia," or "miner's phthisis," was registered in only three cases. The death-rate from pneumonia among whites was 2·0 per 1000, while among coloured persons it was 10·2 per 1000. An outbreak of pneumonic plague was recognised in a coolie location on March 19th, 1904, and between that date and June 30th there occurred 24 cases in whites with 12 deaths and 88 cases in coloured persons with 70 deaths. The cases as they arose were transferred to the plague camp which had been prepared in the beginning of 1903 and the coolie location was burnt after the inmates had been transferred to a segregation camp.

THE TREATMENT OF CARDIAC DISEASE BY ELECTRIC CURRENTS.

IN the *Deutsche Medicinische Wochenschrift*, 1904, No. 52, is a contribution by Dr. Paul C. Franze, entitled "The Electro-therapy of Heart Disease in Combination with the Nauheim Treatment." Dr. Franze has carried out a large number of experiments in order to ascertain the effect of electric baths with the alternating sinusoidal current and of the "four-cell bath" with the faradic current on the action of the heart and on the circulation. The former produce, in the majority of cases, an increase in the blood pressure, a diminution in the frequency of the pulse, a more powerful contraction of the ventricles, and a decrease in the size of the heart if it be dilated. The faradic current does not seem to produce any decided influence on the frequency of the pulse or on the blood pressure, but it apparently has a favourable action on a dilated heart, the area of cardiac dulness decreasing in size after the application of the current. Dr. Franze states that he confirmed these observations by the use of the Roentgen rays, employing the method known as "ortho-diagraphy." He is of opinion that the above results are due to various factors—contraction of the muscular fibres of the myocardium, the direct action of the current on the nervous mechanism of the heart, and a reflex action set up by a stimulation of the sensory nerves of the skin. Dr. Franze further states that the practical results of a course of treatment consisting of a combination of the Nauheim baths with these electrical measures are highly satisfactory and certainly superior to the combination of "baths and exercises" hitherto known as the "Nauheim method." The amount of literature dealing with the mechanical therapeutic measures suitable for the treatment of chronic affections of the heart is now very large. Physicians in this country, however, are by no means unanimous as to the amount of benefit to be obtained by resorting to these methods and further experience of the effects of electric currents in combination with the baths will be necessary before any conclusions can be arrived at in regard to their efficacy.

THE medical officer of health of the Cape Colony states that for the week ending March 4th the condition of the colony as regards plague was as follows. No cases of plague in man or other animal were discovered throughout the colony except at Port Elizabeth and at East London, where plague-infected rodents continued to be found. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on March 24th states that for the week ending March 23rd the number of cases of plague reported was 0. In Brisbane 9 cases of plague were reported during the fortnight ending Feb. 11th and of these cases 4 were fatal.

MANY of our readers will learn with regret that owing to ill-health Mr. F. J. Marshall has been compelled to resign the post of resident medical officer at St. George's Hospital, which he has held for over 30 years. A testimonial is shortly to be presented to Mr. Marshall by his friends at St. George's and elsewhere in token of their regard for himself and of their appreciation of his unvarying kindliness and tact. Subscriptions may be sent to Sir William Bennett, K.C.V.O., honorary treasurer, at 1, Chesterfield-street, Mayfair, W., or to the Dean of the Medical School of St. George's Hospital.

MEDICINE AND THE LAW.

A Twice-convicted Abortionist.

A MAN named Thomas Millerchip, whose name was removed from the Medical Register in 1885 in consequence of a conviction for felony, was sentenced to seven years' penal servitude at the recent assizes at Warwick for performing an illegal operation. The woman herself gave evidence against him and her story was amply corroborated by facts which the prisoner himself did not dispute, such as the enormous fee extorted from her and the fact that he had instructed her to burn his letters to her, both inconsistent with any innocent operation which the most fraudulent quack could pretend to perform. Indeed, the defence seems to have been that he pretended to do more than he actually did. The case in itself did not differ from many others of the same class but for the circumstance that other charges of a similar character which might have been made were referred to before sentence was passed and that a previous conviction for the same offence was recorded against the prisoner which had been punished by a sentence of ten years' penal servitude. It is interesting to note that to criminals of this class previous experience of conviction and punishment does not act as a deterrent but that after emerging from the convict prison they seem always to return to their old courses and frequently find themselves again in the prisoner's dock. The reason for this is indicated in the case of Millerchip by the fee to which reference has been made. The operation which he performed upon his accomplice in the crime, for such, of course, she was, earned for him the sum of £40. The money was "found by a friend" and the prisoner told the wretched woman when she tried to reduce his demand that he sometimes got £70 for assistance of the same kind. He also admitted in the witness-box that he "performed all sorts of operations, mostly upon women." It need hardly be said that a man of this type does not live in affluence but that the temptation to earn without hard work such sums as those named is great. They are also the reward of crimes which it is the interest of those upon whom they are performed to conceal and which may consequently, should all go well, be carried out many times without detection. The manner in which the quack is earning his living may be suspected by the police but evidence sufficient to justify arrest and to secure conviction may be for a long time unobtainable. A crime of a similar nature in that it involves a heavy penalty and yet is perpetrated upon a victim who dares not complain is that of blackmailing and it possesses the same characteristic of large earnings for the successful criminal in proportion to the amount of exertion required of him and the blackmailer also returns to his old ways when he finds himself at liberty In the case of abortion complete secrecy is apt to be rendered impossible by resulting illness and possibly death of the person upon whom the illegal operation is performed, but even then there is always a good chance that her evidence may be buried with her In these circumstances it is desirable that prisoners convicted for a second time for either of these felonies should be treated as habitual offenders determined to persevere in the committal of their crimes and that they should be placed for a long period beyond the possibility of repeating them The frequency of the procurement of abortion is not a matter which can be established by statistics but no doubt in some districts it is considerable and it is a crime aimed against the life of a child as well as dangerous to that of a woman

The Accidental Extinction of Electric Light

In the principal districts of Battersea recently, at about nine o'clock in the evening, the electric light was suddenly extinguished owing to an accident at the generating station The effect of this was, of course not only to plunge streets in darkness but a music hall had to be emptied after the audience had waited in vain for some time and no doubt a large number of people suffered considerable inconvenience and annoyance The danger which this indicates when surgical operations are being performed with the aid of this illuminant alone is considerable In large hospitals it may be possible for the institution to have its own generating plant, to be independent of any error except on the part of its own servants or to minimise the risk of the universal extinction of all the lamps in one portion of the building This, however, is not the case in private hospitals and nursing homes nor can any private house be free from the possibility that in the midst of an operation which may not of itself be of a critical character an element of great danger may be introduced by sudden and unexpected darkness occurring It is a matter which should not be lost sight of upon such occasions, particularly as in private houses, and indeed elsewhere, gas fittings are usually removed where electric light is installed, oil lamps are not kept trimmed, and frequently but few candles are kept in the house at all Extinctions lasting for a few seconds only are by no means uncommon in some districts

Ante natal Injuries

The case referred to under this heading in THE LANCET of March 25th (p 813) is not unique in the records of forensic medicine Several times at home and abroad, has personal injury to the unborn child apparently arising from an accident to the gravid mother come before the law courts for comment or decision In the criminal law it is settled that if a fœtus is wilfully injured, is then born alive and subsequently dies from its prenatal maltreatment an indictment for murder can be sustained In the English civil law, and in at least three of the United States of America, it has been decided that neither the mother nor the child can sue for damages on account of the latter having been born prematurely or otherwise insane in body or mind owing to the wrongful act, sufferance, or default of another There is, however, on record a French decision where very heavy damages were recovered from a negligent medical deliverer by whose aid the plaintiff lost an arm as he journeyed into the world The grounds upon which the English legal view is based are, first, the fœtus is not yet a legal person and hence cannot be wronged, and secondly, the carriers did not know of its presence in their vehicle (e g, a railway carriage or a lift) and so were under no obligation towards it Lastly, such claims would involve the reception of medical evidence too conjectural to be trustworthy and would often necessitate a full discussion as to the theory and fact of "maternal impressions" There is a curious extension to which such actions might lead—a child might sue his own parents for any congenital pathological condition which was probably due to their previous iniquity or carelessness Where the father has been accidentally killed the posthumous child has been allowed, although physically uninjured, to sue for damages and to share in a compensating fund This apparent exception to the general rule is explained by the fact that the claim is in the nature of a right of property or succession, a right which has general application to posthumous children

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS

CHAPTER VI[1]

THE GRIEVANCES OF THE MEDICAL PROFESSION

(*continued*)

The Evils of Quackery —Quack Advertisements —Prescribing Druggists —The P[illegible] ensing by Medical Assistant[illegible] —Registered Midwives —[illegible] Parson

THE evils of contract practice and the abuse of the gratuitous medical advice and treatment given in charitable institutions have this in common—they may possibly be remedied by reform of the medical profession from within If medical men as a whole were alive to their interests they could set these troubles right at once But other things which weigh hardly on medical men are the various forms of competition which, coming from without can only be removed by some action from without, possibly and to some extent by a change of popular sentiment, but only with certainty by legislation First among these is the competition of quacks Quacks there have always been and quacks there will always be but the immunity enjoyed nowadays by quackery is something a little remarkable, and when its effects on our generation are noted it is impossible not to wonder that no suggestion is ever made, save by medical men that the law should attempt to find a remedy Specific charges have been brought against quacks by their dupes, but almost always it has been found that the charges were not sufficiently susceptible of proof to warrant conviction The licence enjoyed by irregular practitioners of medicine—by persons, that is who possess in the legal sense of the word no licence whatever to practise—is absolutely wonderful It would be ludicrous if it were not so sad Medical electricians, medical hypnotists, medical botanists, and medical masseurs on the one hand, and the votaries of 'safe medicine' bone setters, and the proprietors of patent remedies on the other,—all are ready to treat the community for every ill that flesh is heir to, and all claim to be the depositories of therapeutic secrets which have been denied to the intelligence of men who have made surgery and medicine the study of their lives and who have stood the test of examinations as to their knowledge Surely but very little thought bestowed upon this situation should enable the dullest to see that it is a highly ridiculous one and one that reflects in no creditable manner upon public astuteness and good sense Yet the ignoramus and the product of the highest culture will alike seek the administrations of the quack, and of the two the latter appears sometimes to fall the easier victim The public have to choose the fittest people for their medical advisers The competitors for their suffrages are two—(1) the medical profession, consisting of a body of trained and educated men tested in all the necessary scientific acquirements, and (2) the irregular practitioners, whose credentials are simply their own assertions supported by the corroborative evidence of satisfied patients Which body is more likely to be the really learned one? In every other profession or walk of life the public would at once give their vote in favour of the properly trained body whose proven accomplishments speak for it In every other profession or walk of life self presented testimonials receive the exact attention from the public to which they are entitled, while testimonials from outside are subjected to some scrutiny In medicine alone over such obviously necessary precautions is hesitation to be observed It is easy to see what are the prominent factors which have brought this state of affairs about. Many disorders tend towards recovery; aggravation of these complaints by inappropriate treatment does not necessarily obviate recovery; there are no limits to the imagination of the hypochondriacal and hysterical subject, and there are many diseases, especially diseases of the nervous tracts, the natural course of which is one of remission alternating with exacerbation. The quack fosters every possible delusion in his patients which can arise from these circumstances and reaps a harvest of eulogy, which he immediately prints and disseminates. The bulk of the testimony in favour of unorthodox methods may be obvious and fraudulent concoction, but a certain amount represents the genuine delusion of weak and ignorant patients. Every medical man receives such testimony to his apparent ability but, knowing its worth, he keeps the communication of his patient to himself, whereas the quack blazons it abroad and so, with the favour of the press, is enabled to secure new gulls.

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[1] [illegible] ed in THE LANCET of [illegible]

For undoubtedly nowadays the quack is strangely favoured by the press. The subject of quacks' advertisements is one upon which public opinion stands much in need of being both formed and stimulated. The discredited quack, when once his methods of doing business have been exposed, secures plenty of reprobation, but the prosperous quack appears able to have his own way with the world. That the general public should be misled by bold advertisement and garbled testimonials is no matter of surprise and, indeed, is too natural to be even a matter of complaint. That a certain amount of quackery should pass muster with the lay press as a form of commercial enterprise can be understood. A newspaper editor or manager may be pardoned if he thinks that the use of his columns to make a nostrum known is a legitimate branch of newspaper business, especially when it is remembered that if he took the opposite view the proprietor of the newspaper might be willing to hear of his resignation. But while this is true with regard to some advertisements it is not true of others, and the disgusting advertisements of many modern quacks ought to be tolerated by no self-respecting editor, manager, or proprietor. Yet no falsehood is too shameless, no promise too palpable a trap, to be refused currency in the advertisement columns of some of the best known journals and it is noteworthy that among the worst offenders in this respect are newspapers and magazines which enjoy with certain classes of the community a high reputation for accuracy and *bona fides*. Regard being had to the lavish expenditure which is bestowed upon advertising some quackeries, it is obvious that those who take toll of the advertisers are participators in the proceeds of this sinister traffic. There have been, it is to be feared, flagrant cases in which an extravagant advertisement has been the price of corrupt silence or even of venal praise on the part of the press. Such practices stand in no need of condemnation. There have been again cases in which, while there has been no such confession of infamy as is implied in a bribe, yet the scale and tenour of the advertisements bore a vicious relation, a high price being asked for a filthy advertisement. Not long since some of the most popular newspapers in the country were accepting regularly the advertisements and money of a crowd of scandalous persons engaged in selling so-called "female remedies." The essence of these advertisements was a promise to pregnant women that certain pills or potions would cause abortion, so that the woman who bought them was either aided in an attempt at crime or else swindled out of her money. By dealing complacently with such customers the editor or the proprietor of a journal, whichever of them may happen to be responsible, makes himself a party to an odious and despicable kind of fraud. The weak, and especially the weak woman, the ailing, and the poor are the chosen victims of the quack. By playing on their fears and taking advantage of their distresses he persuades them to pay exorbitant prices for his worthless goods. Thus does he obtain command of the sums of money which he lavishes in advertisements and those who cultivate his custom must not complain if they are charged with complicity in his misdeeds. It is urgently to be hoped that some attempt will be made soon by legislation to counterbalance the evils of quackery. Medical practitioners are not the only, or even the chief, losers by the mischievous frauds of quacks. The whole country suffers from their evil machinations and it is a thousand pities that no voice but that of the medical profession is ever raised against them. For the opposition of the medical man to the quack, however legitimate, cannot be called disinterested and therefore does not weigh with the public.

While quacks are under discussion the practices of certain persons who are allied to the medical profession, but who, not content with an ancillary position, try to usurp professional work and to encroach upon the province of medicine, should come in for comment. These people cannot be called quacks but, being unqualified, they do the work of qualified persons. Prescribing druggists who give medical advice and opticians who take upon themselves the work of the neurologist are cases in point. The methods of both these classes have long formed a legitimate subject of complaint among medical man and although the harm that is done by their practices may not be very large it certainly shows no tendency to grow less.

The Pharmaceutical Society very properly and strictly forbids its members to prescribe for patients or to take upon themselves the functions of the medical practitioner, but over the counters of scores of dispensing chemists every day and every hour there are given to the public medical advice and medical treatment. There is nothing illegal in the situation, for any unqualified person may give or sell medical advice to anyone else so long as he or she does not pretend to have legal justification to do so. (This must be kept constantly in our minds.) But although no law is broken so long as the dispensing chemist lays no claim to the position of the registered medical practitioner, yet the public are invited to take risks—not always so small as they seem—when they submit their ailments to the diagnosis of the non-qualified man; while an unfortunate separation of interests is created between the medical man and the dispensing chemist. The advisability of the action of the dispensing chemist in prescribing for the maladies of the public is not often defended by anyone. No serious argument can be founded upon the fact that in an emergency the druggist's shop is the natural place of resort. Among his wares will be found undoubtedly the usual stock of restoratives, styptics, bandages, and the like. But the prescribing chemist does not make his harvest out of chance accidents; he has a steady flow of clients who consult him. A defence of counter-prescribing is sometimes attempted on the ground that medical practitioners transgress the boundaries of the dispensing chemist's territory when they dispense their own medicines. And this brings us to a question concerning which there is some difference of opinion among medical men. Is it right, proper, and advisable for medical men in any circumstances to make up and to dispense their own medicines? The answer, of course, is Yes, but even while we say "Yes" we may regret that we cannot answer differently. Undoubtedly it would be advantageous to the medical profession in every way if medical men prescribed their medicines only, leaving the making up of the formulæ to the dispensing chemist. The practitioner would appear to his patient's eye as the dispenser of medical knowledge and as nothing else and the patient would understand that his fees were due to the member of a scientific profession and not to the retailer, however distinctly scientific a branch of business the retailer may be engaged upon.

There have been many suggestions to make it unprofessional for medical men, save in emergencies, to dispense medicines, and quite recently one of the most important branches of the British Medical Association was asked to pass a proposal, to which effect was later to be given in a Parliamentary Bill, that medical men should cease to dispense. The meeting would have nothing to do with the motion because practical members of the association were alive to the actual conditions obtaining in practice. They could see that though the dignity of the medical profession might gain by the divorce of practice from dispensing, the alteration was not feasible. There are many neighbourhoods which are too poor and too sparsely populated to support a dispensing chemist, so that to make it incumbent upon the public to take their prescriptions to the druggist's shop would be impossible. And if it were not impossible in the present state of public knowledge and opinion it would not be wise. Apart from the fact that a poorly paid class of professional men make a small profit by dispensing their own medicines, the public, especially the uneducated public, put faith in a medical adviser who is prepared with a material remedy as well as with spoken precepts. It is a pity that this should be so, but as it is so we cannot ignore the existing sentiment. It is quite easy to see that the medical profession would gain in dignity by leaving dispensing alone but as yet the change cannot be made.

This will be a convenient place to allude to the action of the Pharmaceutical Society which has proceeded recently against members of the medical profession in Scotland for infringement of the Pharmacy Acts, for if the Pharmaceutical Society had succeeded in establishing its whole case something like a forcible division between the practice of medicine and the dispensing of medicine in one part of the United Kingdom would have been accomplished. At the winter meeting of the General Medical Council in 1900 a medical man was summoned to appear before the Council upon the following charge preferred by the Pharmaceutical Society:—

> That he, being a registered medical practitioner, habitually employs as assistants for the sale of drugs and poisons persons who are not qualified to act as chemists or pharmaceutical assistants and thereby causes such persons to commit breaches of the Pharmacy Acts.

It was alleged for the Pharmaceutical Society that practices had arisen in Scotland which broke the law, inasmuch as many medical men owned chemists' and druggists' shops with a surgery attached at which they attended only for two hours or so, the premises being left for the rest of the day in charge of an assistant not qualified under the Pharmacy Acts of 1852 and 1868. The Pharmaceutical Society asked the General Medical Council to regard this situation as constituting "covering," the assistant doing medical or pharmaceutical work under the name of his principal. The General Medical Council considered that the Pharmaceutical Society had made out its case and the Society proceeded to secure more convictions. The defence of the practitioners was that assistants qualified under the Pharmacy Acts could not be obtained in Scotland; that all over the West of Scotland the practice complained of was habitual; that the unqualified assistant received instructions not to sell poisons save under the supervision of his principal; and that the legitimate employment by medical practitioners of dressers and midwives formed a precedent for what was being done. Protests against the view taken by the General Medical Council were addressed to the Council by influential members of the medical profession in Glasgow and possibly as a result of this the Pharmaceutical Society ceased action, but the position taken by the Society was a perfectly logical one—so logical that the prosecutions would have been continued had it not been that the conditions of life made the provisions of the law, when strained in their interpretation, impossible to obey. To compel every medical man to keep a qualified assistant to dispense for him is not possible and the alternative course of employing a dispensing chemist cannot be insisted upon. A dispensing chemist will only be found in a neighbourhood which will support him in the exercise of his calling and until this fact can be got over any attempt to make it compulsory upon a medical man to employ a dispensing chemist must be futile.

Another unqualified rival to the medical man who has lately become active is the prescribing optician, or "optologist," as it has been proposed to call him. The medical man's view of the optician is that he should be an instrument maker and should sell to the public glasses in accordance with the formulæ supplied by the practitioner. He should not consider that a knowledge of optics, whether shallow or profound, fits him to prescribe glasses for the public, because the symptoms of disordered vision require a general medical education for their elucidation. The optician's view of the optician would sometimes appear to be very different. Hear him on himself: "It behoves the optician to know something of anatomy and physiology in general and of the anatomy of the eye and the physiology of vision in particular. He should have some knowledge of neurology and the various nervous ailments which are directly caused by, or dependent upon, eye-strain. He should have some knowledge of ophthalmology in so far as it includes the various diseases of the eye, not for the purposes of treatment but for its prompt recognition in those who apply to him for glasses, in order that intelligent advice may be given the patient to seek medical assistance before the pathological condition has become chronic or incurable." The passage is quoted from a paper in the *Optician and Photographic Trades Review* and the views of the writer are endorsed by the editor of that journal. Such an optician would be more than half a medical man if his attainments would stand the test of examination. Opticians and the attendants in their shops do not necessarily pass any test at all and we may take it for granted that, as a class, they have not any medical knowledge. As far as simple optical principles are concerned the optician is, or ought to be, capable of giving as good an opinion as the medical man. The glasses that he can supply may be quite as correct as those prescribed by the medical man, compensating accurately and perfectly for the defects of the patient's eye; but, unfortunately, in many cases the glasses are none the less unsuitable and should not be worn. Many circumstances have to be taken into consideration of which the optician, even though he have some acquaintance with neurology and ophthalmology, is no judge. The general health of the patient, his avocation, the conditions under which he works, the length of time during which the glasses should be worn, are all points upon which the medical man is better qualified to give an opinion than the optician. The eyes are organs in which faults of shape and alterations of function incidental to advancing life are frequently complicated by physiological defects and pathological changes of a serious character. The knowledge of the qualified medical man should cover the whole range, the knowledge of the optician at the very best covers only a small and comparatively unimportant portion.

The Worshipful Company of Spectaclemakers has recently instituted an examination for opticians which does not include sight-testing in its schedule or provide for a knowledge of the ophthalmoscope, but there is no doubt that the optician to-day does largely test sight and prescribe glasses as well as sell them. His action in so doing is defended by the assertion that there are not enough qualified medical men with ophthalmological knowledge to do the work required by the public. This resembles the reply made by the medical man when he is asked why he performs the office of the dispensing chemist, and it is a correspondingly good reply. It does not, however, make what is wrong right. The remedy for the situation is simple and the General Medical Council is aware of it. The examining bodies must hold special and careful examinations in sight-testing and ophthalmology so that no medical man for the future can obtain a place upon the Medical Register without being able to deal with all ordinary ophthalmological questions.

The gross impositions of the quack, the unfair tactics of the medical aid associations, the immoral use of hospitals, and the ill-instructed rivalry of the druggist and the optician do not complete the troubles of the general practitioner. There are others who should be his assistants and who prove to be his rivals—namely, district nurses, parish nurses, and registered midwives. The mischief done by all these persons is sometimes exaggerated, but their frequent usurpation of medical functions is undoubted. It will be remembered that when the movement which led to the existing Midwives Act was taking shape not a few medical men were seriously perturbed, foreseeing in the registration of midwives the creation of a lower order of general practitioners who would be able, because of an inexpensive training and an incomplete curriculum, to undersell the qualified medical man. Other medical men considered that the registration of midwives must be supported as the measure would secure to the parturient poor safe assistance in their need. There was this noticeable thing about the difference of opinion expressed by the two camps into which the medical profession was divided—they advanced the same claim for their views, viz., solicitude for the parturient poor. The majority of the general practitioners opposed legislation for the registration of midwives because they believed that the midwifery practice of a large proportion of the country would fall to semi-qualified people in whose hands a little knowledge would prove to be the proverbially dangerous thing. Conversely, a system whereby any woman, however ignorant, could attend another woman in childbed without any check being imposed on the possibility that she might not only kill the patient but constitute herself a focus for the spreading of puerperal fever was wrong—obviously and terribly wrong. The Midwives Registration Bill was therefore not so much a Bill for the relief of the sick poor as a Bill for the good of all classes. An Act was required which would protect the poor from the ignorant, dirty, and degraded practices of certain so-called midwives, which would protect the public from the spread of puerperal fever, and which would be able to supply an order of midwifery nurses who would not trespass upon the proper precincts of medical practice—who would not, in fact, practise in contravention of the Medical Acts. The present legislation is an honest attempt to arrive at a middle path between the desiderata. There is no denying that those who argue that the position of medical men under the Medical Acts has been encroached upon by the creation of an order of semi-qualified persons have still a forcible cry, but inasmuch as midwives are a recognised institution, to speak of dispensing with them, as has been done by some of the fiercer upholders of professional privileges, serves no purpose. Midwives must exist and must be made into a clean, reputable, educated class, though their use will be to a certain extent anomalous. The registration of midwives, in so far as it takes the midwifery practice among the lower orders out of the hands of the medical profession and confides it to a semi-qualified class, is, in fact, a retrograde step. For just as the agitation in favour of the registration of midwives was at its height the General Medical Council abolished the unqualified assistant because he was only partially trained, and one of his chief uses was as obstetric adjuvant to his principal. That is to say, that an Act of Parliament now allows women to do what a by-law of the General Medical Council has forbidden men to do. Again, the Act by allowing practically all pre-existent midwives to register has temporarily legalised the "Gamp" against whose ministrations it was aimed. In the future the full benefit of the Act will be felt, but for the present the public and the medical profession alike have but little cause of gratitude.

The same position that is so obvious in the case of midwives exists in the case of district and parish nurses. If these women are unscrupulous in their interpretation of their duties they can supplant the medical man. Undoubtedly, the services of such nurses are of great benefit to the community, but undoubtedly also by preventing medical assistance from being called they have proved now and again a source of danger. As a rule the district and parish nurses do not take medical duties to any great extent upon themselves, but they are apt to breed mischief by preferring to work with certain medical men to the exclusion of other medical men, and for a medical man to be dependent upon the patronage of a nurse is as galling as it is for him to be ousted from practice at the caprice of a nurse. Occasionally a parish nurse is backed up in her wayward behaviour by the parish clergyman and then the medical man, if he is not in favour with the clergyman, is indeed likely to have scant justice dealt to him. Clergymen, especially English country clergymen, are known to have violent medical opinions and prejudices. Many of them, like Sydney Smith, prescribe for their parishioners but they do it without the great humourist's medical education and natural shrewdness. Woe be to the country practitioner who ventures to reprove the prescribing parson!

(To be continued.)

SIXTY-SIXTH ANNUAL REPORT OF THE REGISTRAR-GENERAL FOR 1903.

I.

IN a leading article in THE LANCET of March 11th, p. 652, we reviewed in some detail what may be termed the administrative part of Sir William Dunbar's report, commenting specially on certain innovations which seemed to us to be of more than ordinary importance.

We now come to notice that portion of the report which shows the distribution of English mortality by cause, age, and locality and contrasts the occurrences of 1903 with those of previous years. The year 1903 was remarkable for its exceptionally favourable mortality, the rate being the lowest recorded in this country since the establishment of civil registration in 1837. In relation to this fact, however, we are reminded of two important agencies which must have largely contributed to the reduction of the death-rate. In the first place, we have not yet emerged from the period in which the lowered birth-rate depresses the recorded mortality. In the second place, the year 1903, like its predecessor, was marked by exceptionally propitious conditions of weather, as well as by unusual freedom from epidemic disease. Bearing these agencies in mind, it is unreasonable to expect that in a country receiving hordes of destitute aliens from all parts of the world the present exceptionally low death-rate will be permanently maintained.

The return of a cycle of hot and dry summers or of very cold winters would inevitably raise the mortality—in the first case, by excessive diarrhœa fatality in the young and, in the second, by undue respiratory mortality in the aged. In either case the tendency would be towards a considerable increase in the general death-rate and this quite independently of the sanitary condition of the country. It is satisfactory to observe that the value of meteorological research, as an essential part of our preventive system, is now officially recognised by those who are competent to judge of its merits. The Registrar-General—who appears to have expressed the obligations of his department to the late Mr. Glaisher on his retirement after 60 years of voluntary service—concurs with Dr. Tatham in his appreciation of the work which Dr. W. N. Shaw of the Meteorological Office has carried on since 1901, in continuation of the labours of his distinguished predecessor. Dr. Shaw's commentary on the conspicuous meteorological occurrences in 1903 occupies a prominent place in this volume and Dr. Tatham commends it to the study of those local observers who are specially interested in matters concerning the public health.

In reviewing the several causes contributing to the unique mortality of 1903 the writer properly cautions us to make due allowance for the defects still observable in the national records of mortality. We learn, in the first place, that of the half million deaths occurring annually in England, fully 10 per cent. are attributed to causes so indefinitely returned as to be practically worthless for statistical purposes, although the bulk of these have been certified by regular practitioners of medicine. In the second place, that in nearly 2 per cent. the causes of death are not certified either by medical men or by coroners; and lastly, that even in cases investigated by coroners the verdict of the coroner's jury often leaves it uncertain whether or not medical evidence had been given at the inquest. To the extent here indicated it is plain that the death records are defective. Nevertheless, with respect to nine-tenths of the deaths occurring in this country we are assured that the cause is medically attested with an accuracy which is steadily increasing year by year.

From the well-known fact that the mortality of most of the diseases that are important in a preventive sense varies enormously according to locality the first step in classification would appear to consist in arranging the various districts of England in groups corresponding as nearly as may be to "town" and "country" respectively. In the present report and in two of its predecessors this has been done, the English registration counties having been grouped so as to show in one list the industrial, and therefore mainly urban, communities and, in the other, the counties that may still be regarded as essentially rural. Inasmuch as the first of these groups contains an aggregate population of about 18,000,000 and the second a population of more than 4,000,000, the deaths therein occurring, being corrected for age differences among the living, afford rates which enable comparison to be made between the mortality of town and country. This method of division has been carried out as regards the mortality from most of the principal diseases and the results would appear to justify the very considerable expenditure of labour involved.

First, then, in respect of the total mortality. We notice a useful table showing the mortality from all causes and at all ages and contrasting "urban" with "rural" England, the crude or uncorrected rates appearing in one column and the corrected rates in another. From this table we learn that after making due allowance for age constitution of the living the mortality in urban England averages 19·2 per 1000, whilst that in rural England does not exceed 14·2. Incidentally it appears that correction *increases* the mortality in the former area by 4 per cent., whilst in the latter correction *reduces* it by 12 per cent.

Another table is given, which is in some respects complementary to that just noticed, because from this table the means are derived for making the corrections referred to. From this table it appears, first, that at the several stages of life from infancy to extreme old age the mortality in 1903 was below the quinquennial average; and secondly, that at every age group, except that from 5 to 15, the death-rate was uniformly the highest in the male sex and this is true alike for the urban and the rural areas. No explanation is offered in the report for the remarkable fact that girls at ages between five years and 15 experience a markedly higher mortality than do boys of the same age; it has, however, been suggested as probable that the approach of puberty is attended with exceptional fatality in the female sex.

The last table shows that, except at very advanced ages, the mortality in childhood is much higher and varies more widely than at other stages of life. It is because the period of infancy is known to be exceptionally susceptible to insanitary conditions that medical officers of health attach supreme importance to mortality at this age as a test of salubrity.

For the present report special tables have been prepared in order to show the mortality among boys and girls respectively from those diseases that chiefly affect young children. In one set of tables are shown the death-rates of infants under one year in terms of registered births and in another set the mortality among boys and girls under five years as a proportion of the number estimated to be living at that age. In all these tables will be found, not only the death-rates for the year 1903, but also the average rates for the preceding five years and, further, the mortality of the urban is contrasted in each case with that of the rural areas. From these tables we find that in England and Wales generally during 1903 the death-rates of infants of both sexes who had not completed their first year was in the low proportion of 132 per 1000 births, against an average rate in the five years immediately preceding of 152 per 1000. Male infants of this age died faster than female infants by 27 per 1000—an excess which corresponds closely with the average. It is perhaps unnecessary to contend that the ill-effects of town life are by no means limited to the earlier ages; nevertheless, for reasons already given, it is with local variations in the loss of life in childhood that sanitarians are especially concerned.

In the year 1903 infantile mortality in urban England exceeded that in rural England by 34 per cent., the excess in the preceding quinquennium having been 31 per cent. Among the several causes of death the most fatal in infancy are wasting diseases, which account for an average mortality of 42 per 1000 births in the country and 45 per 1000 in the town; diarrhœal diseases, for a mortality of 11 and 24 respectively; meningitis and convulsions, for a mortality of 16 and 17; pneumonia, for a mortality of 8 and 13; and bronchitis, for a mortality of 8 and 12. In the case of children under the age of five years we find that in addition to the diseases mainly peculiar to the first year of life diphtheria and scarlet fever now become important factors in the death-rate. The mortality at this age follows the law prevailing among infants in their first year—namely, that the sacrifice of life is by far the heaviest in urban communities. For whilst among boys in the rural districts the rate averaged no more than 44 per 1000 living it amounted in the urban districts to 69 per 1000; among girls the rate in the urban districts was 58 per 1000 but only 36 in the rural.

(To be continued.)

THE TEACHING OF HYGIENE AND TEMPERANCE.

A MEDICAL conference on the Teaching of Hygiene and Temperance was held on March 24th in the Examination Hall, Victoria Embankment, London, under the presidency of Sir William H. Broadbent.

Sir WILLIAM BROADBENT said that the object of the conference was to carry a step further the movement for promoting the teaching of hygiene and temperance in the elementary schools. It was initiated by a memorial signed by nearly 15,000 medical practitioners, which was followed by a largely attended deputation to Lord Londonderry. His lordship expressed sympathy with the objects of the movement but pointed out that the teachers in elementary schools were not as yet qualified to give instruction in hygiene. The training of teachers and the provision of suitable books were therefore the first questions to be considered. Of the necessity for the inclusion of hygiene and temperance in the subjects to be taught in schools there could be no doubt. The State had undertaken the education of the children of the poorer classes and had made attendance at school compulsory. It was therefore the duty of the local educational authorities to make the education given in the schools under their control efficient and to be efficient the education must be such as would fit the children for the places which they would occupy as men and women in the social organisation. It ought to prepare them to take up work by which they might earn their living and also to influence their character for good. If there was one thing more necessary for that end than another it was health and with regard to that the parents of those children were for the most part at once ignorant and careless. The mind of the country just then was much occupied by the question of physical degeneration. Underlying that, and largely responsible for it, was moral deterioration. At the root of both lay ignorance and vice. It was ignorance and vice that should be combated and that could only be done early in life.

Sir VICTOR HORSLEY said that the duty had fallen to his lot of reporting to the meeting the continued success of the action taken by the medical profession in favour of teaching hygiene and temperance in elementary schools. The petition of the profession to the Board of Education had been sent by the distribution committee to the various educational authorities throughout the United Kingdom. Such a large number of bodies from such different parts of the country had returned favourable replies that it was clear that the movement was widely appreciated and that the medical profession had taken a step of practical usefulness in the direction of social amelioration. During the interval the opposition offered by the Board of Education had taken the form of hostile criticism by Sir Michael Foster. Sir Michael Foster attacked in a printed memorandum issued by the Board of Education certain syllabuses which had been in use in some schools. His criticisms were so exaggerated and misleading that an answer had been framed and sent to the Board of Education. The petition committee, after preparing a list of points on which children of various ages might be instructed, was now engaged in framing syllabuses for the training of teachers as well as for the teaching of children. It was, of course, intended that the early training of children should be introduced in association with nature study work and that no new subject should be introduced into the Code. The National Union of Teachers had been misinformed in respect of the object sought to be obtained by the medical profession. It was a question purely of proportionate advantage and the object of the present medical movement was to secure that the subjects of bodily health and vigour and of healthy homes should receive as much attention at least as geography and history. The nation was becoming gradually alive to the duty which it owed to the coming generations but the Board of Education obviously required much more education itself in the direction of hygiene and temperance before the public interests could be adequately served.

Dr. ROBERT JONES made some remarks on the report of the Inter-departmental Committee on Physical Deterioration showing the intimate relationship between ignorance of the laws of health and the use of alcohol and physical deterioration. He pointed out that alcohol had a specially harmful effect upon growing tissues and therefore upon child-life. Alcoholic habits among women were peculiarly deleterious. He urged the necessity of individual effort towards reform.

Sir THOMAS BARLOW said that the change of opinion in regard to the value of alcohol in the treatment of disease which had taken place during the past 50 years had been brought about by increased knowledge coming from a multitude of varied experiences converging along the following lines: first, from the recognition of facts showing the widespread and insidious pathological effects of alcoholism; secondly, observations of the greatly over-estimated value of alcohol in the treatment of disease; and thirdly, the evidence that alcohol was not a necessity as an article of diet. He would be sorry to be prevented using alcohol in conditions of collapse but he considered that it should be used as a temporary aid and that its recurrent use in increasing quantity in acute disease was undesirable. In conclusion he emphasised the importance of recognising that alcohol was one of the luxuries of life and not one of its necessities.

Dr. W. COLLIER, President of the British Medical Association, stated the steps that had been taken by the council of the British Medical Association to promote the teaching of hygiene and temperance. His advice was that reform should be advocated in the most moderate and temperate terms. He pointed out that in regard to alcohol the medical profession was not unanimous on certain points; some said that in no circumstances should alcohol be used even as a luxury while others thought that alcohol had its place in therapeutics. Dr. Collier then proceeded to urge that inasmuch as the medical profession was unanimous on many important points concerning alcohol it was of the greatest importance that those points should be emphasised and that temperate language should be used in regard to the debateable points.

Mr. W. MCADAM ECCLES dwelt on the desirability of all medical students receiving full and sound teaching on the effects of alcohol for they were certain after qualification to be constantly questioned on the subject in all its sociological, physiological, and pathological bearings.

Dr. F. W. MOTT instantly secured the attention of the large audience assembled by stating quite plainly that he was not a total abstainer and that he took wine with his dinner, remarking that wine maketh glad the heart of man. He was glad to understand that Sir Victor Horsley advocated temperance rather than total abstinence because it was more likely that the object of the meeting would be secured by that means. Dr. Mott said he would like to know that there was some possibility of obtaining pure wine that was not adulterated with impure spirit. The evils of alcoholism were increased by the fact that pure wine was being replaced by fuchsine water and adulterated with cream of tartar, and strong raw spirit distilled from vegetable refuse. Dr. Mott quoted the opinion of Liebig that pure wine was a restorative and means of refreshment that was unsurpassed by any product in nature or art. Incidentally the speaker warned the public against thinking that burgundy was a harmlessly light beverage. He next proceeded to show how alcohol acted upon different people in different ways. 20 per cent. of the admissions to the London County Council Asylums were due to drink. Exact knowledge regarding alcohol should be widely circulated among medical men so that care should be exercised in ordering stimulants. He condemned the administration of alcohol in an indiscriminate manner and urged that it should not be ordered as a routine measure, but should only be given when the condition of the pulse indicated necessity for its use.

Professor G. SIMS WOODHEAD welcomed what had fallen from Dr. Mott. They did not wish people to be compelled to be abstainers but they desired to have the opportunity of giving instruction in regard to the effects of alcohol. In that manner there would be a great number of people convinced who would aid in the movement. They had all read in the columns of THE LANCET about the difficulty of procuring pure wine, pure spirit, and pure beer. The demand for highly flavoured and strong beverages was so great that those who had to meet the demand had recourse to means and measures that were quite unjustifiable.

Mr. A. PEARCE GOULD said that if they wanted to make people sober and as wise as Dr. Mott in the matter of alcohol they must instil the necessary information into the minds of the young from very early days.

After Dr. E. SYMES-THOMPSON had said a few words and others had taken part in the discussion the meeting came to an end with a vote of thanks to the Chairman.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 31, 1827.

MEDICAL HISTORY furnishes abundant examples of the perpetuation of error through prejudice and ignorance, and of the opposition which the most palpable truths have experienced, from men desirous of being regarded as medical philosophers. We may refer, by way of illustration, to the tenacity with which the Brunonian system was so long defended against all the evidence of common sense, and to the reluctance with which it has been forsaken. No system was more plausible at first sight, or better calculated to entrap the unwary: it procured proselytes by its simplicity, and its speciousness deceived those whose time, or want of inclination, did not allow of an immediate scrutiny into its absurdities. At the time of its appearance medical opinion lay prostrate before the chairs of Cullen, Hoffman, and Stahl, or, in other words, medicine was smothered with a scholastic jargon, which even its teachers acknowledged they did not understand. In this state of uncertainty the ingenious hypothesis which reduced diseases into two great classes, and the treatment into an equally simple division, was caught at with avidity, and spread from country to country, until all Europe was desolated with a doctrine which destroyed former errors, by substituting others still more dangerous and absurd. For a time Brunonianism flourished; scarcely a medical school existed, in which it was not publicly taught; and scarcely could a practitioner of eminence be found, who, if he did not vindicate, insensibly fell into its incendiary practice. It was in the full stream of popularity, in France, when Broussais entered his protest against it, and warned his countrymen of the errors they were committing. This was first done about twenty years ago; and although it is difficult to make the voice of one man heard in a multitude, it must afford great satisfaction to that individual, to perceive that his remonstrances served to check the progress of that infatuation, whilst the gradual increase of the opinions he advocated, appears to show that the arguments on which they rested were satisfactory and convincing, that they were, in short, founded in truth.[1]

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the General Council of King Edward's Hospital Fund for London was held at Marlborough House on Wednesday, March 29th, H.R.H. the PRINCE OF WALES, President of the Fund, being in the chair, and an influential and representative group of the Council being present.

The minutes of the previous meeting having been read and confirmed,

Lord ROTHSCHILD, the treasurer of the Fund, in presenting the accounts for the year 1904, said that the total amount received by the Fund had been £99,088. £2141 were the amount of the expenses of carrying on the work, which was equal to only £2 3*s.* 2*d.* per cent. on the money received during the year. Of the £99,088, £80,000 were distributed to hospitals and convalescent homes, £13,153 of the available balance represented funds to be held as capital, and £3793 were carried forward. Though this was a very satisfactory condition of affairs he should only be too glad if instead of £99,000 they had £200,000 to deal with. The balance sheet was very satisfactory. On Dec. 31st, [illegible]0, they had investments valued [illegible] names of the trustees and [illegible] ight be of interest to compare [illegible] In 1897 the annual subscrip- [illegible] they amounted to £33,316, an increase of £12,000. They received in 1897 £21,161 on capital account and virtually nothing in 1904, but in 1902 they received £400,000 for capital. In their first year they distributed £56,826, while last year they were able to distribute £80,000. He desired to express his humble testimony of the marvellous work which the members of the executive committee did in carrying out the wishes of the President.

The PRINCE OF WALES having moved the adoption of the account of receipts and expenditure, the motion was carried unanimously.

Sir SAVILE CROSSLEY then read the report of the General Council for the year 1904, which showed the total income of the Fund from general sources to amount to £85,202 14*s.* 5*d.*, there being also received £12 19*s.* 5*d.*, on capital account; and £13,873 3*s.* 6*d.* for the "Additional £14,000 Permanent Income Fund." Gratifying support had been received and the Council was able to carry forward a surplus of about £3000, after distributing £80,000. For this result he especially thanked the voluntary workers of the League of Mercy who had contributed so much towards the increasing success of the Fund. The [illegible] raise the sum (e [illegible] necessary in orde[illegible] President, to take [illegible] an anonymous donor announced in March last, but in a year during which so many other pressing appeals were before the public the task was beyond their powers. By the invitation of His Royal Highness the President, Mr. Edgar Speyer had been added to the General Council and Mr. J. Danvers Power appointed one of the honorary secretaries. Every eligible hospital which applied for a grant was inspected and reported upon and the Council had steadily discouraged any efforts to increase the number of small special hospitals in London. A statistical report dealing with the expenditure of the 16 largest general hospitals had been prepared in order to supply from a central source information as to expenditure and prices. He concluded by alluding briefly to the appointment of Sir Edward's Fry's Committee, whose report had not been received up to Dec. 31st, but has since obtained wide publicity.

The PRINCE OF WALES, in moving the adoption of the report, began by referring to finance. Having reviewed the figures already given he said that the amounts due from small sums, though so valuable in the aggregate, had not shown the same increase as the contributions of large sums and that the Council attached great importance to adding to the number of their subscribers. "I am, however," he added, "especially grateful for the munificence of my ever-generous friend, Lord Mount-Stephen, whose gift of securities to the value of £200,000 was announced after the accounts for 1904 were closed. I also wish to acknowledge with sincere thanks the conditional offer received from Mr. Marshall, which will be equivalent to a gift of £12,000 if his condition is complied with. This condition has reference to our immediate aim, which is to assure for the Fund a permanent income from investments—apart altogether from subscriptions and donations—of £50,000 per annum. With this sum we could practically make sure of being able to distribute £100,000 [illegible] Lord Mount-Stephen's [illegible] of £30,000 of this goal. [illegible]0 of this amount Sir Charles Tennant has given us £3000 to capital, so that only £15,000 are required by July 31st to enable us to accomplish our object. But even then we shall not rest on our oars. The King, in his letter written at the inauguration of the Fund, stated that a sum of from £100,000 to £150,000 were required annually to place the hospitals on a sound financial basis. Since then the population of London has grown, its building area has been enlarged, and hospital requirements have increased. To meet these growing demands I am convinced that our aim must be to provide from the King's Fund an income from all sources which will permit of an annual distribution among the London Hospitals of at least £150,000 a year. This was the original intention of the King when he initiated the Fund and my earnest efforts will be directed towards the fulfilment of that object, which is as near as ever to the heart of the founder. I confidently trust that others will come forward to help us. That their money will be well bestowed they may rest assured and it is most satisfactory to know that the expenses of the Fund are only a little over 2 per cent. on the total amount collected, in spite of the increased work we are now undertaking in different directions." His Royal Highness then alluded to the necessity of the amalgamation of small special hospitals, the present number and position of the various hospitals in London being, to a great extent, the result of chance efforts. From this subject he passed naturally to that of hospital economics, concerning which he said that it was satisfactory to find that in the great majority of cases the efforts of the Fund had been received entirely in the spirit in which they were made. His Royal Highness next made extended allusion to the report of the Medical Schools Committee, consisting of Sir Edward Fry, chairman, the Bishop of Stepney, and Lord Welby. The report, he pointed out, showed that of the 12 hospitals which have medical schools, at least eight contributed from their funds to the support of medical education, while the Committee "do not find that any special considerations have been advanced in justification of the expenditure by the hospitals on the schools." His Royal Highness proposed that the Council of the Fund should begin to act on the report with the first complete year after its publication—that is, in 1906—the hospitals thus having nine months in which to consider their position. "All that we will ask," he said, "is that the whole of the grants from the King's Fund may go to the relief of the sick poor. If a general account is kept for that exclusive purpose, out of which only [illegible] re- [illegible] we [illegible] hile this subject of medical schools remained in doubt, while we were assured that for various reasons it was in the interests [illegible] maintain- [illegible] iew and we [illegible] e report of Sir Edward Fry's Committee we are bound to act upon its recommendations and to reconsider the policy which we have hitherto followed." His Royal Highness considered that such action would be of benefit not only to the hospitals themselves but to medical education as well, and he quoted with approval the statutes of the University of London directing the Senate to secure common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres. "I am glad," he said, "to know that the Senate has already put forward a scheme for the establishment of an Institute of Medical Sciences in connexion with the University of London. It is to be hoped that the public will generously support the appeal which has been made for the funds necessary to build and equip such an institute." He concluded an admirable address by congratulating all his colleagues upon the results of the year's work.

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[1] Extract from the opening words of [illegible] *Examen de la Doctrine* [illegible] dicale, &c. Par J. M. GOUPIL. *Pyretologie Physiologique ou Esprit de la Nouvelle Doctrine* [illegible] p 722. Bailliere. Paris, 1826. [illegible] Edition.)

Mr. JOHN TWEEDY (President of the Royal College of Surgeons of England) personally agreed with His Royal Highness that if this separation were effected not only would it benefit the hospitals as medical charities but he was confident that it would benefit medical education as well. The two parts of medical studies were quite separate. The preliminary science studies and studies such as anatomy and physiology were entirely distinct from the clinical studies. He hoped that, if not within the next year, certainly as soon as practicable, this important separation would be carried out and then in London they would have medical education placed upon a proper footing.

Mr. E. A. CORNWALL (Chairman of the London County Council) having testified to the enormous advantages conferred upon the poor citizens of London by the beneficence of King Edward's Hospital Fund,

The Rev. T. BOWMAN STEPHENSON, D.D., moved a vote of thanks in eloquent terms to the Prince of Wales for presiding.

Sir WILLIAM COLLINS, in seconding the vote of thanks, said that he must say he agreed with Dr. Stephenson in saying that it would be absolutely impossible to over estimate the value of the interest and support of His Royal Highness in the working of the Fund.

The vote having been carried by acclamation, the proceedings terminated with a few words of acknowledgment from the PRINCE OF WALES.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Enteric Fever at the Villages of Eddlesborough and Eaton Bray, by Dr. R. DEANE SWEETING.[1]—Dr. Sweeting gives an account of a small outbreak of enteric fever which occurred last summer in a village which lies between Leighton Buzzard and Dunstable. Part of this village is in Buckinghamshire and is termed Eddlesborough (population 400), the rest of the village, Eaton Bray, with a population of 1000, is in Bedfordshire. Between July 9th and August 19th 33 cases of enteric fever were notified, most of those attacked living in the Eddlesborough portion of the village. Other cases occurred during this period which appear to have been enteric fever although they were not notified as such to the sanitary authority. After August 19th eight additional cases were notified but these in all but one instance were secondary to cases which had already occurred in their families. The case mortality was comparatively low and only three deaths occurred. The cause of the outbreak is shown by Dr. Sweeting to have been the well at Eddlesborough national school. 27 out of the 33 cases notified between July 9th and August 19th were children attending this school. In families which contributed more than one case the earliest attacks were nearly always in school children. The well which supplied the school-house pump with water could not at first be found but eventually it was discovered on digging within two feet of the site of a heap of decomposing excrement from the school privies which had been accumulating there for some weeks before the outbreak of enteric fever and had been removed only after this had begun. It proved to be a shallow well unprotected from surface soakage. Many of the shallow wells in Eddlesborough and Eaton Bray are subject to similar risks of dangerous pollution. The district council of Eaton Bray in 1898 obtained sanction to incur a loan for a public water-supply to the village but had not carried out the work proposed. In view of this recent outbreak and of Dr. Sweeting's report it may be hoped that the Local Government Board, which has already obtained an order of mandamus against this council for its neglect to provide sewerage in Eaton Bray, will now insist as strongly on prompt measures being taken by the local authorities concerned to secure a satisfactory public supply of water for the whole of the village in question.

On the Sanitary Circumstances and Administration of the Borough of Beverley, with Special Reference to the Recent Prevalence of Enteric Fever and Diarrhœa in the Borough, by Dr. REGINALD A. FARRAR.[2]—In the town of Beverley, in the East Riding of Yorkshire (population 13,183), an epidemic of diarrhœa affecting from 200 to 400 persons occurred between April 28th and the end of May, 1904. On the abatement of this epidemic an outbreak of enteric fever followed, the first case of this disease being notified on May 26th and the total number of cases being 32. Only one-third of Beverley is supplied by the Beverley Waterworks Company; the rest obtains water from boreholes sunk to an average depth of from 70 to 80 feet into the chalk beneath the town. Those attacked by the epidemic diarrhœa and enteric fever in nearly all cases were people who lived in houses supplied by the waterworks company or who drank water from this public supply at their places of occupation or elsewhere. The public supply in question is obtained by pumping from a deep well in the chalk 333 feet deep. The chalk in the neighbourhood of the waterworks is much fissured and evidence had been obtained in previous years that contaminating matters deposited on the surface of the ground at considerable distances from the well might find their way into the supply. This was shown in 1885 by the late Dr. David Page and in 1890 Mr. Baldwin Latham demonstrated that lithia placed in a "swallow hole" to the west of the well made its appearance in the well water. Although the waterworks company had taken steps to prevent pollution occurring at the points indicated by Dr. Page and Mr. Baldwin Latham, they had allowed other possible opportunities of contamination to remain. Dr. Farrar points out two places as sources of danger—the farmstead of Bentley New Inn, about three-quarters of a mile south of the waterworks, and a drain situated from three-quarters of a mile to one and a half miles from the waterworks, which receives the sewage of Walkington village. At Bentley New Inn six persons were attacked by acute diarrhœa on March 8th. In connexion with the probable relationship between these cases and the epidemic of diarrhœa which began in Beverley on April 28th Dr. Farrar records that after a comparatively rainless period heavy rainfall amounting to 0·62 of an inch occurred on April 12th and 15th. It would seem that there have now been at least three definite outbreaks of enteric fever which have been attributed to this water-supply. After each outbreak some new source or sources of pollution have been discovered and dealt with and the company can hardly hope that it can obtain entire security for the future by giving its attention to the two places which on this occasion are indicated as dangerous. Filtration of a deep well water is an unusual proceeding but if the present source of supply is to be continued filtration of the water, which Dr. Farrar proposes, seems to be a necessary safeguard. It is true that the character of the water would possibly make it difficult to obtain a satisfactory scum on the surface of the filters but this difficulty, if realised, could no doubt be overcome by suitable means. The precedence of the outbreak of enteric fever by one of acute diarrhœa is a matter of special interest in this epidemic. Those attacked by enteric fever had in most cases suffered from the epidemic of diarrhœa a few weeks before; in fact, the conditions appear to have been closely parallel in this respect to those of outbreaks of enteric fever caused by sewage-polluted shell-fish.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8985 births and 4752 deaths were registered during the week ending March 25th.

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[1] London, Eyre and Spottiswoode, East Harding-street; Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 3d.

[2] Ibid., price 4d.

The annual rate of mortality in these towns, which had been 17·1, 17·2, and 15·8 per 1000 in the three preceding weeks, rose again last week to 15·9 per 1000. In London the death-rate was 15·3 per 1000, while it averaged 16·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·5 in Smethwick and in Wallasey, 7·6 in Handsworth (Staffs.), 8·5 in Walthamstow, 8·7 in Hornsey, 10·0 in Great Yarmouth, 10·4 in Cardiff, and 10·5 in King's Norton and in Rotherham; the highest rates were 22·7 in Southampton, 22·9 in Stockton-on-Tees, 23·0 in Nottingham, 23·8 in Plymouth, 25·8 in Hanley, 27·6 in Portsmouth, and 28·9 in Merthyr Tydfil. The 4752 deaths in these towns last week included 494 which were referred to the principal infectious diseases, against 486, 471, and 430 in the three preceding weeks; of these 494 deaths, 210 resulted from measles, 97 from whooping-cough, 70 from diphtheria, 54 from scarlet fever, 43 from diarrhœa, 17 from "fever" (principally enteric), and three from small-pox. No death from any of these diseases was registered last week in Leyton, Bournemouth, Ipswich, Great Yarmouth, Devonport, or Walsall; while they caused the highest death-rates in Portsmouth, Southampton, Reading, Hanley, Nottingham, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Portsmouth, Southampton, Reading, Nottingham, St. Helens, Warrington, Sheffield, Middlesbrough, Stockton-on-Tees, and Merthyr Tydfil; from scarlet fever in Rochdale and Merthyr Tydfil; from diphtheria in Hanley, Burton-on-Trent, Derby, and Middlesbrough; from whooping-cough in Willesden, Tottenham, Hanley, Preston, Rotherham, and Tynemouth; and from "fever" in West Bromwich. Two fatal cases of small-pox were recorded in London and one in Bury, but none in any other of the 76 large towns. The number of small-pox cases under treatment in the Metropolitan Asylums Hospitals, which had been 15, 16, and 23 at the end of the three preceding weeks, had declined again to 20 at the end of last week; three new cases were admitted during the week, against four, three, and nine in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, March 25th, was 2034, against 2002, 2036, and 2042 on the three preceding Saturdays; 274 new cases were admitted during the week, against 290, 303, and 262 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 353, 361, and 304 in the three preceding weeks, were again 304 last week, and were 79 below the number in the corresponding period of last year. The causes of 44, or 0·9 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Bradford, Leeds, Hull, and in 49 other smaller towns; the largest proportions of uncertified deaths were registered in Reading, Burton-on-Trent, Birmingham, Liverpool, Warrington, and Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·4, 18·6, and 18·2 per 1000 in the three preceding weeks, rose again to 18·3 per 1000 during the week ending March 25th, and was 2·4 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·4 in Leith and 17·2 in Glasgow, 21·5 in Aberdeen and 26·0 in Greenock. The 615 deaths in these towns last week included 33 which were referred to whooping-cough, 10 to diphtheria, eight to diarrhœa, six to measles, one to scarlet fever, and one to "fever." In all, 59 deaths resulted from these principal infectious diseases last week, against 60, 58, and 52 in the three preceding weeks. These 59 deaths were equal to an annual rate of 1·8 per 1000, which was slightly above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 27, 31, and 17 in the three preceding weeks, rose again last week to 33, of which 16 were registered in Glasgow, five in Edinburgh, four in Greenock, two in Dundee, two in Paisley, and two in Perth. The deaths from diphtheria, which had been three, two, and eight in the three preceding weeks, further rose to ten last week and included four in Glasgow, four in Edinburgh, and two in Greenock. The fatal cases of diarrhœa, which had been 17 and 13 in the two preceding weeks, further declined last week to eight, of which five occurred in Glasgow. The deaths from measles, which had been eight, six, and ten in the three preceding weeks, declined again to six last week, and included three in Glasgow and two in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 114, 153, and 140 in the three preceding weeks, further declined to 133 last week, and were 32 below the number in the corresponding period of last year. The causes of nine, or 1·5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 30·7, 25·2, and 23 8 per 1000 in the three preceding weeks, further declined to 22·4 per 1000 during the week ending March 25th. During the past four weeks the death-rate has averaged 25·5 [illegible] 'od being 16·3 per 1000 [illegible] e 163 deaths of persons [illegible] the week under notice [illegible] mber in the preceding week, and included seven which were referred to the principal infectious diseases, against eight, two, and eight in the three preceding weeks; of these, four resulted from measles, one from whooping-cough, one from "fever," and one from diarrhœa, but not any from small-pox scarlet fever, or diphtheria. These seven deaths were equal to an annual rate of 1·0 per 1000, the death-rates last week from the principal infectious diseases being 1·7 in London and 1·9 in Edinburgh. The fatal cases of measles, which had been three, one, and four in the three preceding weeks, were again four last week. The 163 deaths in Dublin last week included 25 of children under one year of age and 49 of persons aged 60 years and upwards; the deaths of infants showed a slight decline while those of elderly persons were in excess of the number in the preceding week. Four inquest cases and three deaths from violence were registered; and 58, or more than a third, of the deaths occurred in public institutions. The causes of nine, or nearly 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon S. T. Reid to the *President*, additional, for three months' hospital course. Surgeons: R. Willan, E. D. Rutherford, M. W. Haydon, and R. H. McGiffin to the *Pembroke*, additional; H. M. Braithwaite, D. G. Addison-Scott, and L. O. Hunt to the *Victory;* H. S. Turner and S. H. Vickery to the *Vivid;* P. D. McI. Campbell, F. G. Wilson, J. McA. Holmes, A. O. Hooper, and E. M. W. Hearn to the *Wildfire;* and A. J. MacDiarmid to the *Pembroke*, all for disposal; W. H. Pope to the *Fire Queen*, for disposal; W. O. B. Smith, F. L. de Verteuil, F. Hernaman-Johnson, and C. R. Worthington to the *Vivid*, to be lent to Plymouth Hospital.

The undermentioned gentlemen have been appointed Dental Surgeons to the Naval Forces and have been appointed for duty at Chatham, Portsmouth, and Plymouth respectively:—Mr. Victor Edwin Mills, Mr. Bannar Harry Martin, and Mr. Albert Harris.

ROYAL ARMY MEDICAL CORPS.

Major E. Eckersley joins at Woolwich for duty. Major C. E. Pollock, Royal Herbert Hospital, Woolwich, has embarked in the transport *Dilwara* for duty at Malta. Major T. Birt has been posted to the Eastern Command for duty. Major J. C. Connor has been appointed for duty in the Southern Command.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Daniel Vere Maxwell Adams to be Lieutenant (dated March 25th, 1905).

INDIAN MEDICAL SERVICE.

Bengal: To be Colonel: Lieutenant-Colonel Henry Kellock McKay, C.I.E. (dated Dec. 3rd, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 8th Lancashire: Surgeon-Lieutenant-Colonel A. R. Hopper resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform (dated March 29th, 1905).

Rifle: 2nd (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Lieutenant J. B. McBride to be Surgeon-Captain (dated March 25th, 1905). 1st Volunteer Battalion the Royal Welsh Fusiliers: Surgeon-Lieutenant W. F. Byford resigns his commission (dated March 29th, 1905). 4th Middlesex (West London): Surgeon-Lieutenant-Colonel A. Clark (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, 3rd London Volunteer Infantry Brigade), is granted the honorary rank of Surgeon-Colonel (dated March 14th, 1905). 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Surgeon-Captain W. Moxon resigns his commission and is granted the honorary rank of Surgeon-Major, with permission to wear the prescribed uniform (dated March 29th, 1905). Surgeon-Lieutenant V. J. Greenhough to be Surgeon-Captain (dated March 29th, 1905). 2nd (Westmoreland) Volunteer Battalion the Border Regiment: Surgeon-Major G. W. Brumwell (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Lancaster and Border Volunteer Infantry Brigade), to be Surgeon-Lieutenant-Colonel (dated March 25th, 1905). Surgeon-Lieutenant-Colonel G. W. Brumwell (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Lancaster and Border Volunteer Infantry Brigade), is granted the honorary rank of Surgeon-Colonel (dated March 25th, 1905). 1st Volunteer Battalion the Northamptonshire Regiment: Charles Humphrey Sedgwick to be Surgeon-Lieutenant (dated March 25th, 1905). 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Major H. W. Roberts to be Surgeon-Lieutenant-Colonel (dated March 25th, 1905).

DEATHS IN THE SERVICES.

Lieutenant-Colonel Henry William Alexander Mackinnon, D.S.O., A.M.S. (retired), on March 24th, at Weybridge, Surrey, aged 63 years. He joined the Army Medical Service in 1865, became surgeon in 1873, surgeon-major in 1877, brigade-surgeon in 1885, deputy-surgeon-general in 1892, and retired in 1895. He served in the Egyptian war of 1882 and was present at the battle of Tel-el-Kebir, when he was slightly wounded (medal with clasp and the Khedive's star). In the Burmese expedition in 1885-86 he served with the Upper Burma Field Force under Sir George White and was for part of the time principal medical officer (mentioned in despatches, D.S.O., and medal with clasp).

Miss Jane Catherine Shaw Stewart, eldest daughter of Sir Michael Shaw Stewart, sixth Baronet, who died on March 14th at Slinfold, Sussex, at the age of 83 years, was associated with Miss Florence Nightingale in active nursing work in the military hospitals in the Crimea and at the close of the war she was appointed matron-superintendent of Netley Hospital, in which capacity she served till 1868. Miss Shaw Stewart was for some time second Superintendent-General of Her late Majesty's Nurses.

THE ARMY ESTIMATES.

The attention of our readers connected with, or interested in, Army Medical Service matters will very naturally have been drawn to Mr. Arnold-Forster's recent statement on the Army Estimates in the House of Commons. The War Minister was as confident as is his wont as to the importance of his proposals for the reorganisation and reform of the army as a whole and as to the success which would attend and follow upon their adoption. Be this as it may, and it seems clear that he failed to carry conviction to the House on the point, we can only say that uncommonly little can be gathered from what he had to state about the medical services. He repeated his previous announcements that substantial additions had been made to the medical staff, without, however, particularising them, and that a commencement had been made in the construction of the great Military Medical College. It is needless to say that a great deal more than this will have to be done if we are ever to have a medical and sanitary organisation at all adapted to the requirements of modern warfare.

THE WAR IN THE FAR EAST.

The lull at the seat of war still continues but such news as there is from Manchuria does not seem to be of a favourable nature as far as the Russians are concerned. Advices from Harbin state that the Japanese continue slowly to advance. The Russian retreat is described as being still toilsome and dangerous. The commissariat and medical services are completely disorganised. Men who were sick or exhausted from fatigue have had to be abandoned for want of proper transport. Although everything depends now upon the possibility of the success of the Russians at sea, for such an event might alter the whole complexion of the war, little or nothing is really known about the position of the Russian or Japanese fleets.

The Army Council has decided to discontinue the experiment, commenced last November, of providing recruits with artificial teeth and the instructions contained in the War Office letter of the 5th of that month have therefore been cancelled as regards both recruits and trained soldiers.

Correspondence.

"Audi alteram partem."

PROPOSED CONFEDERATION OF THE LONDON MEDICAL SOCIETIES.

To the Editors of THE LANCET.

SIRS,—Attempts have been made from time to time to unite the various London societies representing medical science and practice more closely, so as to form a united Royal Society or Academy of Medicine, in which the existing societies would retain their individuality as sections of the united body.

The present appears a favourable opportunity for again endeavouring to effect this unification and I have gathered from many holding influential positions in the different societies that they would not object to such a confederation being again considered. I have therefore consented to preside at a meeting to be held at the Royal College of Physicians on Monday, April 10th, at 5 P.M., to consider whether it is desirable that the central medical societies of London should unite to form one Royal Society or Academy of Medicine; and, if such union is thought desirable, to take preliminary steps to bring about such federation.

The meeting is open to Fellows and members of all medical societies and it is hoped that there may be a large and representative meeting, as it is desired to gather the opinion of the profession and especially of the junior members of it, as well as that of those who are officially associated with the several societies.

I am, Sirs, yours faithfully,

March 28th, 1905. W. S. CHURCH.

THE TREATMENT OF EMPYEMA.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 25th, p. 789, Dr. Samuel West, who speaks with the authority derived from great experience, lays down the law very positively about the surgical treatment of empyema and makes statements with which I, and I expect other surgeons, cannot agree. They do not, in my opinion, tend to improve the treatment of this disease. He says: "In a case where the choice is open the best place to select is just in front of the post-axillary border and on the transverse level of the nipple. It need not be farther down, because directly the pleura is evacuated the diaphragm rises and soon reaches that level. It need not be farther back, because the patient will not lie upon the tube and with the incision in this place he can lie comfortably on the back. If the incision be farther back the patient will turn over on to the opposite side and the drainage will be no better than with the incision in the place I recommend." The directions for the incision are not very accurate. The position of the nipple varies in different individuals and is elevated about one inch by raising the arm. If Dr. West's instructions are followed the opening will sometimes be made in the fourth interspace. But in any case it is, in my opinion, too high and too far forward. It never allows proper drainage when the patient is recumbent, unless he lies on the affected side, and often affords imperfect drainage when he is in the erect posture, because, as a matter of fact, the diaphragm seldom comes into contact with the ribs at so high a level in the side. I have often had to make a posterior incision in cases thus operated on. I believe this position was originally chosen (or rather the sixth or seventh interspace in the axilla) because it was the most easy to get at. I think the best place for [illegible] rib in the scapular line: (1) [illegible] place both when the patient is recumbent and when he is erect; (2) because I do not find that patients object to lying on the back after its performance; and (3) because it seems to me to give by far the best results.

Resection of a piece of rib is not recommended *only* because it provides good drainage, though this is an important object. It allows a free exploration of the cavity and the easy removal of masses of lymph. It also generally prevents the painful gripping of the tube as contraction takes place. No one says that it is always essential, but really Dr. West and some others make too much of this trivial addition to the opening of the chest. It adds practically nothing to the gravity of the operation.

When I hear about shortening the tube in a case of empyema and the tube "preventing the discharge" I feel convinced that too long a tube was employed to begin with. An ideal tube, in my opinion, should be only just long enough not to slip out of the pleural cavity and have one lateral hole only, which should be immediately within the chest wall. It is only in exceptional cases with intricate diverticula that cannot be freely opened up with the finger that long tubes are required. Shortening drainage-tubes in these cases I look upon as a secondary vice induced by the primary one of using too long a one at first. The plan of introducing many inches of drainage-tube is, or ought to be, obsolete. Dr. West talks of two small tubes being as efficacious as one large one; may I recommend him to try two large ones and see if they are not more efficacious still?

Of course, Dr. West knows of Dr. W. Cayley's paper on "[illegible] llowing the Washing Out of the [illegible]" in vol. x. of the Transactions [illegible] ave seen a case of sudden death [illegible] *s propriis oculis*; it was not a pleasant sight. Still, the experience of "many hundred cases" without an accident is large. It makes me hesitate to enter the lists, as it must represent an experience much greater than mine, for I suppose Dr. West will agree that in most cases irrigation is unnecessary. And if unnecessary why add this complication to the dressing if there be even the slightest risk involved in it? After all what a small part of a general empyema can be satisfactorily reached by irrigation unless the cavity be actually filled with the fluid employed for this purpose!

He says: "Estlander's operation is very fatal." This is not my experience if the surgeon does not attempt to do the whole thing at one sitting. That is where the danger comes in. If it be divided into two or three stages, separated by considerable intervals of time, the danger is slight and probably less will have to be done in the end.

Of course, Dr. West will not expect me to agree with him that "the after-treatment of an empyema is better left to [illegible] especially if this involves [illegible] of the drainage-tube, and [illegible]

I am, Sirs, yours faithfully,

March 27th, 1905. RICKMAN J. GODLEE.

SHOCK AND COLLAPSE.

To the Editors of THE LANCET.

SIRS,—Mr. J. P. Lockhart Mummery in his second lecture on Surgical Shock and Collapse[1] suggests the treatment of shock by compressed air wards. In his first lecture he states that "the blood pressure is maintained within a few degrees of the normal range even under extreme variations in outside pressure."[2] It is difficult, therefore, to see in what way the proposed compressed air treatment is to take effect. Mr. Mummery does not draw any distinction between the *absolute* and the *relative* blood pressure. It is the relative blood pressure—that is, the blood pressure compared with the external atmospheric pressure—which is the important factor in the pathology of shock and it is this relative pressure that is recorded in all forms of recording instruments. Alterations in the external atmospheric pressure produce corresponding alterations in the absolute blood pressure but do not materially alter the relative pressure and would not, therefore, be of much value in the treatment of shock. On the other hand, compression of the abdomen—as by the [illegible] matic suit described by Mr. Mummery in which the [illegible] and thorax are not compressed—will raise the relative [illegible] pressure by driving the blood from the dilated splanchnic vessels into the more important areas of the head and chest. It is this form of treatment, therefore, which is of value in cases of shock rather than treatment in compressed air wards [illegible]

WHITE.

St. Thomas's Hosp [illegible]

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[1] THE LANCET, March 25th, 1905, p. 782.

[2] THE LANCET, March 18th, p. 696.

ISOLATION HOSPITALS.

To the Editors of THE LANCET.

SIRS,—May I be allowed to reply to Mr. E. D. Marriott's letter of Dec. 24th, 1904, published in THE LANCET of Jan. 7th, 1905, in order to remove a slight misunderstanding on his part? The priority that I claimed was that of utterance of my opinions *in your columns*, as will be made evident, I think, by collating my letter (published in your issue of Dec. 17th, 1904, p. 1737) with your leading article of August 27th, 1904, p. 624, on which my letter commented; and I consider that my claim is justified. Your phrase implied that Mr. Marriott was the first person to express disapprobation of isolation hospitals in THE LANCET and I ventured to correct this in my own behalf. Further, if Mr. Marriott will look back to my original letter in THE LANCET of June 13th, 1896, he will see that I had *not* "contented myself with a letter in THE LANCET" but had been for some time contesting with the local board of guardians (St. George's, Hanover-square) and its medical officer of health (the late Dr. W. H. Corfield) and his sanitary inspector the right of these officials to remove scarlet fever patients to the fever hospitals indiscriminately, even contrarily to the wish of the relatives and of the medical man in attendance. I appealed to the Local Government Board and obtained a decision in my favour. The purport of my letter was to publish an account of this dispute with the result; and I also stated my experience of the effects of the infectious diseases hospitals of the Metropolitan Asylums Board. I am glad to hear that Mr. Marriott has been engaged with the question as long as he has been and that he is still carrying on the fight; but his previous writings on the subject were quite unknown to me.

I am, Sirs, yours faithfully,

F. LUCAS BENHAM, M.D. Lond.

Exeter, South Australia, Feb. 10th, 1905.

THE MEDICAL MAN AS EXPERT WITNESS.

To the Editors of THE LANCET.

SIRS,—*Apropos* to Dr. W. B. Ransom's interesting paper on the medical man as an expert witness, in THE LANCET of March 4th, p. 591, will you kindly allow me to point out that the medical witness is frequently not an expert at all; that he is called in by, and employed by, the prosecution; is expected to assist the police in order to secure a convic[illegible] cannot be reconstituted, it is [illegible] his decision? It must be admi[illegible] ngerous state of affairs; the prisoner or accused or suspected person ought always to be represented at these investigations by another medical man, practitioner, or expert in the first instance, before the body is buried, if it is a case of death, or the symptoms or condition which are supposed to indicate guilt on the part of the accused have passed off. I recollect a case where a woman was declared to have died from the effects of an illegal operation. Fortunately, the friends were able to employ another practitioner who completed the post-mortem examination by opening the skull and so ascertained that the patient had died from apoplexy. The Grimsby starvation case is another instance in point. Here the symptoms of death from starvation of the prisoner's wife were conspicuously absent and yet the man was convicted and got 20 years' penal servitude, some portion of which he had served when he was rescued by a memorial to the Home Secretary setting forth the facts. It is the same when men have been accused of rape and the decision of the court depends upon the existence or non-existence or recent rupture of the hymen. The medical witness has here a delicate and difficult investigation about which the most eminent jurists have differed. The ordinary practitioner, unused to such cases, cannot, of course, be expected to give evidence of any value and yet his testimony is held sufficient to convict, and as he is the only one present in the first instance there can be no appeal against his decision. It is the same when the fate of the accused depends upon the results of a chemical analysis. If an analyst had been employed on behalf of Mrs. Maybrick he might have found that there was not enough arsenic in the tissues to have caused death or that the amount discovered would readily be accounted for by the medicinal doses which Mr. Maybrick was in the habit of taking. Again, if an expert in handwriting had checked the conclusions arrived at by Mr. Guirin in the Adolf Beck case the latter half of Mr. Guirin's report would not have been suppressed and Mr. Beck would not have been convicted. Again, if an independent expert had examined the horsehair and blood said to have been found upon Mr. Edalji's trousers he might have found that there was no blood or horsehair or that the presence of both might have been sufficiently accounted for without assuming the guilt of the accused.

In short, Sirs, it is impossible to get at the truth without full discussion and hearing of both sides. The medical man is quite right to do the best he can for the person who employs him; he is bound to do for him what he would do for himself if he were able. The prosecution are straining every nerve and resorting to every device in order to secure a conviction quite irrespective of the innocence or guilt of the accused and if the medical expert does not do his very best to save his client he is unworthy of his position and of no use at all. Medicine is not an exact science and never will be and the man who comes into court to expound scientific truth to the laity is expounding something that does not exist. As to Crown referees they would be simply glorified expert witnesses and as we should have no control over them they would be much more dangerous than anything we have at present.

I am, Sirs, yours faithfully,
C. BELL TAYLOR, M.D. Edin.
Nottingham, March 25th, 1905.

THE GOUTY DIATHESIS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to make some remarks on Dr. D. Chalmers Watson's letter which is, in my opinion, rather aggressive? Your correspondent does not deny the fact that the knowledge of the physiology and pathology of the thyroid gland is very incomplete, and, on the other hand, he says that "one is perhaps justified in hesitating to attach much scientific value to Dr. Arany's pronouncement on the results of his clinical experience regarding a relation between gout and the thyroid gland." I daresay my professional and literary reputation is not unknown to members of the profession of both European and American countries, and I do not think that anybody will doubt in the honesty and seriousness of the reports of my observations as well as in my being up to date as far as the literature of gout and thyroid gland is concerned.

In saying that in the series of my cases of gout I did not observe in a single case any symptoms which could have related to changes in the thyroid gland I only referred to symptoms of well-known affections of the thyroid gland, as it goes without saying, we cannot do the same with patients as we do with rats—viz., examine their thyroid gland by means of the knife. As I am going abroad in the course of next week I shall not be able to reply to Dr. Watson's future objections (if there should be any) and therefore consider this my final remark on the subject.

I am, Sirs, yours faithfully,
Royal Societies Club, March 18th, 1905. S. A. ARANY.

URINOSCOPY.

To the Editors of THE LANCET.

SIRS,—There are numerous medicine men throughout South Wales and amongst these, I believe, some qualified chemists "who read the water." These men assume the power of being able to diagnose any and every disease by simply holding up a bottleful of the patient's urine between them and the light and looking through. This is indeed a wonderful power of discernment and a very substantial asset to the fortunate possessor, far exceeding, from a financial standpoint, any medical diploma or degree. On the other hand, considering the few diseases that can be diagnosed from the urine alone I consider the assumption as almost a complete deception of the public or as supplying goods under false pretences and should be investigated by the police with a view to punishment.—I am, Sirs, yours faithfully,

March 25th, 1905. WELSHMAN.

THE MEDICAL CONTROL OF SCHOOLS AT NEW YORK.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from p. 824.)

THE figures already published indicate that the number of children excluded from school was so high as seriously to interfere with the work of education. This was due more especially to the great prevalence of acute disease of the eye and of pediculosis. Yet the board of health insisted that, even at the risk of depopulating the schools, it was its duty to protect children who were clean from any risk of contagion. Nevertheless, the stringency of such regulations was ultimately relaxed. The method now adopted is to send away at once any child who is found with live pediculi. But when the child is under treatment the mere presence of nits while only in the embryonic stage is no longer considered as practically rendering the case contagious. The children under treatment may then attend class but only on condition that their hair is shampooed with kerosene and olive oil. Then later the hair must be thoroughly washed and dried. After this the hair is rubbed with hot vinegar so as to dissolve the shells of the nits and these must be brushed away with a hard brush. A pamphlet with full, clear explanations to this effect is given to each child. At first, however, this relaxation of the rule did not suffice. A great number of the children excluded had no homes where they could be privately but efficiently treated. The public dispensaries where children who did not possess suitable homes could be treated were not sufficiently numerous. Consequently many children remained indefinitely away from school because they could not get attendance, not even the commencement of a proper treatment. At this juncture the Nurses' Settlement came to the assistance of the department of health and sent a nurse to see whether something could not be done i order to enable the children to return to school.

For some six weeks experiments were made and in th year 1902 it was decided that a regular nursing syster should be established to look after the children wh attend the primary schools. Eight nurses were appointe for children frequenting the schools of what is legall denominated the borough of Manhattan. The missio of these nurses is to attend to children who, thoug suffering from communicable complaints, are nevertheles admitted to the schools. This permission is granted notably i cases of pediculosis, conjunctivitis, and some forms of diseas of the skin. Such relaxation of the rules came into operation on Jan. 1st, 1903. The eight school nurses were place under the direction of one supervising nurse. The school were divided into groups and each nurse had to atten several schools. The supervising nurse was held responsible; she was expected to visit each of her nurses while the were at their work and this at least once a week. The schoo nurses had to keep a record of all the cases which the treated. When a child was excluded from school and di not return on the day appointed the nurse had to call at th child's home and to ascertain the cause of the delay. Th nurse had also to instruct the parents as to the proper wa of cleansing the children's heads. Definite and precise rule are given to the nurses for the treatment of pediculosis, conjunctivitis, ringworm, impetigo, favus, molluscum contagiosum, scabies, &c. It is the school inspector wh remits to the nurse the details of each case and th nurse acts accordingly but these nurses are not allowe to deal with *cases of trachoma. The department* o education supplies to the schools, on demand from th principals of the schools, whatever is necessary for the treatment by the nurses of the children It very soon became evident that the system now instituted involved such an amount of work that the number of school nurses was quite insufficient Before six weeks had elapsed the staff of nurses had to be doubled and after an increase from eight to 16 nurses there was a further augmentation to 19 nurses The probabilities are that by this time a still larger number is employed In any case, the figures given of the work done during the year 1903 show that the position of school nurse is no sinecure The number of cases treated for pediculosis was 156,886 for contagious diseases of the eye 106,257, for eczema 3379, for ringworm 8498 for scabies 335 and for miscellaneous complaints, including favus, impetigo, and molluscum contagiosum, 10 438 The total number of cases treated is set down at 285,793 Then 12 891 visits were paid to the homes of the pupils, 11,098 visits to the schools, and 293 miscellaneous visits, making in all 24,282 visits

It soon became evident that these school nurses were destined to render great service apart from the mere treatment of the afflicted children All kinds of indirect advantages began to accrue from the action of the nurses who, by the force of circumstances, were at times playing the part of missionaries of civilisation To get a child from a slum dwelling and make him attend an excellent school is already a great step forward Much of the good this would produce is, however, undone when the child returns home But now it is not only the child that is sent to school, it is the trained nurse that comes from the school to the child's home Thus some very practical phases of education are brought to the child's home for the instruction of the parents and family The action of the school nurses first helped greatly to reduce the number of children excluded from school, thus the care taken of the health of the children no longer seriously interfered with the education of the coming generation But what is especially beneficent are the visits the nurses pay to the homes of the children, for there they are able to discover and to cause to be removed insanitary conditions and sources of infection from which not only the children but entire families suffered This gave the nurses splendid opportunities for spreading in a practical and very effective manner a better knowledge of sanitation and the laws of health Then, again, the children who formerly were excluded on account of ill health not infrequently became permanent truants Now a good watch is kept to see first that they are properly treated and secondly that they return to school as soon as it is safe for them to do so

When once it was decided to admit into the schools a large number of pupils while still under treatment it was necessary to devise a method of watching them very closely Therefore—and this happened during the course of March, 1904—what is known as the "card index system" was introduced Each class room has a card and on it is inscribed the name of each pupil attending that class though suffering from a communicable disease For this purpose a code number is employed so as not to divulge the complaints of the children It is from this class card, if no separate and special instruction is given, that the nurse learns who are the pupils she has to treat and what are their complaints Practice has demonstrated that each child must be taken separately and told individually what he must do If several children who have the same complaint are grouped together and then told they do not pay sufficient attention, are not duly impressed, and very generally fail to carry out the instructions The class card also enables the school inspectors to follow out what is being done For instance, if to a child's name is affixed the indication "under treatment" the school inspector forthwith proceeds to assure himself that there has been proper treatment and, if not at once excludes the child There has been some difficulty about the code numbers as the children are sharp enough to find out their meaning, even though numbers that had no meaning were occasionally thrown in to try to put them off the scent and two or three different numbers were used to signify pediculosis

By means of this card system and the school nurses the diseases for which the child is at once and rigorously excluded till completely cured were reduced to the following diphtheria scarlet fever, measles, varicella, pertussis, mumps, and acute coryza As an example of the effect of the modifications described, which is due in the main to the work done by the school nurses, the following figures are given. During the previous three months ending on Dec 3rd, 1903, the exclusions from school amounted to. measles, 18 cases, diphtheria, 140, scarlet fever, 13, pertussis, 61, mumps, 9, trachoma, 12,647, pediculosis, 8994, chicken pox, 172, contagious diseases of the skin, 661, and mis- [illegible] the [illegible] of [illegible] let fever, 13, pertussis, 61, measles, 18, mumps, 9, and chicken-pox, 172, or a total of only 400 Consequently the new system would have prevented the interruption during the short period of three months of the studies of 24,138 children It cannot now be said that the medical inspection of the schools seriously interferes with education

In New York, as elsewhere, there is no lack of parents who are more anxious to make use of their children than to secure for them a good education Consequently when it was found that a child excluded from school for some slight complaint would not be readmitted unless under proper medical treatment the parents neglected to obtain such treatment To meet this difficulty the school authorities had to consult the district attorney and as a result the following notice was issued —

> Any parent who refuses to put its child under proper medical treatment that it may return to school is violating the compulsory educational law and is guilty of a misdemeanour punishable by a fine

This was supported by the magistracy, for in a test case the parent was fined $10

The figures given above have shown the alarming prevalence of diseases of the eye and this fact naturally did not escape the attention of the health authorities Early in the year 1902 five ophthalmic surgeons were appointed to investigate the matter and after examining a considerable number of children they declared that 17 per cent were suffering more or less from trachoma Thereupon the school inspectors were sent to the New York Eye and Ear Dispensary so as to gain fuller experience in detecting this disease Each inspector was required to spend two hours a day at this dispensary for about a fortnight But as the cases in the schools were by these means more promptly discovered the number of children excluded increased so rapidly that they soon created an unmanageable crowd at the hospitals and dispensaries In several cases the medical staff was so overwhelmed that some of the surgeons did not stamp the cards which the children brought Consequently such children could not be readmitted to school because they had nothing to show to prove that they were under treatment Of course, complaints arose and ultimately the department of health had to fit up a special eye hospital and dispensary for the school children At this hospital for trachoma 4337 school children were treated by operation during the year 1903 The number treated without operation was 11,599 Thus there were altogether 15,936 patients The number of visits for subsequent treatment amounted to 129 830 and the total number of consultations or "treatments" (to use the phraseology of the report) was 145,766 Apart from this 3121 children were examined but it was found that they were not suffering from trachoma Of course, more trained nurses were required for this hospital and they were obtained from the training school at Blackwell Island It is a very significant fact that when a proper surveillance rendered it impossible to continue to neglect the children it was found that the hospitals and dispensaries of New York no longer sufficed for the work that had to be done Con [illegible] cities will see [illegible] n the mere [illegible] oper care is [illegible] of medical inspection is introduced into the schools of the great towns in the United Kingdom it is probable that in many instances it will also be found necessary that the education and health authorities should create some special hospitals for the children But this is not all Bacteriological laboratories will be needed on a much more extensive scale than at present exists in this country [illegible] bacteriological laboratory They were all examined and in 10 376 cases nothing was detected, 318 showed some doubtful bacilli, and in 757 cases the Klebs-Löffler bacilli were detected. Have the large boroughs of England the necessary organisation to make a similar experiment?

In regard to vaccination, two inspectors visit the schools so that every child is offered vaccination and any child not successfully vaccinated within five years of school life must be revaccinated. Thus during the year 1903 the number of school children vaccinated amounted to 26,168. Yet it is very rare that primary vaccination is performed at the schools, for the children are not admitted unless they have a vaccination certificate. Thus the school period is the period of revaccination. It is estimated that 90 per cent. of the vaccinations made at school are successful. As for the usefulness of such measures, this was conclusively demonstrated during the severe epidemic of small-pox in 1901 and 1902. Though 10 per cent. of the cases that occurred at New York were among children of the school age—that is to say, from the age of six to 16 years—not one single child attending the public schools contracted the disease.

At the conclusion of his admirable report, the assistant chief medical inspector, Dr. John J. Cronin, says that the medical inspection as at present organised is attaining the end which it has in view but that much remains to be done which appertains to other administrative departments and other social forces or conditions. For instance, the care taken of the children's outer garments leaves much to be desired. In many cases the class-rooms are not properly ventilated, the light is sometimes insufficient, and there is some overcrowding. Personally, while in New York I had only time to visit two of these schools and both were on the East side. One was an old building for which considerable ingenuity had to be displayed to adapt it to educational purposes. Nevertheless, the proper unilateral light had been secured in the class-rooms. The other school was a huge structure only recently built and expressly for school purposes. Here I was much gratified to see that powerful engines were at work, so that revolving fans might provide the entire premises with the air needed. Mechanical ventilation alone is trustworthy and its introduction in this new and model primary school constituted an example which, it is to be hoped, other nations will not delay in following.

The report goes on to recommend the establishment of baths in the public schools, the examination of the eyes and the correction of errors of refraction, and mentions that of 981 children whose eyesight was examined about 30 per cent. suffered in this manner. Then it is urged that the children's teeth should also be examined and properly treated. Greater care should be taken for the correction of any deformity of the locomotive apparatus. All nervous diseases should be excluded from the class-rooms. Hypertrophied tonsils and adenoid vegetations should be removed. But, above all, what is needed is the abolition of the dilapidated and overcrowded tenements where so many children are forced to live under health-destroying conditions. In dealing with this phase the reporter concludes with the following words:—

> I certainly do feel hopeful, however, that while all the good that we would wish for may not be realised in the present generation of school children, for the reason that they, too, are powerless to change their [illegible] stowed upon them now will so dissatisfy [illegible]ndition and surroundings that they will [illegible] for no power can gainsay public indigna[illegible] [illegible]tter homes for the bringing up of their children and the latent pride that is in their breasts will become active and exhibit itself in the better hygienic care of their children. Then as far as bodily cleanliness and disease are concerned there will be no lo[illegible] l equal and the purpose of [illegible] he department of health of [illegible]

These are not the words of a Utopian, a poet, or a public agitator, but of a medical officer written in the fulfilment of his duty as a public official. If we compare the medical inspection of the children attending the New York schools and the very successful feeding of all the children attending the schools in Paris with what prevails at home, it will have to be acknowledged that in Great Britain, and especially in London, there remains still much to be done.

MANCHESTER.

(From our own Correspondent.)

The Royal Infirmary.

At the monthly meeting of the board of management of the Manchester Royal Infirmary held recently the question of the speedy completion of the new infirmary and the giving up of the Piccadilly site to the corporation came up for consideration. A scheme had been proposed by two gentlemen for providing a temporary hospital on a site near Stanley-grove, to contain 300 beds, so as to hand over the present infirmary sooner and to obtain an earlier payment from the corporation. A subcommittee had gone over this scheme and came to the conclusion that it would involve a loss of over £20,000 and that it was not advisable to adopt it. There is a natural wish, not to say an impatient desire, both on the part of the corporation and the infirmary board, to have the whole transaction finished as soon as possible. Nowadays we rebel against space and time and endeavour to annihilate both, but a building to accommodate many hundreds must not be run up after the fashion of the jerry builders who build to sell and not to last. One prominent member of the corporation seemed to consider the building operations as dilatory, and this was emphasised in a letter from the town clerk to the board, suggesting that the latter did not appear "to give any consideration to the needs of the corporation in respect to the building operations which they had in contemplation." In answer to this a statement was sent showing that the architects were of opinion that the new infirmary would be completed in three and a half years or at the outside in four years from the putting in of the foundations. As regards the use to which the Piccadilly site should be put a new suggestion is now exciting attention. It may be remembered that a favourite scheme was that an art gallery and free library should replace the present building. But it has been growing in the minds of the members of the Manchester Exchange that, notwithstanding the fact that the place in which they congregate is said to be the largest room in Europe, they are fearfully overcrowded, that the ventilation is bad, or rather insufficient, and that the air they breathe is pestiferous, and, moreover, that the site does not allow of its being enlarged. Hence the idea has been broached that a new exchange should be built on the Piccadilly site. A good deal may be said in favour of this scheme. The site is central and commanding and its purchase would relieve the corporation and the ratepayers of a portion of their heavy financial burden. It is to be hoped that mutual forbearance will be shown by the corporation and the infirmary board and that the building of the new infirmary will progress without loss of time.

"Presence of Mind."

Much is heard to-day about degeneracy, both mental and physical, so that it is refreshing to meet with instances of courage and agility, more especially when occurring in those so seriously handicapped as the boys of a deaf and dumb school. Two or three weeks ago a teacher at the Cross Deaf and Dumb School, Preston, awoke about two in the morning and found that the boys' schoolroom on the ground floor was on fire. He roused the inmates and telephoned for the fire-brigade. Some of the smaller boys were very naturally frightened but "there was no panic and the teachers were able to keep them well in hand" till a way of escape was provided. The school engineer got through a window and to the ground by means of sheets tied together and one boy climbed down by a water spout. Ladders were brought and the boys got down one by one. In one of the dormitories there were a number of little fellows who had to climb through windows and along the roof to another room before they could descend. Very plucky little fellows they must be. "Finally, the boys were mustered, counted, and found to be all safe." The fire-brigade got the fire under but considerable damage was done. At 6 A.M. the boys were busy printing postcards to send to their friends informing them that they were safe and would be in school at 9 o'clock. This little narrative tells enough to show that there was coolness in danger of a kind to take hold of the imagination, that discipline must have been good, and that many of the smaller boys showed both courage and activity in getting through windows and along a roof. There could have been no spoken directions, none but those given by fingers or gesture, or by lip-reading; no excited shouting but a silent escape in the dead of night. This speaks well for the school except perhaps as to the arrangements for escape in case of fire. It would seem that they might be improved.

Extension at Oldham Infirmary.

The Victoria commemoration extension of the Oldham Infirmary was opened on March 24th. It provides accommodation for 43 patients and eight servants and contains operating theatres, x ray and photographic rooms, electric lifts and lighting arrangements, also an out-patient department. It has cost over £20,000, of which about £1500 are still unpaid. In formally handing over the new extension to the chairman of the governors the speaker said that "the new extension had brought up the old part of the infirmary to modern lines."

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pulmonary tuberculosis has been a failure. The latter gentleman reports that only 50 notifications were received in four years in the Knutsford, Winsford, Middlewich, and Bucklow districts, though there had been 139 deaths from pulmonary tuberculosis and there were probably 200 surviving cases.

March 28th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The General Infirmary.

IN moving the adoption of the annual report and balance-sheet of the infirmary, the treasurer, Mr. Charles Lupton, after referring to the amount of work done during the year 1904, took occasion to discuss at some length certain points in hospital management to which attention had been especially directed since the speech of the Prince of Wales at the annual meeting of King Edward's Hospital Fund. Referring to the excellent work inaugurated by Mr. Danvers Power at the National Hospital for the Paralysed and Epileptic, London, Mr. Lupton was able to assure the subscribers that nearly all the methods which had been recently adopted by that hospital with such a marked lessening of expenditure had been the methods adopted in Leeds for many years. Economy was practised wherever it was thought possible without a loss of efficiency. Mr. Lupton called attention to the fallacies underlying apparently the simplest of figures. A correspondent in the *Times* had published in tabular form some figures bearing on the finance of some of the London and provincial hospitals. In the column headed "cost per bed" the Leeds Infirmary stood at the sum of £73, while another large hospital in a northern city stood at £55. As a matter of fact, the method adopted in different hospitals of estimating the "cost per bed" varied so much as largely to discount the value of such comparisons. An examination of the figures quoted showed that 6139 in-patients and 40,113 out-patients were attended to at the Leeds Infirmary at a cost of £28,514, while in the other hospital 3144 in-patients and 20,441 out-patients were attended to at a cost of £14,939. If for purposes of comparison the figures of the second hospital were doubled throughout it would be seen that the two institutions were on pretty much the same scale as regards expenses in relation to the number of patients treated. There were many circumstances which caused the expenses of different hospitals to vary. Geographically Leeds was highly favoured, for coal and gas were cheap and the water-supply was excellent. The hospital was opened in 1868, and though its age was therefore as nothing compared with the age of many of the London hospitals they were beginning to feel the increasing cost of a building past its first youth. In repairs to the structure, in bringing sanitary appliances up to date, in painting, and in washing the expense during the last three years had been very great. Mr. Lupton referred to the discussion which had lately taken place as to the advisability of making charges to the patients for special articles of diet, such as sugar and tea or butter, and discussed the plan of charging 3*d.* a bottle for medicine which had been strongly advocated by the chairman of the London Hospital. Personally he was quite against this system, feeling sure that it would encourage an impression on the part of the patients that in paying even this small charge they were discharging all obligation to the infirmary; for, he remarked, it was no use informing a patient that the advice was worth two or three guineas and then charging 3*d.* for the bottle of medicine. In Leeds, therefore, when it was decided that a patient was a suitable person to receive hospital aid no charge was ever made but many patients made voluntary gifts and these were always gratefully received.

Smoke Abatement.

Some experiments have lately been carried out by the corporation at the electricity generating works. The principle involved is the use of a mechanical forced draught by means of one of Matthews and Yates's "Cyclone" blowers. The experiments are said to have been very satisfactory. The mention of "smoke abatement" is apt to raise a cynical smile on the countenance of the dweller in Leeds. He has heard of this before and he thinks of his white curtains at home and of the condition of his linen after a few hours' wear. It is to be hoped, however, that the corporation may succeed in lessening the production of smoke in its own departments, for this will strengthen its hands in insisting that others shall make similar efforts.

Proposed Sanatorium for the West Riding.

In spite of some opposition it is believed that the scheme for the provision of a sanatorium for the West Riding will be carried out. Provisionally a site has been secured in the parish of Chapel-le-Dale, at about an equal distance from Ribblehead and Ingleton. In freedom from smoke, in beauty of scenery, in excellence of soil, and in accessibility the site selected leaves little to be desired.

March 28th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Port Sanitary Authority.

THE annual report of the medical officer of health of the Cardiff port sanitary authority (Dr. Edward Walford) records a large amount of useful work carried out during 1904. Every vessel, foreign or coastwise, is boarded by an officer of the authority immediately upon entering the outer basin of the dock. The master or person in charge of the ship is required to fill up a form stating what port he has come from, the number of his crew and passengers, whether there has been any sickness of an infectious nature during the voyage or at the time of arrival among either crew or passengers, and the nature and the result of sickness of any kind. Hitherto this information has been obtained verbally but it is obviously an advantage to have it in writing. The six inspectors, acting under the medical officer of health, inspected 8171 vessels during 1904 and found defects in 1408. In 1903 they found 1228 vessels defective among 8072 inspected. During last year 79 vessels entered the port from places which were either infected or suspected of being infected with plague. The medical officer of health examined 2111 persons on board these ships and the names and addresses of all those who left the ships were taken and forwarded to their destination. No cases of plague or of suspected plague were brought into the port. More than 3000 rats were destroyed either by sulphurous acid gas or after being caught in traps. The Cardiff and county public health laboratory continues to assist the authority in examining samples of drinking water from vessels. In 1903 samples were examined from 66 ships and 46, or 70 per cent., were reported to be impure. In 1904, of the 87 samples examined only 56, or 64 per cent., were said to be impure.

Swansea Port Sanitary Authority.

Mr. Ebenezer Davies, the medical officer of health of the Swansea port sanitary authority, in his annual report states that 1481 defects were found in the 5286 ships inspected at Swansea during 1904. Of the total number of British ships inspected 9·4 per cent. were found with one or more defects which required to be remedied; in the case of foreign vessels this percentage was 30.

Illegitimacy in the Rhondda Valleys.

All those who have studied the housing question in the colliery districts of South Wales have deplored the custom which exists to a very large extent of taking single men as lodgers in the small dwelling houses. One of the worst features of this custom is the amount of illegitimacy which results. In the Rhondda Valleys in 1903 there were 115 illegitimate births, a number which is equal to 13·3 per 1000 of the unmarried and widowed women living in the district between the ages of 15 and 45 years, taking the census figures of 1901 as prevailing in 1903. In the whole of England and Wales during the same year the proportion was 8·4 per 1000. A par

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catarrh, induce typhoid fever or that simple gastro-intestinal disturbances predispose to it is not supported by these investigations. The percentage of deaths in 20,738 cases in 92 regiments was 7·61. The fact is dwelt on with much emphasis that typhoid organisms are found in the urine of about one-fourth of all cases and that the frequency with which it is voided, its comparative inoffensiveness, its easy dissemination, and the relatively great number of organisms present, render infected urine the most dangerous excretion of the typhoid fever patient. One immediate result of this investigation was the adoption of a system of disposal of excreta in fixed camps by means of a trough containing milk of lime and emptied by an odourless system.

The Panama Canal Mismanagement.

The report of Dr. Charles A. L. Reed, who was sent to the canal zone by the Secretary of War for the purpose of examining the operations of the Commission, shows that the chief sanitary officer, Colonel Gorgas, is so hampered in his work by the Commission as to imperil seriously the success of the enterprise. The medical profession was desirous of having Colonel Gorgas a member of the Commission in order that he might have a controlling influence upon the sanitary branch of the service. The President, however, advised that there be "one head of the medical department" and he was appointed to that position in the belief that he would have more time to devote to these duties. The result has been that in his subordinate position he has been constantly under the narrow policy adopted by the Commission and has been unable to fulfil his mission. The medical staff can carry on no work not sanctioned by the Commission and to obtain its approval requires a delay that prevents the effective use of measures. To this delay is attributed the appearance of yellow fever at Panama. Dr. Reed mentions many instances of the failure of the medical department to accomplish the reforms that it projected and concludes that very much has been done in the way of sanitation in exceedingly unfavourable circumstances; that much remains to be done which cannot be effected unless better facilities are afforded; and that very much more ought to be done and would have been done if the facilities had been properly furnished.

March 18th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Instances of Municipal Misgovernment: Proposal for Provincial Sanitary Reform.

FROM time to time I have to record the incapacity and the apathy of municipal bodies and the intervention of the Government to obtain better administration. The last defaulter is the Kumbakonam municipality in the Madras Presidency. This town is, for its population, one of the richest in the province and also one of the most important. Amongst other serious defects, neglect of sanitation, vaccination, and vital statistics figure prominently. Instead of dealing thoroughly with such a recalcitrant body—it has already had cautions—the Government merely threatens it with a paid chairman in place of an elected one. Here, surely, is a direction in which the sanitary improvement of the mofussil towns of India might be more under direct supervision and control—viz., by appointing an officer of the Indian Medical Service as chairman who could insist that such powers as were possessed by local bodies should be utilised and that the sanitary administration of the towns should be kept up to a reasonable standard. Where one municipality is disfranchised or admonished there are dozens in which all administration, and especially sanitary control, is neglected. Unless there is someone at the head of these provincial town councils to keep them up to the mark they are in danger of drifting on in an apathetic way until their administration becomes a scandal and sanitary neglect often goes on for years until some financial irregularity brings the municipality to serious notice. As a measure of sanitary reform for India the appointment of such an officer as chairman (and perhaps one officer might act for two, or even three, towns) would be a step of great value and might be made the basis of the special sanitary service for India.

The Nursing Services in the Bombay Presidency.

A scheme has been proposed for the amalgamation of the nursing services of the Bombay Presidency by forming a Western India Training Association under the control of the local government, the nurses to be trained at one and the same school and the candidates to sit at one and the same examination. The nurses would be sent from one hospital to another. The scheme does not find favour with the nurses themselves but the present system is unsatisfactory because the nurses work under different associations, each of which has its own nursing staff. The whole question is under the consideration of a special committee.

The Plague Epidemic.

The latest plague returns show again a rise after the moderate set-back of the past fortnight. For the week ending Feb. 25th 29,465 deaths were recorded throughout India, as against 27,837 for the previous seven days. The outbreak at Aden is serious. A few isolated cases occurred last November but in December 207 cases with 162 deaths were reported. In January 423 cases and 326 deaths occurred and in February the mortality has been at the rate of about 250 deaths per week, but the returns for the last week show that some improvement has begun. Considering the small population the death-rate is very high. The United Provinces return 12,213 deaths, as against 10,869 for the previous week; the Punjab, 6940, as against 6976; Bengal, 4914, against 4761; Bombay districts, 2400, against 2514; Hyderabad, 602, against 319; Rajputana, 459, against 553; Central Provinces, 403, against 424; Mysore State, 274, against 295; Madras districts, 258, against 261; Bombay city, 735, against 618; and Calcutta, 130, against 88. It is a very curious fact that the figures for Rangoon and Poona and Karachi are not included in the usual list. The disease is rapidly increasing in Calcutta and Bombay city; in the latter the death-rate is over 115 per 1000 per annum.

The Special Plague Department of Calcutta.

There is a proposal to abolish this department, chiefly on the score of expense. I hear, however, that it has been for the past two years very economically worked and that in addition to plague operations a considerable amount of other sanitary work has been given to it. It is argued that because Bombay reduced its expenditure by handing over the administration of plague to its health department Calcutta might be able to do the same. The two cases are not parallel. Calcutta has never spent much on plague while at Bombay the expenditure has been enormous. Moreover, in Calcutta the plague department has been instrumental in effecting many very valuable sanitary reforms in regard to which no attempt had been made by the health department. It is very questionable, therefore, whether the proposal will be carried through.

It is understood that Major Cleveland, I.M.S., who was deputed from Poona as medical attendant to the Amir in October last, has been obliged to arrange to return to India owing to private affairs.

March 10th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

Charge of Manslaughter against a Medical Man.

THE grand jury brought in a "no bill" in the case of Dr. Collins who had been committed on a charge of manslaughter because of his treatment of a case in the Auckland Hospital. Judge Edwards, in his charge, seemed to indicate that had he been the magistrate of the lower court he would not have committed the medical man. This case has undoubtedly occupied the attention of the public and the profession throughout New Zealand in a manner rarely seen. For some time past the relations between Dr. Collins (late medical superintendent of the Auckland Hospital) and the profession in that city have been of a very strained nature. The result was that practically all the best surgeons left the honorary staff and the vacancies were filled by men some of whom had had but a limited surgical experience. In consequence of certain allegations the Government directed that Dr. D. Macgregor, the inspector-general of hospitals, should hold an inquiry but before his report was made public a Royal Commission was appointed to inquire into the alleged mismanagement and as a result of the commissioners' report an action for manslaughter was brought against Dr. Collins. From the evidence, which is set out verbatim in the last number of the *New Zealand Medical Journal*, it would appear that a steward of one of the coasting boats was taken to the Auckland Hospital. He complained of pain over the left lower part of the abdomen. Dr. Collins diagnosed appendicitis and opened over that organ, only to find that it was quite normal. Dr. Neill, one of the honorary staff, swore that he urged Dr. Collins to make a median incision because in his opinion it could not be appendicitis. A median incision was made and the bowel was examined but no rupture was found. Two pieces of fæcal matter were found and, according to the evidence, Dr. Collins made two incisions in the bowel and removed these fæcal masses, which were of "about the size of a walnut." The whole charge of "accelerating the death of the patient" was based upon these incisions. The operation was then proceeded with and two ulcers in the upper part of the stomach were said to have been discovered and stitched up. Further examination revealed a ruptured duodenal ulcer which was stitched up. The operation occupied about one and a half hours. The patient died soon after his removal from the table. At the departmental inquiry held by Dr. Macgregor four of the honorary staff swore that they saw the ulcers in the stomach. An order for exhumation was issued by the Colonial Secretary, when it was found that as a matter of fact the stomach was quite healthy and that the only lesion other than those made by the surgeon was the ruptured ulcer in the duodenum. It is a matter for great regret that the whole thing had not been thrashed out in the Medical Association, although at the same time it is quite evident that some power should be given to the inspector-general to step in and to check indiscriminate and unskilful operative work if such obtains in any hospital. Doubtless it might be awkward if all surgeons had to stand the same searchlight examination which Dr. Collins underwent and although the profession generally has suffered discredit there can be no doubt that the inquiry and the trial have made for the better management of our hospitals.

Sanatorium for Consumption.

His Excellency the Governor, accompanied by Lady Plunket, the Hon. Sir J. G. Ward (Minister of Public Health), and Dr. J. M. Mason, chief health officer of the colony, recently inspected the Te Waihato Sanatorium for the Treatment of Consumption. The institution is capable of [illegible] and is really one of the best of [illegible]. It is situated on a range of hills in one of the most salubrious parts of the North Island. There are 1000 acres of land much of which is covered with native bush. The shelters are most artistic and of the latest pattern. The whole place is lighted by the electric light. Already some very good results have been obtained. It is managed entirely by the Government and there is a limited accommodation for paying patients.

Patent Medicines.

The new regulations issued by the health department, requiring that all "patent medicines" must have the formulæ set out on the label, have caused quite a commotion amongst those who live on the credulity of the public. In deference to the pressure brought to bear by the newspapers and quacks generally the regulations have been modified. It is now required that the formulæ should be deposited with the Minister of Public Health and that all mixtures containing poison must have the words "this contains poison" set out in gothic type on the label. There is no doubt that this is a very decided step in the right direction.

Private Hospitals.

[illegible] all private hospitals to be lic[illegible] have already eliminated ma[illegible] Another year or so and New Zealand may fairly claim that the *rich* as well as the *poor* will have equal chances of recovery.

Feb. 10th.

PRESENTATION TO A MEDICAL MAN.—At a meeting held at the Church Missionary Society Hall, Bristol, on March 23rd, under the presidency of Colonel H. B. Savile, C.B., Dr. J. H. Loch was presented with a roll-top desk, a chair, a typewriter, and an illuminated album containing the names of 300 subscribers. The album bore the inscription, "Presented to Deputy-Surgeon-General J. H. Loch, M.D. (Indian Medical Service, retired) in grateful recognition of his earnest and self-denying labours for the past 12 years as honorary lay secretary of the Bristol Church Missionary Association."

Obituary.

MAURICE GRIFFITH EVANS, M.D. ABERD., L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

Dr. Maurice Evans of The Mount, Caerphilly, Glamorganshire, who died recently in his seventy-third year, was the son of a former vicar of Llangolman, Pembrokeshire. After serving an apprenticeship to his uncle the late Dr. Phillips of Newcastle-Emlyn he became a student at Guy's Hospital and took the diplomas of M.R.C.S. Eng. and L.S.A. in 1853. In 1859 he graduated as M.D. at King's College, Aberdeen, and was admitted a Licentiate of the Royal College of Physicians of London in 1872. Some 45 years ago he commenced to practise at Narberth in Pembrokeshire where he took a leading part in all public and philanthropic movements and especially interested himself in the work of the Royal Society for the Prevention of Cruelty to Animals. While at Narberth he contributed two articles to THE LANCET; one in 1859 on cases of retention of urine due to retroversion of the uterus and one in 1869 on nicotine poisoning. About 30 years ago he removed from Narberth to Cardiff where he had an extensive practice. In 1881 and 1882 he was president of the Cardiff Medical Society. About ten years ago he retired from professional work and went to live at Caerphilly. He was a life-long abstainer and took much interest in Church work, being a lay elector for the Llandaff Diocesan Conference. At the funeral, which took place on March 20th, there was a large attendance, including many ministers of religion of various denominations, medical men, magistrates, and others. The procession was headed by the officials and members of the Eisteddfod committee and each wore a white bow in respect of the useful and long association of the deceased with the annual festival. The service, which was fully choral, was conducted by the Rev. Connop L. Price, rector of Caerphilly, the Rev. J. Williams, vicar of Trallong, and the Rev. M. L. Evans of Aldershot. At the graveside a very impressive Welsh service was conducted by the Rev. D. Griffiths of Brynmawr and the rector of Caerphilly, and preceding the benediction the well-known hymn, "O Fryniau Caersalem," &c., was sung by the assembly to the tune of "Crugybar."

AUGUSTUS DAVID MARTIN TALBOTT, M.R.C.S. ENG., L.S.A.

Mr. A. D. M. Talbott died suddenly at his residence, 14, Richmond Hill, Clifton, Bristol, on March 23rd, in his seventy-fourth year. The deceased, who received his medical education at St. George's Hospital, became qualified as M.R.C.S. Eng., L.S.A., in 1852 and 1853 respectively. Mr. Talbott had been for many years in practice at Clifton and continued his professional work until within a few days of his death. He had been for 40 years the honorary local secretary of the Royal Humane Society and took the greatest interest in the work of the society; he had also been very energetic in introducing the teaching of swimming in the Bristol elementary schools. Mr. Talbott will be much missed and sincerely regretted in Clifton and Bristol. He leaves a widow but no children.

Medical News.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in the Faculty of Medicine in March the following candidates were successful:—

FINAL EXAMINATION.

[illegible] Harris Jones, A. W. [illegible] t, J. B. [illegible] I, Hey, [illegible] James [illegible] d J. S. Young.

* With honours.

SECOND EXAMINATION.

A. Anatomy and Physiology.—J. W. Bride, G. W. Bury, Harold [illegible] Frederick Hall, Frank Coppock, D. J. [illegible] Alice Hartley, Robert [illegible] Rodger, Oberdorfer, George [illegible] J. V. Elsie M. Royle, [illegible]

Steward, T. W. Todd, F. D. Walker, G. B. Warburton, and Henry Whitehead.

B. Materia Medica and Pharmacy.—T. E. Dickinson, W. P. Moffet, and Samuel Rawlinson.

WE have been asked to remind our readers that the dinner to be given on Wednesday, April 5th, to Mr. W. Johnson Smith by the medical staff of the Seamen's Hospital Society will take place at the Trocadéro Restaurant at 7.30 P.M. Dinner tickets can be obtained at the offices of the Seamen's Hospital Society, 13A, Cockspur-street, London, S.W.

RUSSIA INVITES FOREIGN MEDICAL AID.—According to the *Novoe Vremya*, the large number of medical men called up for military service has made numerous vacancies in public institutions, &c., which it has been found impossible to fill up from amongst Russian citizens and the Medical Council has had to consider the question of admitting medical practitioners with foreign diplomas to practise in Russia. The decision is in favour of the measure, the chief reason for which is the need for dealing with a possible invasion of cholera. Foreign medical men desiring to practise in Russia should be well acquainted with the Russian language and should be able to show that they have already served in some medical establishment for at least two years.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.—The sixth annual general meeting of the National Association for the Prevention of Consumption was held on March 23rd, at 20, Hanover-square, London, W. The chairman, Lord Derby, in moving the adoption of the report, said that he hoped that the association and its work would be brought prominently before the City at a meeting to be held at the Mansion House on May 17th. Provision should be made, he thought, for advanced cases of pulmonary tuberculosis and for cases beyond recovery. Dr. Nathan Raw, who seconded the motion, said that treatment of advanced cases in sanatoriums had caused scepticism as to the utility of these institutions in the minds of some people but it should be remembered that the sanatorium could only be expected to confer benefits on those patients in the early stages of the disease who were also otherwise suitable cases for treatment. Dr. L. A. Weatherly supported the motion which was carried. Sir William Broadbent proposed—

> That in the interest of the public health it is necessary that consumption and tuberculous disease generally in the metropolis should be dealt with in a comprehensive manner and that this will be done most efficiently by the Metropolitan Asylums Board constituting itself the sanatorium authority for consumption in London.

Dr. C. Theodore Williams seconded the motion which was adopted. On the motion of Mr. Malcolm Morris, seconded by Dr. H. Mackenzie, the auditors and the honorary secretary (Dr. J. J. Perkins) were re-elected and the meeting closed with the usual courtesies to the chairman.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board met on March 23rd at 6, Suffolk-street, Pall Mall, S.W., Dr. F. H. Champneys being in the chair. The re-election of Dr. Champneys as the representative of the Royal College of Physicians of London, of Dr. J. Ward Cousins as the representative of the Royal College of Surgeons of England, and of Mr. E. Parker Young as the representative of the Society of Apothecaries was notified. It was announced that Dr. W. R. Dakin had been elected as the representative of the Incorporated Midwives Institute. The Board was informed by the clerk of the county council of the West Riding of a resolution of the county council suggesting the reduction of the certificate fee to 2*s.* 6*d.* or some less sum. This was discussed and it was agreed that no action should be taken in the matter. The Board then considered a letter from Dr. J. McLiesh asking the Board to reconsider its decision not to recognise the certificate of the Belfast Union Maternity Hospital as an approved qualification under Section 2 of the Midwives Act. The Board decided that no action should be taken in the matter. A letter was read from the President of the Liverpool Ladies Charity and Lying-in Hospital asking the Board to constitute Liverpool an examination centre and a letter was also read from Dr. H. Briggs, professor of midwifery in the University of Liverpool, forwarding a memorial to the same effect signed by certain medical officers of health and other members of the medical profession in Liverpool and the adjoining districts. This request was not acceded to by the Board. The Board then considered a letter from Mr. E. Sergeant, medical officer of health of Lancashire. By the rules of the Board "a midwife must decline to attend alone and must advise that a registered medical practitioner be sent for ...... in the case of lying-in women ...... upon the occurrence of" a "rise of temperature above 100·4° F. with quickening of the pulse for more than 24 hours," and it appeared, according to the inspectors of Mr. Sergeant, that some midwives were ignorant of the use of the clinical thermometer. The opinion of the Board was that the women should be instructed and their attention called to the rules. It was announced that the total number of midwives on the roll amounted to 18,231 The Board adjourned to April 27th.

DONATIONS AND BEQUESTS.—Under the will of Mr. Richard Cadbury the following hospitals will receive legacies—viz., the Temperance Hospital, London, £10,000; Birmingham General Hospital, £5000; Birmingham Eye Hospital, £5000; Birmingham Ear and Throat Hospital, £2500; and Birmingham Orthopædic Hospital, £2500.—Mr. Alexander Fry has by his will left £500 to Charing Cross Hospital and £500 to the Royal Hospital for Incurables.—By the will of the Rev. Thomas Hulme the sum of nearly £16,000 will be divided between the Sheffield Royal Hospital and the Sheffield Royal Infirmary.—The Royal Halifax Infirmary will benefit by the sum of £1000 under the will of Mr. Edward Crossley.—Under the will of Miss C. Squire, Gloucester-terrace, Hyde Park, the Westminster General Dispensary receives a legacy of £200 free of duty.

UNIVERSITY OF LONDON.—A meeting of the Faculty of Medicine was held at the University, South Kensington, on March 24th. Dr. J. K. Fowler, the Dean, occupied the chair and there were 63 members present. Dr. Lauriston E. Shaw was elected to represent the faculty on the Senate for four years from May next in place of Sir E. Cooper Perry, whose period of office will come to an end on that date. A vote of thanks was given to Sir Cooper Perry for his services as Senator during the past four years. The Dean announced that Mr. Alfred Beit had promised to increase his donation towards the fund for building and endowing a University Institute of Medical Sciences from £5000 to £25,000. A vote of thanks to Mr. Beit was carried by acclamation. The faculty approved of a proposal that on the occasion of the return visit of British physicians and surgeons to Paris in May next, the Dean of the Faculty of Medicine should take some special steps to do honour to the memory of Pasteur. It was resolved that in the opinion of the faculty it was advisable that pass lists of Bachelors' degrees should be issued in alphabetical order and without classification. It was resolved that it was desirable that members of boards of studies associated with the Faculty of Medicine should retire in accordance with some definite plan and a committee was appointed to prepare a plan and to submit it for the approval of the faculty.—The council of King's College has elected Dr. Peter Thompson as Professor of Anatomy and Professor Arthur Dendy, D.Sc., of the South African College, Cape Town, as Professor of Zoology.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.—The annual general meeting of the members of the Medical Graduates' College and Polyclinic was held at the College, 22, Chenies-street, London, W.C., on March 25th, Dr. Theodore Williams being in the chair. In proposing the adoption of the annual report of the council the chairman said that it showed that the Polyclinic was progressing, on the whole, very favourably. The institution was increasing its sphere of usefulness and the number of members was greater than before. The attendance at the lectures, demonstrations, and practical classes had not in any way lessened. He drew the attention of the members of the profession to the fact that the examination of specimens of sputum and analyses of different kinds were undertaken at the laboratory of the Polyclinic. Some of the very best teachers in the medical profession lectured at the Polyclinic and the council and the members of the institution were much obliged to them. He congratulated the members on the fact that the balance-sheet showed that the Polyclinic had been able to pay its way and to save a little money. Mr. James Berry, in seconding the adoption of the report, said that that was the first year since the College had been founded in which the expenditure and the income had balanced. As treasurer he had to admit that the financial condition was satisfactory but still he wanted more money. He praised the medical superintendent, Captain A. E. H. Pinch, for the successful financial result. The motion for the adoption of the report was carried unanimously.

Mr. Edward Roberts of Oakfield, Hale, one of the honorary surgeons to the Manchester Royal Eye Hospital, has been appointed High Sheriff for the ensuing year for his native county of Cardigan.

A LECTURE entitled, "The Bible in the Light of Modern Science," will be delivered by Mr. William Woods Smyth, at the Stafford Rooms, Edgware-road, London, W., on Friday next, April 7th. The chair will be taken by Sir William Broadbent at 5 o'clock.

THE GARCIA CENTENARY.—The *Musical Times* for April contains a very full and most interesting account of the Garcia Centenary, with illustrations. There are a portrait of Manuel Vicente Garcia, the father of Manuel Garcia, the illustrious maestro whose 100th birthday occurred so recently, a reproduction of the well-known portrait by Chalon of Maria Garcia (Madame Malibran), a reproduction of a daguerreotype taken in 1848 of Jenny Lind, Garcia's most famous pupil, a reproduction of a sketch by Doyle of Hallé and Garcia playing chess, Manuel Garcia as he was 50 years back at the time of the invention of the laryngoscope, and lastly, a special reproduction on plate paper of the recently painted portrait by Sargent. A short account of Garcia's career is given as also a full description of the centenary celebrations. Among the other articles we are glad to see one calling attention to the beauties of Bach's choral preludes. Why is it that these wonderful compositions are so seldom played?

THE STANDARDISATION OF DRUGS.—Messrs. Evans, Gadd, and Co., of Exeter, in the most recent edition of their price list for medical men, have included a short introductory essay on the Standardisation of Drugs, explaining their methods. When the chief active ingredient of a drug is known and can be readily isolated an estimation of it gives approximately the value of the drug, but in the case of some of the most important drugs the cause of their undoubted activity cannot be traced to any definite constituent and the drug can only be standardised by physiological tests. For example, ergot is tested as to its ecbolic efficiency by experiments on pregnant guinea-pigs and the cardiac tonics, digitalis, strophanthus, and squill, can only be effectively tested by their action on the living heart of the frog, and Messrs. Evans, Gadd, and Co. state that the preparations which they offer have been so tried.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Pharmacy Bill.

FOUR Members—Mr. BATTY LANGLEY, Mr. ALEXANDER CROSS, Mr. JAMES BAILEY, and Sir MARK STEWART—have given notice to move the rejection of the Pharmacy Bill when it comes on for second reading.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 22ND.

The Home Office and the Vaccination Act.

Mr. WEIR asked the Secret[illegible]
whether in view of the fact [illegible]
[illegible]
orm of a return
on the subject

The Prime Minister and the Conscientious Objector.

Mr WEIR asked the First Lord of the Treasury whether he was [illegible]
I never heard
that any objection felt by candidates to being vaccinated themselves would constitute conscientious objection. The conscientious objection is to the vaccination of their children.

The Physical Condition of School Children.

[illegible]
Education was powerless to provide for the feeding of children in the elementary schools. When the Board was charged with being slack in carrying out the recommendations of this committee he must remind the House that the report was issued only last July and that throughout the autumn he had been inquiring of persons with a practical [illegible]
n which
be dealt
meals for
ildren to
have their meals regularly at school must have disastrous results What it was necessary to get at was the extent of the evil and the proper remedy It would not be fair to attack the department for negligence in a matter of such pathetic importance when the essential facts were not known and when a false step must have such serious consequences.

THURSDAY, MARCH 23RD.

Vaccination Prosecution.

Mr. PHILIP STANHOPE asked the Home Secretary whether his attention had been called to the case of Jabez Wilson Harrison of Burgh le Marsh, Lincolnshire, who had already suffered two months' imprisonment impc [illegible] by the magistrates of Spilsby and
Boston and who was [illegible] of
a month inf [illegible]
consequence [illegible]
and the refus [illegible]
tion; and wl [illegible]
attention of [illegible]
and intentio [illegible]
objectors—M [illegible]
[illegible] which I gave to the honourable member for [illegible]
is in each case one for the discretion of the magistrates, with which I have no power to interfere" I regret that I do not feel justified in advising any remission of the sentence.

The Viewing of Bodies at Inquests.

Mr. KEIR HARDIE asked the Home Secretary whether his attention had been called to the remarks of Mr. Coroner Graham,
of Consett, anent th [illegible] practice
of compelling juries t [illegible] ts were
being held; and wheth [illegible] putting
an end to this practi [illegible] tention
had not been called t [illegible] read a
newspaper report of th [illegible] as good
enough to send me [illegible] ble the
practice to be disconti [illegible] fer the
honourable Member to the answers given by my predecessor on Feb. 22nd and March 29th, 1900, to the effect that there was no such decided preponderance of expert opinion in favour of any definite change in the law as would afford a reason for proposing legislation of the kind suggested.

[illegible]

trains and begging scraps from the men; and, if so, what immediate steps he proposed to suggest in order that the needs of these children might be so attended to that they might be in a position to profit by the instruction offered to them.—Sir WILLIAM ANSON answered: I have read the evidence to which the honourable Member refers but I think he will agree with me that in so serious a matter statements made to a
a lady, who communicated them
erioration would hardly furnish an
action. I may add that I have
of the practice referred to and my
informants have added that it by no means follows that the children thus supplied cannot be fed at home.—Dr. MACNAMARA: Having regard to the fact that this lady is an official of the department, may I ask whether the honourable gentleman has any doubt as to the truth of her statements?—Sir WILLIAM ANSON replied: No, sir, none whatever.

Dr. MACNAMARA further asked whe
agraph
lorsing
Trainir
sirable that the preparation and cooking
of meals for underfed school children ought to be regarded as one of the charges incident to school management; and whether he was in a position to assist the putting of this recommendation into practical effect.—Sir WILLIAM ANSON said: My inquiries on this subject have led me to believe that the wisdom of preparing and cooking meals on the school premises as a mode of dealing with those cases in which children need to be provided with food elsewhere than at home is seriously open to question.

MONDAY, MARCH 27TH.

The Physical Condition of School Children.

Sir JOHN GORST asked the Secretary to the Board of Education

Royal Commission on Physical Training and the Departmental Committee on Physical Deterioration will be laid before the new committee referred to. The terms of reference sufficiently indicate the character of the fresh evidence which that committee is intended to take and the consideration of the report of the Committee on Physical Deterioration will only be suspended in respect of the matters included under that reference. I cannot say whether a report will be made before the end of the session.

Sir JOHN GORST also asked the Secretary to the Board of Education whether the Board of Education would address a circular to local education authorities advising them to instruct the managers and teachers of public elementary schools to refer the case of children attending their schools, hungry and destitute and unable from affliction to profit by the instruction provided, to the proper Poor-law authorities for relief.—Sir WILLIAM ANSON said: Such a circular as is proposed could not properly be issued by the Board of Education without the concurrence of the Local Government Board. I will consider the matter.

Sir JOHN GORST asked the President of the Local Government Board whether he would address a circular to the local Poor law authorities pointing out the duties of relieving officers in reference to giving medical and other relief to destitute children irrespective of the conduct and character of their parents, and whether the Local Government Board would suggest that in case of relief in kind given to destitute children part of such relief should be in the form of milk.—Mr. GERALD BALFOUR said: My reply to the question of my right honourable friend must be to the same effect as that which I gave on the 17th inst. to a somewhat similar question put to me by the honourable Member for the Ilkeston Division. I am not aware of any reason for supposing that boards of guardians and their officers are not alive to the powers and duties which attach to them in relation to destitute children, where application is made to them for relief. With regard to the latter part of the question I think that boards of guardians may be trusted to use their discretion as to the giving of milk as outdoor relief to destitute children. The Local Government Board called the attention of its inspectors to the subject last year. It does not appear to me to be necessary to issue a circular as suggested.

Later in the day a discussion arose on the same subject, an opportunity being afforded on the second reading of the Consolidated Fund Bill.

Dr. MACNAMARA said that the real practical education difficulty was not the religious question but how they were to deal adequately with the needs of the physically unfit.
ther have a
well set-up, well clothed, well-fe
nan than a
rickety, weak-kneed, weak-chested
vice versâ.
Two things must be done. First in the very poor slum schools the children must be kept under permanent medical supervision. There were at present in London three or four medical officers whose services were utilised, but if the needs of London were looked after like those of Brussels there would be about 100 medical officers so employed. Secondly, the canteen scholar system of Paris must be adopted. It was a perfectly simple system partly maintained by voluntary subscriptions, partly by payments made by the parents, and partly by a grant made by the State. Under such a system in slum areas schools would be linked together, four or five in each group, and for each group there would be a central dining hall. The parents would obtain dinner coupons; if they could pay they would do so; if not they would get them gratuitously.

Sir JOHN GORST said that the number of children sacrificed to the Moloch of industry owing to the unfavourable conditions before and after birth induced by the mothers working in factories was enormous. In Lambeth the other day about two dozen cases of starving children whose condition was vouched for by a medical officer were reported to the Board of Education. The board of guardians when asked to relieve the children passed a resolution wh
desired but it had been reported t
been relieved. There would be no
bringing about medical examinatio
necessary was to put a clause in the Code to the effect that after a certain date no grant would be paid to any public elementary school unless there was a satisfactory system of medical inspection approved by the Boar

Dr. C. T.
without foo
for him. I
impossible f
work. He admitted the necessity for inquiries but they should do something in the meantime to prevent the physical deterioration arising from that early malnutrition which engendered a desire for stimulants and increased the number of unemployed and unemployable.

Sir WALTER FOSTER said he the
the
Board of Education to encourage
the
schools. Medical relief was not
why
should the feeding of children at school? On the recommendation of the teacher the children of destitute parents might be fed, the relief being given as medical relief was now given, on loan. The cost could be recovered from the parents where they were capable of paying.

Sir WILLIAM ANSON, in the course of his reply, said that the suggestion that the Poor-law authority in areas where distress was known to prevail should provide the meals on proper evidence and that the
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into
with the President
of th
t was possible to
orgai
ren were not left
desti
er districts of the
large
It with neglected
child
underfeeding? It
coul
by raising money
from the rates or by voluntary effort.

Dr. HUTCHINSON: Or by all three.

Sir WILLIAM ANSON said he would not be prepared to make any suggestion as to grants from the Exchequer; and as to the rates he thought there was great force in the observation that it would be a hardship on the poor ratepayer to provide meals for a fellow citizen one degree poorer than himself. All he could do was to undertake that as far as administration went he would see what could be done to instruct local authorities to organise voluntary efforts.

Plague in India.

Mr. HERBERT ROBERTS asked the Secretary of State for India whether he would give the latest figures as to the number of deaths from plague and small-pox in India; whether he would state the number of deaths from plague since Jan. 1st, 1905; and whether he was in a position to make a statement as to what special steps the Government of India was taking to reduce the rate of mortality and to prevent the spread of the disease.—Mr. BRODRICK said: I am unable to give figures regarding deaths from small-pox as they are not specially returned to me. For plague the latest received figures are for the month of February—namely, 126,041 deaths. The total number of deaths from plague since Jan. 1st up to the end of February is 252,567. I have been in communication with the Viceroy as to whether more can be done to remedy the present deplorable loss of life. It has been decided to s
ition to make a thorough investi-
gation into
plague. The Royal Society and
the Lister
the direction of the inquiry and
arrangements for starting it at once have been made.

Mr. SCHWANN asked whether plague had not something to do with want of food owing to the enormous burdens placed upon the Indian people.—Mr. BRODRICK said: We have no evidence to that effect. It is almost impossible to trace any special cause for the increase in the number of deaths but there is one satisfactory feature which is that the number of infected areas has not increased.

Irish Guardians and Medical Appliances.

Mr. O'SHEE asked the Chief Secretary to the Lord Lieutenant of Ireland whether the Lismore board of guardians had by resolution requested the Local Government Board for Ireland, in view of the efforts now being made for the promotion of Irish industries and manufactures, to authorise them to entertain only tenders received from bonâ-fide Irish manufacturing firms for medicines and medical and surgical appliances; and, if so, whether the Local Government Board would give the Lism
ther public bodies
desiring to follow the sam
in the case of all
articles manufactured in
firms sufficient to
insure adequate competiti
ld make inquiries
of the President of the
d for England to
ascertain whether this principle was adopted by a considerable number of boards of guardians in England.—Mr. LONG replied: The duty of the board of guardians in the exercise of their public trust is to have due regard to economy and to obtain the best return possible for the money of the ratepayers whom they represent. The Local Government Board has no power to enlarge or to curtail the responsibility of the guardians in this respect. The English Local Government Board has no knowledge that the method suggested is adopted in this country.

Laboratory Work at Birmingham.

Mr. LEIF JONES asked the Chancellor of the Exchequer whether he was aware that the School of Brewing in connexion with the University of Birmingham had not fulfilled the expectations of its founders; that to provide against the closing of the school a professional laboratory, in competition with private analysts, was to be established for the purpose of analysing brewers' samples; that it was proposed to advertise the existence of the laboratory to the brewing trade generally; and that the local brewers, in consideration of having guaranteed a sum toward the maintenance of the school, were to have their analytical work done at the school laboratory free of cost to the extent of their respective guarantees; and whether he would take steps to prevent an institution supported partly out of public funds being th
with private professional analysts.—Mr. A
I am informed that the School of Brewing
expectations of its founders and is now in a
w
C
ds
Government grant has been used in founding or carrying on the

school. The scientific work done in the school is the subject of a complimentary reference from the gentleman who carried out the last

for any Treasury interference.

TUESDAY, MARCH 28TH.

Typhoid Fever at Malta.

Sir JOHN COLOMB asked the Secretary to the Admiralty whether during the year 1904 there were many cases of typhoid fever in His Majesty's ships resorting to Malta Harbour.—Mr PRETYMAN replied: In H.M.S *Venerable* there were 17 cases of typhoid fever, four ending fatally, in H.M.S *Montagu* six cases and one death, and in H.M.S. *Arrogant* four cases and one death As such questions and answers give rise to misapprehension I think it desirable to add that the outbreaks of typhoid fever in these ships were not due to the Malta water supply. The disease was contracted during the visits of these ships to other Mediterranean ports

Medical Officers of Health and Private Practice

Mr. WEIR asked the Lord Advocate whether he would state the names of the six counties in Scotland where the medical officers of health engaged in general or consultative practice; and whether

ficers to give their whole time

appointments were made.—The

the counties are Bute, Forfar,

ss and Cromarty. Since 1901 it

lpation in the sanitary officers'

not engage in general private

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRISCOE, WILLIAM THOMAS, M.D, M Ch Dub, has been re-appointed Medical Officer of Health by the Chippenham Rural District Council

CULMER J J, M R C S Eng, L R C P. Lond, has been appointed Resident Surgeon Superintendent of the New Providence Asylum, Nassau, Bahamas

CUNLIFFE, T. V, M D, B S Lond, has been appointed Honorary Pathologist to the Oldham Infirmary

GAI

GRA

GRILLS G. HAMILTON, B Ch, M D, has been appointed Senior Medical Officer of the Chester County Asylum, Chester.

MEADOWS, ROBERT THORNTON, M D, C.M Edin, D P.H Eng, has been appointed Medical Officer of Health to the St. Germans (Cornwall)

SHARI, HUGH

been appointed

Authority.

een re appointed

Somerset) Urban

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon

ORKHOUSE, AND SANATORIUM.—

er. Salary £120 per annum, with

sistant Surgeons

Assistant Medical

quarters, attendance.

CHELTENHAM GENERAL HOSPITAL—Junior House Surgeon, unmarried Salary £60 per annum

Victoria-

COUNTY OF LONDON EVENING SCHOOLS—Lecturers and Examiners in First Aid, Home Nursing, and Health. Fee one guinea per lecture

EAS

EDI

GAI

with board, lodging, and washing

GERMAN HOSPITAL, Dalston, N.E—Honorary Assistant Physician

GLOUCESTER, CITY AND PORT OF.—Medical Officer of Health. Salary £250 per annum.

sistant Medical Officer

with board, lodging,

Surgeon, unmarried.

nts, and washing.

HE CHEST, Brompton

Honorarium of £25

HULL ROYAL INFIRMARY.—Honorary Assistant Surgeon

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Two House Surgeons Salaries—Senior, £100; Junior, £75 per annum, each with residence, board, and washing

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Second House Surgeon, unmarried Salary £80 per annum, with board, lodging, and washing

LIVERPOOL WORKHOUSE, Brownlow hill.—Assistant Medical Officer, unmarried Salary £100 per annum

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST—Assistant Medical Officer for the new Crossley Sanatorium, Delamere Forest, Cheshire. Salary £50 per

MA

Surgeon, as.

Salary at the

th board and

ROY

uare, W.C.—

Stipend £100

ROY

Physician and

lodging, and

and Female

House Surgeon for six months Board, lodging, and washing provided Also Assistant Anæsthetist for six months

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E C.—Clinical Assistants.

ST. HELENS, HASTINGS, FAIRLIGHT HALL CONVALESCENT HOME.—

thalmic Surgeon

WEST BROMWICH DISTRICT HOSPITAL—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WILLESDEN ISOLATION HOSPITAL.—Resident Assistant Medical Officer, unmarried Salary £125 per annum, rising to £200 per annum, with board, washing and lodging.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Surgeon, unmarried Salary £65 per annum, rising to £75, with board, residence, &c.

YORK DISPENSARY—Resident Medical Officer, unmarried Salary £120 a year, with board, lodging, and attendance

Births, Marriages, and Deaths.

BIRTHS.

BOWLE EVANS—On March 25th at Abbottabad, India, the wife of Captain C H Bowle Evans I M S, of a daughter

FAWSSETT—On March 23rd, at Fore-street, Edmonton, N, the wife of Frank W. Fawssett, M B, of a daughter

FIELDING—On March 21st at Aberfoyle, Avondale-road, Croydon, the wife of A Leslie Fielding, L R C P. & S Edin, L F.P. & S. Glasg,

KEN

PAR

Eng, L R.C P Lond, of a daughter.

MARRIAGE.

HODGSON—REED—On March 25th, at Christ Church, Streatham, Stanley Hodgson, M D, B S Lond, M R C S, L R C.P., to Lucie, youngest daughter of the late James Reed, Adelaide, South Australia.

DEATHS

Lewis

S W.,

Acle,

enant-

ged 63

years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE OPHTHALMIC OPTICIAN.

A correspondent has forwarded to us a card which was dropped into his letter box. The card emanates from a firm of opticians named Robinson and Co. who live in Bishopsgate and Messrs. Robinson keep an "optologist" who bears the singularly inappropriate name, for one who deals with the sight, of Moles. Mr. Moles states that he holds diplomas by examination from the British Optical Association and from the Worshipful Company of Spectacle Makers. Messrs. Robinson profess, we presume through Mr. Moles, to relieve various errors of refraction and also sore eyes or watery eyes. They say: "Our system of sight testing is thorough and we can detect the cause of the eye trouble or the slightest defect of vision." Though it may be that an "optologist" can detect and even relieve simple cases of errors of refraction, there are many cases of eye trouble which are dependent upon other causes, and Messrs. Robinson and Moles are quite capable of doing irreparable damage by preventing persons affected by, say, glaucoma in an early stage, from seeking proper medical advice. They would be well advised to stick to their proper occupation of making optical instruments.

THE LORD OF THE MANOR'S HERIOT AT AN INQUEST.

To the Editors of The Lancet.

Sirs,—On reading some old letters from an ancestor of mine I came across a curious circumstance in connexion with an inquest which is interesting, although no doubt familiar to those acquainted with the history of legal matters. One dated April 20th, 1794, from a father in Westmorland to a son in London, relates how "Your brother Joseph rec'd a blow last Tuesday over his bowels by one of his own Horses, and being in excrutiating pain till Sunday morning, at Eight o'clock, he then expired. We had two doctors to attend him but all in vain. ......" The next, dated May 4th, 1794, relates "In my last I gave an account of your Bro' death; which was the same day I wrote unto you. It was attended with very unpleasing circumstances which I shall relate as follows. Sunday morning near Eight o'clock he Died, on Monday we had a report that the Coroner would take an Inquest on the Body, which accordingly on Tuesday (that being the day of his Burial) he, together with the Jury, did the same. They then brought in the Stagg to be a forfiture due to Lord Lonsdale, but the Jury brought in the unlucky Beast in Value as low as Three pounds, thinking that sum would be a compencation to his Lordship: but, alas! it proved altogether abortive, for the next day, being Wednesday, early in the morning, A. Medcalf, being his Baylif, came and made a demand of the stagg which we imediately deliver'd up. I then was resolved to write a letter to his Lordship Last Monday Morning. I sent the letter with your Bro. John and Cousin Thos Scarborough; they waited for an Answer from his Lordship till Wednesday at Twelve o'clock at night: when to their great surprise his Answer was that If they pleas'd they might take the stagg again by giving him the small trifle of Two guineas, and seemed quite happy if he could please his friends with such a small favour, as he called it ......" Apparently it was the custom in those times in cases of inquests for the relatives to pay a forfeit to the lord of the manor. *The* stag is written as if that were the special penalty where such was available.

I am, Sirs, yours faithfully,

City-road, E.C., March 20th, 1905. J. J. Udale.

⁂ "The stag" was chosen as a heriot in this case probably because no more valuable animal was available, unless the whole proceeding depended on some local legal formality of which we have no record.—Ed. L.

DOVER AS A HEALTH RESORT.

To the Editors of The Lancet.

Sirs,—Could any of your readers give me any information about Dover as a health resort? Could they also inform me whether the medical officer of health issues a yearly statement of the health and statistics of the borough of Dover; if so, where it is to be had; the source of the water-supply and the rainfall, and whether it is a desirable place residentially. I have endeavoured to get the medical officer of health's report but have failed so far.

I am, Sirs, yours faithfully,

March 26th, 1905. Paddington.

FIREMEN'S SMOKE HELMETS.

In its engineering supplement the *Times* of March 29th mentions that the Manchester Fire Brigade is now in possession of a few specimens of a new "smoke outfit," which it is expected will be very useful to the firemen when working in presence of dense smoke or noxious fumes. A helmet having a glass door in front is fastened round the neck by means of a cloth attachment and when the door is closed the dangerous atmosphere is effectually excluded from the fireman's head and face. A flexible metal tube supplies him with air which is pumped from a special steam engine. Electricity is als supplied for a telephone fixed in the helmet to enable its wearer t communicate with the outside and for the electric lights which th fireman equipped with the outfit will carry.

FLANNELETTE.

To the Editors of The Lancet.

Sirs,—I must apologise to "A Surgeon" for not having immediatel replied to his letter of Feb. 25th but the fact is I managed somehow t overlook it and only to-day, in turning over the back numbers, have I come upon his short but very interesting note. If he (or anyone els interested in the matter) will send his address to the patentees o "Non-Flam" (Aytoun-street, Manchester) they will be happy to giv him information as to where he can obtain the cheaper makes of thei non-inflammable flannelette and also to answer any other inquirie which he may make about it.—I am, Sirs, yours faithfully,

Castleton, Lancs., March 27th, 1905. S. Bradbury.

SANATORIUMS.

To the Editors of The Lancet.

Sirs,—I should be glad if any of your readers would be good enough to inform me if it be possible to obtain a complete list of sanatoriums in this country for the treatment of phthisis.

I am, Sirs, yours faithfully,

March 27th, 1905. D.P.H.

L.R.C.P.—We think from what our correspondent tells us that the General Medical Council might well have taken notice of the unprofessional procedure. There is, we fear, no other tribunal before which the offender can be brought.

H. H. Toronto.—The condition is a common one. Our correspondent should consult a medical man.

Communications not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (8th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (4th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 30 P.M. Dr. S. G. Scott: Acute Atrophy of Liver.—Mr. S. G. Shattock: Prehistoric Vesical Calculus.—Dr. I. Catto: Imperforate Ileocolic Valve.—Dr. C. E. Adams: Carcinoma of Adrenal.—Dr. F. H. Thiele: Osteoplastic Carcinoma in Bones.—Dr. R. Michels and Dr. P. Weber: Obliterative Arteritis in the Prime of Life.

WEDNESDAY (5th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. A. H. N. [illegible]

THI [illegible]

Child Study Association.)

RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.15 P.M. Exhibition of Novel Apparatus.

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 [illegible]

FRI [illegible] DON (20, Hanover [illegible] Tilley, Mr. Pegler, [illegible]

W [illegible] Kent Dispensary, [illegible] on Radio thera- [illegible]

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. Macleod: Clinique. (Skin.) 5.15 P.M. Mr. W. E. Miles: Rectal Diseases.

TUESDAY (4th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. W. H. Allchin: Some Aspects of Malnutrition. (Lumleian Lecture.)

MEDICAL GRA[illegible] W.C.).—4 [illegible] Dr. L. Smi[illegible]

WEDNESDAY [illegible] CLINIC (22 [illegible] Clinique. [illegible] Surgery.

WESTERN OPHTHALMIC HOSPITAL (153, Marylebone road, W.).—8 P.M. Clinical Cases.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, [illegible]

THU [illegible] M [illegible] M [illegible] Course.)

FRIDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Yearsley: Clinique. (Ear.)

SATURDAY (8th).—ROYAL [illegible] street, Bristol).—11 A.M. [illegible] on Isolation Hospitals ([illegible] Yabbicom). Dr. C. Wint[illegible] H. Jones, Dr. J. Howar[illegible] Mr. J. T. Thomas, Dr. [illegible] part in the discussion. General discussion is invited.

EDITORIAL NOTICES.

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THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 30th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Mar. 24	29 69	N.W.	0 05	90	57	45	46	47	Overcast
" 25	29 85	SSW		71	54	42	45	46	Overcast
" 26	29 85	W.	0 07	101	57	46	45	47	Fine
" 27	29 70	S.W.	0 02	55	49	42	43	44	Raining
" 28	29 92	W.	0 04	95	58	41	45	46	Fine
" 29	29 88	W.	..	79	57	46	48	51	Cloudy
" 30	29 84	S.W.	0·07	88	66	48	49	50	Cloudy

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The Goulstonian Lectures

ON

SOME CONSIDERATIONS ON THE NATURE OF DIABETES MELLITUS.

Delivered before the Royal College of Physicians of London on March 16th, 21st, and 23rd, 1905,

By W. CECIL BOSANQUET, M.A, M.D Oxon, F R C P Lond,

ASSISTANT PHYSICIAN TO CHARING CROSS HOSPITAL AND TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST FORMERLY FELLOW OF NEW COLLEGE, OXFORD

LECTURE I

Delivered on March 16th

Mr President and Gentlemen,—I must first thank you for the honour which you have conferred upon me by inviting me to deliver these lectures—an honour which I very highly appreciate but which has nevertheless proved to me a source of considerable embarrassment Indeed, the hesitation which I at first felt about undertaking the duties of the post has since been strengthened into an assured conviction that it was only too fully justified It must always, I think, be a task of great difficulty for one of the junior Fellows of this College to deliver a lecture before his seniors who must needs be better acquainted with all the facts of medicine than he, and the difficulty is specially great in the case of one who, like myself, is attached only to a comparatively small hospital where material for study is much less than that available at our larger institutions Fortunately, it has been wisely arranged that the Goulstonian lecturer should deal mainly with pathology—the theoretical side of disease—rather than with clinical phenomena or treatment And as pathology is a constantly advancing science it may be profitable at times to review some of the facts recently ascertained and the hypotheses put forward to explain them, if only to elicit the truth that there are still very lamentable gaps in our knowledge upon all medical subjects and that the continual stream of medical writings rather conceals than fills in these deficiencies

In choosing for my subject the nature of diabetes I am conscious that I may appear guilty of more than ordinary presumption, inasmuch as it is one which has been most exhaustively investigated by one of the senior Fellows of this College who has made the subject his own and attained therein a position of authority which is recognised throughout the civilised world Dr F W Pavy, by his careful and illuminating researches into the physiology of the assimilation of carbohydrate food has thrown light into some of the dark corners which abound in the field of diabetes Yet he himself would readily, I think, admit that the nature of the disease is still far from being finally determined, that there are many problems awaiting solution and scope for much further research and speculation

As it was the original intention of the founder of these lectures that they should be devoted to demonstration of morbid anatomy, so I hope to deal mainly with the relation of the disease to structural alterations in the organs recognisable after death, and to discuss the reasons which exist for associating any one of them causally with the existence of diabetes But in recent days all the great advances in pathology have been made by means of experiments on living animals and I would refer also to the results of some such researches which have appeared to give rise to conditions resembling the human malady Lastly, there have in the last few years been promulgated theories connected with the resistance of the body to parasitic invasion which have involved conjectures as to some of the processes by which food is assimilated by the tissues It may be not wholly uninteresting though unfortunately premature so far as certainty is concerned, to speculate as to the bearing of these theories on the pathology of diabetes

Definition of Diabetes

In the discussion of any matter it is advisable to make some attempt to define the terms which we are using and it may be useful at the outset to consider for a moment what it is that we mean when we speak of diabetes mellitus It is true that definition is impossible in science before we know all about the phenomenon which we wish to define, and for this reason final definitions are practically unattainable, except in abstract reasoning such as mathematics, since knowledge of natural phenomena and their causes is constantly growing In the field of medicine we can see the process of modification of our ideas in accordance with the advance of knowledge constantly at work Thus originally, as Allbutt has pointed out, diseases were groups of symptoms which recurred in association sufficiently frequently to constitute a definite idea No doubt scientifically minded persons early realised that these groups were the outward and visible signs of altered conditions of the body, but of the nature of the condition present in each case they had no knowledge Later it was found that certain structural alterations were invariably associated with the symptoms of many diseases and these underlying physical conditions assumed more and more importance in the connotation of the name of the disease In these instances the stage of morbid anatomy had been reached Later still we have acquired a knowledge of the causes of certain diseases and of some at least of the means by which they produce their characteristic symptoms This knowledge is only definite in the case of some of the infective diseases, such as tetanus or tuberculosis, in which we can isolate the pathogenic bacteria investigate the poisons which they generate, and unravel to some extent their modes of action and the defensive reactions of the infected organism

In the case of many diseases we are still in the stage of morbid anatomy, examples are seen in the various anæmias, of which nothing more is known than the alterations in the constitution of the blood In diabetes we have hardly as yet attained to even this stage of knowledge Attempts have, indeed been made to show that changes are invariably to be found after death in the pancreas, of which I hope to say more in my next lecture, but at present there is no consensus of opinion as to the constancy of these changes—or rather, it has been pointed out there are many cases of the disease in which no alterations in this organ can be demonstrated so that there seems a danger of even this association—the most hopeful prospect of establishing the disorder on an anatomical basis—proving elusive Yet we know that it is impossible for perversions of function to occur in normal circumstances without coexistent alteration of structure, since function is merely structure undergoing change, as was pointed out by G H Lewes many years ago, so that if the conditions of the cell remain the same and its structure the same the function must continue the same likewise In other words all functional defects must arise from structural lesions, whether these are gross, or microscopical, or ultra microscopical

In the case of diabetes the gradual alteration in the connotation of the name can be easily recognised In the earliest times, when the name was first invented, there can be no doubt that all conditions accompanied by polyuria were classed together, to all the comparison of the patient to a syphon transmitting a continual stream of water was [illegible] The discovery of the existence of sugar [illegible] was made late in the history of [illegible] was unknown till some hundreds of years after the commencement of the present era and in the West it remained undiscovered till the time of our countryman, Willis, towards the end of the seventeenth century who noted the sweet taste of the urine The actual proof of the presence of sugar was afforded a little later by Dobson The spirit of Western inquiry, as contrasted with Eastern apathy, is well exemplified by the rapid growth of information on the subject which followed Willis's discovery The writer of an anonymous medical treatise on diabetes, published at Oxford in 1745, notes that the disease was then attracting much attention and discussion, and up to the present time an ever increasing volume of writings has centred round its pathology

Since the discovery of sugar in the urine and the resulting separation of saccharine from insipid diabetes and from other causes of polyuria further steps in the subdivision of the subject have been made In the first place, it is recognised that all cases in which there is sugar in the urine are not diabetes mellitus. Glycosuria is now known to be a possible accompaniment of many diseases having no apparent connexion with the malady with which the condition was first associated. Cerebral injuries, many nervous conditions, Graves's disease, and other maladies may be accompanied by glycosuria, yet we do not call them diabetes. We have then to inquire what criterion exists for the identification of true diabetes as apart from such conditions of symptomatic glycosuria and the question is not easily answered. It would seem that our only grounds in most cases for asserting that a patient is suffering from diabetes are the amount and the persistence of the glycosuria. It is manifest that such criteria are unsatisfactory. Taken separately each would be fallacious. A considerable quantity of sugar may exist at any one time in the urine apart from diabetes. I well remember a patient having been brought into Charing Cross Hospital one night comatose, with a fairly large amount of sugar in the urine. He was supposed to be suffering from diabetic coma and was treated somewhat energetically by bleeding and infusion of saline solution. At the necropsy the case was found to be one of cerebral hæmorrhage, yet the quantity of sugar in the urine had been considerable. On the other hand, if permanency of the glycosuria is to be the necessary condition for distinguishing diabetes we should be unable to admit that a case could ever be cured, nor could the condition be satisfactorily diagnosed until the patient was dead. The old Greek proverb that we should call no one fortunate till he was dead, because a reverse of luck might at any time occur, was perhaps a wise piece of advice, but it would be unsatisfactory in medical practice, where it would sometimes seem that the assignment of a name to a disease is only less gratifying to the patient than its cure or alleviation. We cannot base the definition of a disease upon its insusceptibility of cure. And if we ask how long the glycosuria must last before we can call a case diabetes it is not easy to give an answer. Yet in diabetes, in the absence of any ascertained morbid anatomical changes invariably associated with the disease, we seem compelled to rely for grounds of diagnosis and even of definition upon the amount and persistence of the glycosuria. How unsatisfactory this is will be readily apparent when we consider what our position would be if we knew only the fact of the existence of albumin in the urine in certain conditions, without possessing any knowledge of structural changes in the kidneys, or if we were similarly limited in our knowledge in the presence of hæmaturia. We might perhaps get as far as recognising the existence of mild "functional" conditions in which the disorder cleared up without difficulty and grave cases of organic disease which rapidly went downhill—and that is about as far as we have got in the study of diabetes—but exact knowledge would be quite impossible.

As a sign of the present unsatisfactory results of attempts to define diabetes it is sufficient to indicate the conditions at present grouped under the term. Tyson gives the following varieties of glycosuria, to all of which the name diabetes is sometimes applied, arranged according to their causes: (1) alimentary glycosuria due to imperfect assimilation of carbohydrates; (2) glycosuria due to over-production of glucose from the hepatic glycogen; (3) vaso-motor glycosuria, owing to too rapid passage of glucose through the liver, without being converted into glycogen; (4) defective oxidation of glucose in the system (this form he associates with pancreatic and suprarenal disease); and (5) incurable diabetes, in which proteid is converted into sugar, including the fixed proteid of the tissues (this is accompanied by acid intoxication.) The group of disorders included in this list is manifestly made up of a heterogeneous collection of but slightly connected conditions which only our ignorance of the nature of the phenomena leads us to classify under the same term. It seems possible that some at least of the obscurity in which the subject of diabetes is wrapped arises from a failure to distinguish the disease from conditions which simulate it and that we must here apply the old maxim *divide et impera* and subdivide the group before we can extend the realm of knowledge.

Alimentary and composite diabetes.—In this direction an important division has been made in the subject by the distinction drawn between two forms or stages of diabetes mellitus—between cases on the one hand in which apparently the sugar which emerges in the urine is derived entirely from the carbohydrate materials contained in the food and cases in which, on the other hand, some of it, at all events, is formed by breaking down of the tissues of the patient. To these the names of "alimentary" and "composite" diabetes have been assigned by Pavy. This brings us to one of the remarkable points about the disease to which it is, perhaps, curious that more attention has not been paid. In many instances the first stage of the malady is signalised only by an alimentary glycosuria—that is, by an apparent inability to assimilate any considerable quantity of carbohydrate food. In the later stages the same patient not only cannot assimilate this kind of food but he also suffers from an actual breaking down of his own tissues into sugar. It is difficult to believe that the two conditions are the same in any way or that one can really pass into the other. To suppose that the presence of excess of sugar in the system acts poisonously and leads in time to a destruction of the body cells, of such a nature that the very poison at work is one of the products of the disintegration, is absolutely contrary to all analogy in vital chemistry. In cases in which special bodies are formed in the animal economy in response to the injection of toxic materials we find that the substance is of such a nature as to neutralise the effects of the poison, as in the process of immunising animals against certain vegetable poisons (abrin, ricin, &c.) or against the toxins of bacteria. In the case of the commoner poisons, mineral and organic, no such antitoxic power is, indeed, exhibited; but no instance of the actual poison itself being formed by the cells as a result of its own action is known. It is unlikely, then, on general grounds that sugar should form a special exception and cause breaking down of the cell protoplasm into sugar. There is indeed, no proof, so far as I am aware, that it is actually a poisonous substance. It appears to be a normal constituent of the blood, though existing there in very small quantities; and in default of direct evidence we should suppose that the only evil effects which it would be likely to exert would be by increasing the density of the plasma and thereby altering the osmotic pressure relatively to the surrounding tissues and to the formed elements of the blood.

The facts just mentioned—namely, the existence of alimentary and composite forms of diabetes—appear to constitute the ground-work of our knowledge of the disease, in which everything else is largely a matter of speculation and conjecture. We know that in the early stages of many cases of diabetes it is possible entirely, or almost entirely, to prevent the appearance of sugar in the urine by diminishing the amount of carbohydrate material given in the food. The inference seems necessarily to be that the sugar in the urine is derived directly or indirectly from the matter ingested. On the other hand, we know that in severe cases and in the later stages of many cases which originally appeared to be instances of alimentary diabetes the sugar in the urine persists in the absence of all carbohydrate food—nay, more, in conditions of starvation, in the absence of all food of any kind whatever. Here it is equally necessary to believe that the sugar is derived from the breaking down of some substance forming part of the living body. These being the two most securely established facts with regard to diabetes it is, I venture to think, to the explanation of them and of their mutual relationship that it is most important to direct attention in any attempt to explain the nature of the disease. It is comparatively useless to explain one phenomenon without explaining the other simultaneously; any hypothesis which fails to embrace both together is defective *ab initio*.

It is necessary, then, to look about for some explanation of the phenomena of diabetes capable of embracing both alimentary and composite cases. Now we know that sugar may appear in the urine in many conditions which are not diabetes as a result of ingestion of saccharine food. On the other hand, we know of no other condition in which there is an internal formation of sugar by disintegration of materials existing in the body. Further, this latter feature is characteristic of the developed disease, when all the conditions are presumably best marked. It appears, then, reasonable to regard this internal formation of sugar as the essential characteristic of the disease and to turn our attention specially to this rather than to the alimentary factor. So far as I can judge the reverse procedure has generally been adopted in studying the disease and the result has been to leave what I believe to be the most striking feature of diabetes mellitus unexplained.

We have to ask, then, Is it possible to formulate any hypothesis, consistent with what we know of the phenomena of diabetes, which shall explain alimentary diabetes in terms, if I may so express it, of composite diabetes? Now it may

be taken as admitted that the sugar which appears in the urine is merely filtered off from the blood—in other words, that glycosuria presupposes glychæmia The sugar present in the blood may arise in any one of several ways—from increased ingestion of sugar in the food or from increased formation in the body, or from diminished elimination or assimilation of the amount normally present In alimentary glycosuria it would seem that the sugar reaches the blood by absorption from the intestine, in composite diabetes it seems that some of it comes from the breaking down of the tissues Have we any means of assuring ourselves that in either case only one process is at work? In the case of the latter condition it seems certain that there is no alimentary element coexisting, since in starvation no food is taken In the former case the same exclusion is not possible It is true that in alimentary
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sugar in the urine, but this does
proof that such food is the sole
coexistence of an internal source
t be excluded Indeed, Seegen
instances may decrease the sugar
which appears in the urine but not that which exists in the blood Now the amount of sugar present in the blood is the resultant of the forces which respectively pour sugar into it and remove it, and sugar may be removed by assimilation as well as by excretion It is conceivable that the body may have the power of dealing with a certain quantity of this substance but not with more than a definite amount If the whole of this amount is formed within the body it is clear that any further quantity entering from the intestine will appear in the urine; while if a large proportion, but not the whole, of the amount is formed within the body then the quantity of sugar which can enter from the intestine without causing glycosuria will be so much less than in a normal person who either forms no internal sugar or only a comparatively small amount I venture to think that this possibility is at least worth considering as involving less difficulty in the explanation of the conversion of a case of alimentary glycosuria into one of composite diabetes than is involved in the supposition of the onset of a new pathological process In favour of an internal formation of sugar in diabetes may be quoted the observations of Kolisch that in bad cases a carbohydrate diet may cause no increase in the amount of sugar present in the urine, which may vary from day to day quite independently of the food taken If such a conception were admissible a certain amount of clearness would be gained for a definition of diabetes which would

ing in the urine, as the case grew graver and more internal secretion was formed, so the patient's tolerance for carbohydrate food would diminish, and finally, the amount of internal sugar would be so great as to appear in the urine even in the absence of any alimentary supply

It is not necessary to suppose that the amount of sugar which can be dealt with by the tissues without appearing in the urine is the same in all persons Thus von Noorden found that of two healthy men one was capable of assimilating 150 grammes of glucose administered to him, while the other exhibited slight glycosuria when thus treated Probably if enough sugar were given at once everyone would excrete some of it in the urine
so much as average persons are
but there is no reason why they
apart from an increased internal sugar formation, and as a fact they do not all so develop The power of assimilating sugar varies even in the same person in different circumstances, as a man who is working hard will eliminate less sugar in his urine, as the result of an overdose of this substance, than one who is at rest (Breul) Authors appear to differ as to whether carbohydrate food other than sugar itself, can produce alimentary glycosuria in healthy persons Theoretical considerations would appear to be on the side of Naunyn and others who affirm this possibility, since it is fairly established that a certain proportion of starchy food is converted into sugar in the alimentary canal (Ellenberger and Hoffmeister) In pathological conditions, such as fevers and alcoholism, it has been actually proved by Strauss that glycosuria may result from the ingestion of starchy food

CAUSATION

Leaving for the present the question of the essential nature of diabetes, we may turn our attention to the causation of the disease With regard to the causes which determine the onset of diabetes nothing new seems to have been revealed by recent research We may not now agree with Avicenna that the most important of these causes is the eating of quinces, or with Trnka de Krzowitz that "aquosi potus ac praeprimis tepidi abusus haud difficulter diabetem inducit,"[1] any more than with the supposition of the Rabbi Moyses that the drinking of Nile water was the most potent cause of the malady as he saw it in Egypt but our positive knowledge is not much greater than that of early writers The association of the disease with alcoholic habits was noticed by our forefathers in the medical profession Dolæus attributes the onset of diabetes to drinking cyder and Willis to indulging in Rhenish wine, and there seems to be no doubt that alcoholism may play a part in its causation

Another poison to which some importance has been attributed in the causation of diabetes is tobacco Stern states that not only does the excessive use of this narcotic protract the duration of an alimentary glycosuria and increase the quantity of glucose in the urine but that it seems to transform slight chronic glycosuria into severe diabetes He attributes the action of tobacco to the absorption of small doses of carbonic oxide in the process of smoking, sufficient to induce a chronic intoxication with this substance This theory seems scarcely probable, for, although it is known that poisoning with carbonic oxide may be accompanied by glycosuria, one would think that the amount of this gas absorbed by the mucous membrane of the mouth would be insignificent It is only in the case of those who inhale the smoke that such a cause would appear likely to be operative Perhaps some of the deleterious effects attributed to cigarette smoking may result in this way, but I do not know of any observations tending to connect diabetes with this form of indulgence in tobacco more than with any other Lorand notes that some of his diabetic patients confessed to being large smokers of cigars

The presence in the urine of glycuronic acid—a near ally of sugar—has been observed after intoxication with a large number of substances phosphoric acid, phosphorus, lactic acid, hydrochloric acid, strychnine, curare, arsenic, butyl chloral hydrate, morphine hydrocyanic acid, chloroform, and turpentine (Sydney Martin) To the form of diabetes which follows phloridzin poisoning and the injection of suprarenal extract I shall refer later

The influence of heredity is perhaps now more fully recognised than was formerly the case Thus, Tyson puts the hereditary cases down as one quarter of the whole number and other writers at an even higher figure, and with heredity we must class the racial incidence of diabetes which seems to affect a larger percentage of the population among the Jews and Oriental peoples than among Europeans The greater liability of Jews than of other races to suffer from diabetes has indeed been denied by Pollatschek, and statistics on the subject are liable to be fallacious, but on the whole the fact seems well established Thus Lorand has collected statistics from his own native town, in which there are 20 000 inhabitants, of these 3000 are Jews He finds that diabetes is rare among the Christian population but so common among the Jews that there is scarcely a family of any size which has not among its members some sufferer from this malady This same writer has investigated the question whether the children of diabetic parents are liable to suffer from alimentary glycosuria and thinks that the question can be answered in the affirmative—a consideration which may lend some further support to the belief in the hereditary character of the disease But the evidence adduced is not quite convincing as to the existence of this phase of heredity in any large number of instances

In spite of the well established fact of the appearance of diabetes as a sequel of an attack of some infectious disease, such as enteric fever, influenza, or diphtheria, little evidence exists which seems in any way to point to an infective cause of diabetes itself—that is to say, there is nothing to indicate that it is the direct effect of a toxin formed by a pathogenic bacterium The experiments of Charrin and Carnot, in which diabetes was produced by injection of cultures of micro organisms into the pancreatic duct, must be explained on the ground of the production of a pancreatitis rather than as proving the origin of diabetes from the direct effects of toxins The action of syphilis as a cause of diabetes is probably exerted in the same direction Schmitz examined the records of 4389 diabetic patients and among them he

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[1] This appears to refer to polyuria a potu not to saccharine diabetes

diabetes mellitus. Glycosuria is now known to be a possible accompaniment of many diseases having no apparent connexion with the malady with which the condition was first associated. Cerebral injuries, many nervous conditions, Graves's disease, and other maladies may be accompanied by glycosuria, yet we do not call them diabetes. We have then to inquire what criterion exists for the identification of true diabetes as apart from such conditions of symptomatic glycosuria and the question is not easily answered. It would seem that our only grounds in most cases for asserting that a patient is suffering from diabetes are the amount and the persistence of the glycosuria. It is manifest that such criteria are unsatisfactory. Taken separately each would be fallacious. A considerable quantity of sugar may exist at any one time in the urine apart from diabetes. I well remember a patient having been brought into Charing Cross Hospital one night comatose, with a fairly large amount of sugar in the urine. He was supposed to be suffering from diabetic coma and was treated somewhat energetically by bleeding and infusion of saline solution. At the necropsy the case was found to be one of cerebral hæmorrhage, yet the quantity of sugar in the urine had been considerable. On the other hand, if permanency of the glycosuria is to be the necessary condition for distinguishing diabetes we should be unable to admit that a case could ever be cured, nor could the condition be satisfactorily diagnosed until the patient was dead. The old Greek proverb that we should call no one fortunate till he was dead, because a reverse of luck might at any time occur, was perhaps a wise piece of advice, but it would be unsatisfactory in medical practice, where it would sometimes seem that the assignment of a name to a disease is only less gratifying to the patient than its cure or alleviation. We cannot base the definition of a disease upon its insusceptibility of cure. And if we ask how long the glycosuria must last before we can call a case diabetes it is not easy to give an answer. Yet in diabetes, in the absence of any ascertained morbid anatomical changes invariably associated with the disease, we seem compelled to rely for grounds of diagnosis and even of definition upon the amount
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were system may produce glycosuria. Besides Bernard's "punc-
ha ture" and his operation of galvanising the central ends of
t' the cut vagi, destruction of the pons and of the posterior crura cerebri, section of the optic thalami, section of the medulla and of the cervical cord, extirpation of the cervical sympathetic, and other lesions have been followed by glycosuria. Stimulation of the depressor nerve has had the same effect and even section of the sciatic has done the same. Sciatica itself has been stated to cause diabetes but it is at least as probable that the nerve lesion was caused by the general disease as that the opposite sequence took place. An experiment illustrating the effect of nervous influence upon the excretion of sugar is seen in the expe-[illegible]nce that if a cat be merely fastened down upon the [illegible]ating table, without any further injury, sugar at once [illegible]ars in the urine, the so-called "*Fesselungsdiabetes*" of [illegible] Germans (Boehme and Hoffmann.)

Connected with the question of the nervous causation of diabetes is the discovery that glycosuria is common among the insane. It is said to occur more frequently in patients suffering from depressive forms of mental disease than among the more active varieties, which would suggest that in such cases there may be a failure either in the power of utilising sugar in the tissues or in the formation of some necessary secretion rather than an active production of sugar such as would seem to occur in the other nervous conditions which have just been mentioned. We must also bear in mind the hereditary nature of diabetes and its apparent tendency to appear in the offspring of neurotic stocks, other members of which have exhibited signs of more or less marked mental disease.

On the other hand, it is certain that only a small number of those persons who are exposed to the action of the causes just enumerated—continued hard work, shocks, and injuries —suffer from diabetes in consequence, and it is equally certain that the disease often occurs without the aid of any of these exciting causes. It is legitimate, I think, to question the reality of the causal nexus in some at least of the cases attributed to mental factors. It is difficult to be sure that we are not confusing *post hoc* with *propter hoc* in many such instances. Thus in the case of injuries and shocks it is to be borne in mind that these accidents cause patients, have been assigned by Pavy. This brings us to one of the remarkable points about the disease to which it is, perhaps, curious that more attention has not been paid. In many instances the first stage of the malady is signalised only by an alimentary glycosuria—that is, by an apparent inability to assimilate any considerable quantity of carbohydrate food. In the later stages the same patient not only cannot assimilate this kind of food but he also suffers from an actual breaking down of his own tissues into sugar. It is difficult to believe that the two conditions are the same in any way or that one can really pass into the other. To suppose that the presence of excess of sugar in the system acts poisonously and leads in time to a destruction of the body cells, of such a nature that the very poison at work is one of the products of the disintegration, is absolutely contrary to all analogy in vital chemistry. In cases in which special bodies are formed in the animal economy in response to the injection of toxic materials we find that the substance is of such a nature as to neutralise the effects of the poison, as in the process of immunising animals against certain vegetable poisons (abrin, ricin, &c.) or against the toxins of bacteria. In the case of the commoner poisons, mineral and organic, no such antitoxic power is, indeed, exhibited; but no instance of the actual poison itself being formed by the cells as a result of its own action is known. It is unlikely, then, on general grounds that sugar should form a special exception and cause breaking down of the cell protoplasm into sugar. There is indeed, no proof, so far as I am aware, that it is actually a poisonous substance. It appears to be a normal constituent of the blood, though existing there in very small quantities; and in default of direct evidence we should suppose that the only evil effects which it would be likely to exert would be by increasing the density of the plasma and thereby altering the osmotic pressure relatively to the surrounding tissues and to the formed elements of the blood.

The facts just mentioned—namely, the existence of alimentary and composite forms of diabetes—appear to constitute the ground-work of our knowledge of the disease,
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buted to the effects of indulgence in alcohol. heredity, there were six cases (two females and four males) in which other members of the patients' families had suffered from diabetes. The most striking instance was that of a man, aged 50 years, who had two brothers and one sister either suffering from or dead from diabetes. In each of the other instances only one other member of the family had been affected. In four cases (two males and two females) there was a family history of insanity or nervous disease. Taking them altogether, heredity was only discoverable as a possible causal factor in 12½ per cent. of the whole number, a much smaller proportion than is assigned to this cause by the writers whom I have previously mentioned. In the great majority of the cases no explanation of the onset of the disease was given by the sufferers. It had come on insidiously and as far as could be gathered spontaneously. Here, perhaps, I may remark upon the large number of instances among these cases in which complaint was made of abdominal pain—generally epigastric or hypochondriac. In one or two instances intestinal disturbances, such as diarrhœa and vomiting, had preceded the apparent onset of the diabetes sufficiently closely to attract the patient's notice and in three other cases jaundice had occurred at some previous period. These features may not be without interest in view of the possible connexion of diabetes with pancreatic disease.

MORBID ANATOMY.

I now turn to the morbid anatomy of the disease, the changes found in the different organs of the body in those who have died from diabetes. Ever since Claude Bernard's great discovery of the existence of glycogen in the liver and of the possibility of causing this substance to be discharged into the blood in the form of sugar by nervous action, the liver has received the greatest amount of attention in relation to the pathology of diabetes mellitus. Yet it can hardly be denied that the result has been on the whole disappointing. It must have seemed at first that there was at length a prospect of solving the mystery of this diseas which had remained "a marvel" since the time of Aretæus (θωῦμα τὸ διαβήτεω πάθος). But although it seems certain

the phenomena of glycogenesis and led to concentrate our attention upon a side issue.

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proliferating membrane of hydatid cysts, and sometimes in leucocytes. It appears to be associated with activity in the cells which contain it. May it not be the case that it is stored up by the liver cells when it, or some forerunner of it, reaches them from the food, as a fuel for their own activity which is evidently great and manifold, rather than as a reserve upon which the body at large may draw? Pavy's researches seem to show that the blood of the hepatic vein is no richer in sugar than that of the rest of the blood instead of containing more sugar as it should do if the liver were constantly furnishing sugar for the use of the body cells elsewhere. In short, the function of the liver as normally a distributer of sugar to the rest of the body is at present an unverified hypothesis.

Post-mortem examination of persons dead from diabetes reveals *two main changes in the liver. In a certain* proportion of cases this organ is found fatty. Thus many years ago Mead considered a "steatomatous" condition characteristic of the liver in diabetes and this phenomenon has often been noted since. But it is not invariable; indeed, it is rather the exception than the rule to find it present. In a majority of cases the liver is slightly enlarged, firm in consistency, and hyperæmic. The general impression derived from a consideration of these features is that the liver is an organ which has been working hard; the appearances do not suggest a morbid state. A peculiar lesion of the liver in diabetes has, indeed, been described by Fischer who found in a case of this disease appearances suggesting a growth of fine fibrous tissue running between the cells and columns of cells; this was quite unlike ordinary cirrhosis, either of the fine or the coarse variety, being only visible microscopically and then only on careful observation. After finding this appearance in one case of diabetes Fischer examined all the sections of liver tissue which he had by him and found among them two specimens presenting the same peculiarity. On referring to the notes of the cases from which they were taken he discovered that both of these specimens were from cases of diabetes. In one case which I examined the liver cells in certain places stained badly and here and there I noticed an appearance in these degenerate areas suggestive of the condition recorded by Fischer; it gave the impression of a cement substance between the cells which had somehow been rendered visible. So far this discovery has not been confirmed by other observers and
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case there was no sign of injury

Frogs deprived of their livers do not show any sugar in the urine as a result of the operation; nor do they exhibit diminished tolerance for carbohydrate food, with the doubtful exception of lævulose which is said to appear in the urine if administered to the animals. Indeed, the idea that it is some failure in the functions of the liver which is the cause of diabetes is negatived by the fact that in acute yellow atrophy of this organ there is no excess of sugar in the blood or urine; nor is cirrhosis of the liver, however advanced, usually accompanied by glycosuria. Strauss in 38 cases of disease of the liver found alimentary glycosuria as a consequence of the administration of 100 grammes of dextrose in only two instances.

If, then, the liver be at fault its influence must be exerted in the direction of over-activity rather than in that of defective action. We cannot at once exclude the possibility of such a mode of causation. Nevertheless, we must bear in mind that in one form of diabetes, that known as *diabète bronzé*, to which I shall refer again later, there is advanced cirrhosis of the liver; and in one case of ordinary diabetes I myself found a very advanced and apparently active cirrhosis present. Out of 12 necropsies on diabetic subjects which I collected from our post-mortem registers, cirrhosis of the liver was present in two instances. Such a condition is hardly compatible with an excess of function. Further, if we attempt to apply the conception of an over-activity of the liver as an explanation of the cardinal facts of diabetes we shall find it inadequate. It is possible, indeed, to explain the existence of an alimentary glycosuria on the basis of a continual building up and discharge of glycogen by the liver; but it seems quite impossible to harmonise this conception with the internal formation of sugar from the body tissues, to which I have already alluded as the most characteristic feature of the disease, except on the hypothesis that the liver manufactures some poison which causes
down of the cells. This has not, so far as I
suggested. Naunyn's observation that acid
does not occur in cases of hepatic diabetes (glycosuria?) seems to support the view that this organ is not the seat of the primary lesion in true diabetes mellitus, since this acid poisoning is one of the most characteristic phenomena of diabetes.

The kidneys.—Attempts to explain diabetes as a disease of the kidneys have been made from the earliest times, as was indeed natural seeing the prominence of diuresis *as a feature of the malady. Galen explained diabetes* as owing to the kidneys attracting the urine to themselves through the vena cava, though he elsewhere explains the disease as involving a fundamental defect of metabolism (*νέκρωσις ἀμφοτέρων τῶν δυναμέων ἀλλοιώσεως τε καὶ καθελκτικῆς*). Some of the writers of the eighteenth century also favoured a renal explanation of the disease, speaking of a "laxity of the urinary passages." It is curious that one of the *supporters of this latter crude view of the pathology of* diabetes should criticise Galen's hypothesis as involving "fertility of imagination rather than solidity of reason."[2] When we examine the actual morbid anatomy of the kidneys in diabetes we find a curiously close resemblance to the conditions met with in the liver. In the majority of cases the kidneys are large, firm, and somewhat hyperæmic; they suggest, as was the case with the liver, that they have worked their hardest to compensate the condition existing in the blood, rather than that they are the organs primarily at fault. In other cases the renal cells exhibit some fatty accumulation, such as is also seen at times in the liver, or they may contain glycogen granules. In still other instances the epithelium of the tubules has undergone hyaline degeneration. In a recent fatal case of diabetes terminating in coma, in which I examined the kidneys along with the other organs—the material being kindly placed at my disposal by Mr. P. L. Daniel, pathologist to Charing Cross Hospital—I found that practically the whole of the tubal epithelium was in a state resembling coagulation necrosis; the cells refused to take on any stain and even the nuclei could not be discovered by any staining methods. The glomeruli appeared to have escaped the morbid process to some extent and the cells and nuclei of the intertubular connective tissue were readily stained and appeared quite normal. No thrombosis of the renal vessels was found to account for this condition which must be looked upon as a result of the intoxication existing in the disease. It is natural to wonder whether the condition of the kidneys can have had anything to do with the coma with which the case terminated. It seems not impossible that in some instances at any rate, coma may be brought about as the result of a vicious circle, the kidneys being first injured by the toxic substances present in the blood which it is their function to eliminate; and this injury finally resulting in an inability to carry on their excretory function, in consequence of which failure a rapid accumulation of the poisons occurs in the system with speedily fatal issue. The sudden onset of coma appears to demand some cause of rapid accumulation of the poisons which are at work and this may perhaps be more easily explained as the result of diminished excretion than by a suddenly increased formation. The occurrence of albuminuria towards the end of cases of diabetes appears to point to the supervention of renal disease as a not very infrequent complication.

So far as the sugar present in the urine is concerned it seems satisfactorily established that the kidneys merely eliminate from the blood the sugar which is poured into it from elsewhere. There would seem to be present normally in the urine a percentage of sugar equal to that existing in the blood. One set of phenomena, and one only, has been pointed to as lending support to the theory of a renal diabetes. These phenomena are those which are seen as the result of poisoning with the substance called phloridzin. The effect of administering this drug to animals is to produce a condition apparently exactly resembling diabetes, the condition lasting as long as the drug is continued but ceasing on its discontinuance. Not only does sugar appear in the urine but the acid intoxication characteristic of severe diabetes in human subjects is induced and death may occur in a condition resembling diabetic coma. Phloridzin is a glucoside derived from the thorn-apple and it might be suggested that it was itself converted into sugar; but, as a matter of fact, a very small dose of the substance may give rise to the excretion of many times its own weight of sugar. It is generally supposed that the glycosuria of phloridzin poisoning is produced by an increase in the permeability of the renal epithelium, so that it allows an increased quantity of sugar to pass through it. In proof of this explanation is adduced the effect of the administration of the drug to birds. In these an increased sugar content can be produced in the blood, without any sugar appearing in the urine, owing to the power possessed by the avian kidney of retaining sugar and refusing to allow its passage. If phloridzin be given to a bird in such a condition sugar immediately appears in the urine, apparently owing to injury to the renal epithelium. Other substances which injure this structure may produce the same results. The occasional glycosuria seen in cases of Bright's disease has been attributed to a similar injury to the cells of the kidneys; but it appears, on the other hand, that the existence of renal disease—either natural or experimental—may prevent the appearance of glycosuria in phloridzin poisoning (Klemperer, Richter). It is further clear that though injury to the renal epithelium may account for some of the glycosuria seen in phloridzin poisoning it cannot do so for all, since a much larger amount of sugar issues in the urine than normally exists in the blood. The drug must itself give rise to some increased formation of sugar. The acid intoxication coexisting must also be accounted for. It is noteworthy that observers differ in their findings as to the amount of sugar present in the blood in animals poisoned with phloridzin, some finding a condition of glychæmia, others a normal amount of sugar, others again a variable quantity which may exceed or fall short of the normal. It is also difficult to explain the fact that phloridzin may produce glycosuria if tranfused through a kidney locally. Pavy, Brodie, and Siau consider that phloridzin acts upon some substance already existing in the blood and converts it into sugar. It would seem necessary to suppose that it produces excess of this intermediate substance in the blood by its own action.

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[2] Anonymous Treatise, 1745.

The administration of phloridzin is followed by intense fatty change in the liver which may be compared with the fatty condition sometimes seen in cases of diabetes. Some very interesting experiments were made by Rosenfeld to determine the source of this fat. By starving animals (dogs) for some time it is possible to get rid of practically all the stores of fat existing in their bodies. If now such starved animals be fed on some fat of a different kind from that normally present in their tissues they store up the new form of fat instead of the ordinary kind and it is possible by chemical tests to demonstrate the difference. If then to an animal thus treated, containing abnormal fat in its adipose tissues, a course of phloridzin be given and the fat in the liver resulting from the treatment be analysed, it is found that the fat of this organ consists of the extraneous fat, not of normal canine fat. The clear inference is that the fat found in the liver is not a fatty degeneration in the ordinary sense, in which the fat is derived, or is supposed to be derived, from breaking-down of the substance of the liver cells, but that the fat is brought to the liver by the blood and is merely ingested by the cells from the fluids surrounding them. As a result of Rosenfeld's experiments, which have been adequately confirmed by other observers, considerable doubt is thrown on the commonly accepted views on fatty degeneration. So far no connexion has apparently been drawn between the fatty condition of the liver and the glycosuria, but it seems not impossible that such a connexion does exist. I shall hope to allude to this side of the question later in my third lecture. In any case the condition produced by phloridzin is almost exactly the same as that seen in diabetes, in respect to the condition of the urine, to the acid intoxication, and to the fatty state of the liver; and arguments drawn from its peculiar features may be applied to the human disease.

Nervous system.—The connexion of the nervous system with diabetes has already been alluded to in so far as nervous influences may be effective in determining the onset of the disease. It seems, however, rather the exception than the rule to find any recognisable lesions of this system after death in cases of true diabetes. On the other hand, patients dying from cerebral lesions may exhibit glycosuria up to the time of their deaths. In a certain number of cases classed as diabetes, tumours or other affections of the medulla have been found post mortem. It is at least open to question whether these cases should not rather be described as instances of persistent glycosuria than of diabetes, death being assignable to the cerebral lesion rather than to any nutritional disturbance. Apart from such lesions the changes met with in both brain and spinal cord are most easily explained as secondary changes due to the general wasting and intoxication; such are the atrophy of the convolutions, the widening of the perivascular spaces, the local cysts, the œdema of the membranes, and the dilatation of the ventricles and iter (Dickinson). The localised hæmorrhages sometimes found are analogous to the retinal hæmorrhages characteristic of diabetes and the atrophy and sclerosis of some of the columns of the spinal cord are comparable with the somewhat similar condition which occurs in pernicious anæmia and are due either to malnutrition or to intoxication. The neuritis which may be met with in the peripheral nerves is also almost certainly due to the general intoxication and is comparable with the neuritis produced by alcohol, a substance very closely allied to sugar, by fermentation of which it is generally produced, but it may equally be due to some secondary intoxication or infection rendered possible by the debilitated state of the tissue. Changes in the sympathetic system are also probably secondary and not causal.

The stomach.—The causation of diabetes was assigned to the stomach by some of the older writers. Thus, Lister placed the defect in this organ and Rollo, who wrote a careful account of the malady, attributed it to excess of gastric fluid, along with some alteration in the quality of the secretion, by which sugar was formed in the organ. There is, however, little or nothing to connect diabetes with gastric disorders so far as morbid anatomy is concerned. It is true that Joneways and Ortel described a case associated with acute gastritis, but this was almost certainly secondary and due to a terminal infection. In most cases the stomach appears to do its work admirably as is proved by the absence of digestive disturbances in spite of the large amounts of food taken. A form of "dyspeptic glycosuria" has, however, been described by Robin in which the sugar appears in the urine only during digestion. The stomach is found dilated and there is hyper-acidity of the gastric juice; the liver may be slightly enlarged. The patients suffer from neurasthenia and there is phosphaturia along with the glycosuria. According to Robin the condition may pass into true diabetes. It seems more natural to connect the condition with the neurotic condition of the sufferers, since diabetes, or at least glycosuria, is not infrequently noticed to accompany neurasthenia, than to suppose any special form of the disease.

The skin.—Apart from the various secondary lesions of the skin due to invasion of pyogenic organisms, such as boils and carbuncles and the local effects of saccharine urine or its decomposition products seen in the neighbourhood of the urethral orifice, there are two conditions of the skin which are said to be specially connected with diabetes mellitus. These are psoriasis and xanthoma. The nature of neither of these is fully understood. Xanthoma appears to be due to a special form of fatty degeneration of the cells of the corium and may, perhaps, be brought into line with the other instances of fatty change already alluded to. Psoriasis has been variously attributed to the presence of an undiscovered organism—as suggested by the ring-shaped lesions of the disease—and to a toxin or dyscrasia. If the former explanation be true—but so far there is no proof of such a cause—its association with diabetes might be similar to that of the pyogenic affections. If, on the other hand, it is toxic it may be due to the same cause which produces the glycosuria or may be produced by the presence in the skin of sugar or some allied substance. It is noteworthy that among 25 cases of psoriasis Nagelschmidt found eight instances of alimentary glycosuria; whereas among patients suffering from other diseases of the skin who happened to be in hospital at the same time no instance of this condition occurred. Pick, however, denies that alimentary glycosuria is frequently found in patients suffering from psoriasis. The question therefore seems still undecided It has however, very little bearing on the nature and manifestations of true diabetes

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ABSTRACT OF

The Hunterian Lectures

ON

THE DISSEMINATION OF MAMMARY CARCINOMA.

Delivered before the Royal College of Surgeons of England on March 13th 15th and 17th, 1905,

BY W SAMPSON HANDLEY, M S, M D LOND, F R C S ENG,

HUNTERIAN PROFESSOR SURGEON TO OUT-PATIENTS SAMARITAN FREE HOSPITAL RICHARD HOLLINS CANCER RESEARCH SCHOLAR THE MIDDLESEX HOSPITAL

LECTURE I

Delivered on March 13th

MR PRESIDENT AND GENTLEMEN —The subject on which I have the honour to address you—the dissemination of a typical and frequent variety of cancer—is a minor one as compared with the great problems of its cause and cure Nevertheless so long as early and radical operation remains the only cure for cancer an accurate knowledge of the paths of dissemination is of the first importance If my treatment of the subject seems to you inadequate I may fairly plead its difficulty and complexity For the phenomena of metastasis are so complicated that they appear at first sight to be governed rather by chance than by law My lectures are based on work carried out in the cancer research laboratories of the Middlesex Hospital during the years 1903 04 My warmest thanks are owing to the director of the laboratories, Dr W S Lazarus Barlow for his candid and friendly criticism and for advice on difficult points To my colleagues also, especially to Mr W E Hillier, Mr W G Taylor and Dr H A Colwell and to Dr P Campiche my best thanks are due for obtaining for me material from the post mortem room when surgical avocations forbade me to visit it

The subject of cancerous dissemination is in a somewhat hazy and indeterminate condition Invasion of the axillary glands is universally admitted to be an embolic process On the subject of regional dissemination there are two schools of opinion While certain authors believe that invasion of the pectoral lymphatic plexus occurs by direct cancerous growth along the vessels others maintain that cancer cells are swept by the lymph stream through the vessels of the pectoral plexus, and that metastases arise from their casual arrest at isolated points As regards metastases in the internal viscera or at distant points in the parietes (e g, in the femur), there appears to be only one definite theory of causation—that known as the embolic theory Some writers doubtful, perhaps, of the validity of the embolic theory, ignore the subject entirely Before

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THE EMBOLIC THEORY

The embolic theory[1] presumes that particles derived from the primary growth obtain access to the blood and are carried by the force of the circulation to remote districts, where their cells proliferate and produce secondary nodules There can be no doubt that cancer cells frequently obtain access to the blood, either by passing into it along the thoracic duct or by invading the small veins in the vicinity of the primary growth Goldmann has drawn especial attention to the latter form of invasion Mr Stephen Paget,[2] however, showed that in the simple form stated above the embolic theory is untenable He pointed out that embolism is necessarily an impartial process to which all the organs are liable But the distribution of cancerous metastases in the various organs is by no means impartial Some organs are very frequently invaded others only rarely Hence it was necessary to assume that certain organs form a favourable nidus for the emboli which lodge in them while in other organs the embolised particles are destroyed or rendered incapable of growth Among the salient facts brought forward by Paget in support of this view that tissue predisposition determines the success of embolic invasion were the following Of 735 cases of cancer of the breast while the liver showed cancer in 241 only 17 had cancer of the spleen On the other hand in 340 cases of pyæmia abscess of the liver occurred 66 times and of the spleen no fewer than 39 times Again, since cancerous particles reaching the blood must pass through the lungs to gain the systemic circulation it appeared remarkable that these organs showed cancer in only 70 out of 735 cases of cancer of the breast which Paget collected He further showed that each variety of primary growth has its own special metastatic geography For instance while bone deposits are frequent in cancer of the breast and of the thyroid Gussenbauer and von Winiwarter found not a single instance among 903 cases of cancer of the stomach So that the tissue predisposition of the different organs must be assumed to vary according to the particular viscus in which the carcinoma originates Proceeding in his acute analysis of the embolic theory Paget showed that certain bones are habitually affected in cancer of the breast while others invariably escape In the face of this difficulty he was driven to assume that tissue predisposition to cancer is a variable factor as between different parts of the skeleton—that while the humerus for instance, possesses it in a high degree the radius equally subject to cancerous embolism possesses a natural immunity to carcinoma The embolic hypothesis seems by such a supposition to be strained to breaking point There can be no doubt that in certain rare cases of carcinoma embolism by way of the blood stream does occur as a process effective in causing metastases Such a case for example is that of R Voll in which a gastric carcinoma after invading the liver had produced cancerous pulmonary embolism Daughter nodules were found in the kidneys in the brain and upon atheromatous ulcers in the thoracic aorta But as a general explanation of metastasis the embolic theory is negatived by a study of metastatic distribution

Among more recent contributions to the subject of invasion of the blood by carcinoma the most valuable is that of M B Schmidt[3] whose work has not yet received, in this country at any rate the attention due to its importance Schmidt examined the condition of the lungs in 41 cases of carcinoma Rejecting cases where the lungs were healthy or had primarily been invaded by the lymphatics or where the primary mode of invasion was uncertain he obtained 15 cases showing cancerous embolism of the small pulmonary arteries. In all these cases the primary growth was situated in the abdomen. Schmidt's general conclusions had better be given in a translation of his own words. It will be seen that he remains an advocate of the embolic theory. "In carcinoma of abdominal organs cancerous embolism of the small arteries of the lungs occurs with unlooked-for frequency and often repeatedly. Only a small proportion of these emboli give rise to metastatic tumours or break through the arterial wall into the perivascular lymphatics. Most of them are either destroyed by organisation of their ensheathing thrombus, or while retaining the power of growth are encapsuled and rendered harmless. They may, however, push forward through the organising thrombus which surrounds them, into the capillaries and small pulmonary veins, and may so give rise to growths in the course of the systemic circulation. All this may happen while to the naked eye the lung remains unaltered." Schmidt's work is a convincing demonstration of the frequency of blood invasion, at any rate in carcinoma of the abdominal cavity. It is worth noting that his 41 cases included two of cancer of the breast, and that in neither of these was he able to demonstrate pulmonary embolism.

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[1] A full statement of the embolic theory and of its difficulties will be found in Mr W Roger Williams's Diseases of the Breast 1894 p 207 Mr A M Sheild (Diseases of the Breast 1898 p 455) also appears to accept the embolic theory

[2] Stephen Paget The Distribution of the Secondary Growths in Cancer of the Breast THE LANCET March 23rd 1889

[3] M B Schmidt Die Verbreitungswege der Karzinome Jena 1903

In order, however, to establish the embolic theory it is necessary to show that this blood invasion is effective. I would suggest to you that this is rarely the case, that as a rule cancerous epithelium which reaches the blood stream is either destroyed or rendered incapable of growth. If the tissues were arranged in order of specific resistance to cancer, it seems probable that, next perhaps to cartilage, blood would take the highest place. Among Schmidt's 15 cases of cancerous pulmonary embolism only three showed secondary deposits in the lungs visible to the naked eye. In two of these cases miliary nodules were present, while in the third a solitary nodule was present in one lung. Even in the lungs, then, the chances against the macroscopic success of a cancerous invasion by way of the blood appear to be 5 to 1. It may indeed be said that in the twelve cases where naked-eye metastases failed to develop the invasion was recent and would have ultimately succeeded. Such an argument defeats itself, for if blood invasion only occurs at the doors of the post-mortem room, it evidently cannot be an important factor in dissemination.

Schmidt's work shows why cancerous epithelium as a rule fails to colonise the blood stream. The cancer cells excite thrombosis and the thrombus as it organises and contracts destroys them. Goldmann found that thrombosis might even precede the actual cancerous invasion of a vein. He also showed that invasion of the veins near the primary growth might occur in cases which were found post mortem to be entirely free from metastases. Schmidt found thrombotic material round some or all of the cancerous emboli in the lungs in 14 out of 15 cases and round all of them in seven cases. He was able to trace all the stages in the destruction of cancerous emboli of the lungs. In one case particularly there were numerous arterial thrombi apparently the result of cancerous embolism, though at only one point were recognisable cancer cells still present within a thrombus. In the remaining case of the 15 all the cancerous emboli were devoid of thrombotic covering, yet even in this case the only other visceral metastases occurred in the liver and were therefore the cause and not the consequence of the cancerous invasion of the lungs.

In showing that cancer cells in blood excite thrombosis and that the thrombus as it organises usually destroys or renders them harmless, Goldmann and Schmidt seem to have established a fact of first-rate importance and one strongly opposed to the embolic theory. Cancer in lymphatic vessels, as far as I have seen, excites no such thrombosis. Hence it is, no doubt, that although carcinoma often obtains access to the blood almost as early as to the lymph, its dissemination takes place almost entirely by the lymphatics and not by the blood-vessels. It is a significant fact that chorion epithelioma, the only carcinoma certainly known to spread habitually by the blood, ends oftener in spontaneous cure than does any other form of carcinoma. In a series of 188 cases of chorion epithelioma Teacher[4] records four instances of apparently complete recovery following an incomplete operation and eight other cases in which, though hæmoptysis indicated lung metastases, removal of the uterus was successful in restoring the patient to health. It would be easy to adduce other arguments against the embolic theory. I find, for instance, that in 12 per cent. of cases of cancer of the breast the abdomen is invaded by growth, while the thorax, the channel by which on this theory cancer reaches the abdomen, remains free; and that the distal halves of the limbs, where non-cancerous embolism so frequently occurs, are not liable to secondary deposits in cancer of the breast. The theory can, however, only be effectively attacked by constructive criticism. I venture to think that the facts can be better explained on the hypothesis of centrifugal lymphatic permeation which I propose to lay before you.

External (Parietal) and Internal (Visceral) Dissemination.

The secondary deposits which occur in cancer of the breast may be considered under two headings: first, those which occur in the parietes and in the limbs—that is to say, in the skin, the subcutaneous tissue, the deep fascia, the muscles, and the bones; secondly, those which occur within the thoracic or abdominal cavities or in the central nervous system. This anatomical division of the metastases corresponds to the two forms of dissemination, parietal and visceral, which occur in cancer of the breast. They usually occur in combination, but that the *distinction is a natural and not an artificial one* is clearly proved by such cases as those of Arnott[5] and of Walther[6] and by a case of which a model exists in the museum of St. Thomas's Hospital, a photograph of which I shall show you. In these instances there were multiple and widespread metastases in the bones or in the bones and subcutaneous tissues, while the internal organs were free from cancer. The occurrence of such cases—extremely difficult to explain on the embolic theory—suggests that visceral dissemination is a secondary and not invariable consequence of parietal dissemination and that the latter should be the primary object of study. The remainder of this lecture will be devoted to a clinical and statistical study of parietal dissemination.

Parietal Dissemination a Centrifugal Process.

When a few scattered nodules of cancer are found in the skin near a cancer of the breast, or when the adjacent ribs or the sternum show cancerous nodules, no difficulty is felt in attributing these to local lymphatic spread. But when subcutaneous nodules are present over the greater part of the surface of the body, or when distant bones such as the femora or the cranium are attacked, the hypothesis of centrifugal lymphatic spread is abandoned for that of embolic blood invasion. It appears to me that there is no sufficient reason for this change of attitude. That centrifugal spread may annex by continuity a very large area round a carcinoma is convincingly shown by cases of cancer *en cuirasse.* In a recent paper[7] I have brought forward *primâ facie* evidence to show that nearly all bone and skin metastases, no matter how remote from the primary growth, are due to centrifugal spread by continuity. The facts may here be briefly summarised.

The Skin and Subcutaneous Fat.

Velpeau's statement that subcutaneous nodules make their first appearance in the near neighbourhood of the primary growth has never been controverted. And in carefully recorded cases, such as those of Mr. Stanley Boyd[8] or of Dr. Byrom Bramwell,[9] it will be found that as the case progresses they appear at points more and more remote from the primary growth. Fig. 55 in Sheild's well-known book depicts a middle stage of the process of nodule formation. You see the nodules involving a considerable circular area round the growth. They have spread rather more in a vertical than in a horizontal direction and this appears to be a general rule. The next case, that of Dr. H. D. Rolleston,[10] shows extremely numerous nodules. They have indeed involved the greater part of the surface of the body and Rolleston ascribed them to invasion by the blood stream. But the point I would emphasise is that their concentric arrangement round the primary focus is still preserved. The arms beyond the deltoid insertion and the lower limbs beyond the upper point of trisection of the thigh are quite free from nodules. This is not a peculiarity of this particular case. In two cases I have myself observed, in Bramwell's case, and in one or two among the Middlesex records, the distal portions of the limbs have been the only skin areas free from nodules. Thus the area involved in the most extreme recorded cases is only an extension of the circle of invasion so clearly shown in Sheild's case. It will be found, too, that as a general rule the nodules near the primary growth are the largest and those farther away are smaller in size and less closely adherent to the skin. In some rare cases, as in one recently at the Middlesex Hospital of which I show you a photograph, skin nodules may ulcerate. It is noticeable that the ulceration is most marked in the immediate neighbourhood of the primary growth. These facts all support the centrifugal hypothesis, since they show that the oldest nodules lie near the centre of the invaded area of skin, the most recent ones near its periphery.

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[4] Teacher: Journal of Obstetrics and Gynæcology, July and August, 1903.

[5] Arnott: Transactions of [illegible] p. 356.

[6] Walther: Bulletin d [illegible] 3.

[7] Handley. The Centrifug [illegible] in the Parietes and its Bearings c [illegible] of the Middlesex Hospital, vol. iii., 1904, p. 27.

[8] Stanley Boyd: Oöphorectomy in the Treatment of Cancer of the Breast, Brit. Med. Jour., Feb. 4th, 1899.

[9] Byrom Bramwell: Edinburgh Medical Journal, July and August, 1904.

[10] H. D. Rolleston: A Case [illegible] after Carcinoma Mammæ, [illegible] vol. xxxiv., p. 206.

THE SKELETON.

The annexed table summarises the experience of the Middlesex Hospital for 30 years with respect to bone deposits secondary to cancer of the breast.

TABLE I.—*Showing the Frequency of Cancerous Deposit or Spontaneous Fracture in 529 Cases of Mammary Cancer at the Middlesex Hospital, 1872-1901.*

	Bone.	Number of cases.	Percentage of total.
Bones lying wholly or partially within the area liable to subcutaneous nodules.	Sternum	30	9·0
	Ribs	28	8·0
	Clavicle	5	1·5
	Spine	12	3·6
	Cranial bones	9	2·7
	Scapula	1	0·3
	Femur	14	4·2
	Os innominatum	0	0·0
	Humerus	9	2·7
Bones lying beyond the area liable to subcutaneous nodules.	Radius	0	0·0
	Ulna	0	0·0
	Tibia	1	0·3
	Fibula	0	0·0
	Patella	1	0·3
	Bones of hand	1	0·3
	Bones of foot	0	0·0

The post-mortem examination of the skeleton is nearly always fragmentary and incomplete and so consequently are the records of osseous metastases. They are trustworthy only for those bones in which extensive cancer usually causes a fracture which attracts the attention of the pathologist. The escape of certain flat bones from cancerous deposit, which the table indicates, is therefore apparent only, while the escape of certain of the long bones from cancer—bones necessarily liable from their shape to spontaneous fracture—must represent a real fact. Making allowances for the fallacies inherent in this table it will be found [illegible] ch point strongly to cer[illegible] on the embolic theory [illegible] erous metastasis increases with its proximity to the site of primary growth. 2. The bones distal to the knee and elbow escape invasion except in the rarest instances. [illegible] which Mr. Sha[illegible] del in the Mus[illegible] second of thes[illegible] of bone deposits secondary to mammary carcinoma which I have been able to find. There were no visceral deposits. The skeleton had undergone great distortion. The sternum and ribs have sunk until the former almost appears to touch the vertebral column, the whole thorax being flattened out transversely. The pelvis exhibits a precisely similar modification. The right humerus and both femora have undergone fracture. Yet as you can see the legs and forearms have entirely escaped deformity. Thus bone metastases occur only in bones which lie wholly or partially within the area liable to subcutaneous nodules. The reason why the distal halves of the limbs nearly always escape metastases in cancer of the breast is that by the time the parietal tissues have been invaded as far as the knee and the elbow, if not earlier, death intervenes. Rare exceptions may, of course, occur, but only one such exception was found in the records of the Middlesex Hospital for 30 years.

We may now inquire more particularly at what exact point the long bones of the limbs are usually invaded. It has been already stated that *only the humerus and the* femur are subject to metastases and the scope of our inquiry is therefore limited to those two bones.

THE FEMUR.

Among 14 cases of bone deposit or spontaneous fracture in one or both femora there were three in which the bone was involved more or less along its whole length. In two of these three cases it is stated that the process was most *advanced in the upper two-thirds of the bone. In each* of the other 11 cases the pathological condition was present in the upper third of the bone, most often about two inches below the base of the great trochanter. This point of maximum incidence does not coincide with the usual positions of senile fracture of the femur nor with the point of entry of the nutrient artery. The femur appears to be invariably invaded near the base of the great trochanter or along the upper part of the gluteal ridge. Among the eight cases of unilateral cancer of the femur in which it is stated in which breast the primary growth was situated, the fracture was on the same side in six instances and on the opposite side in only two. This preference seems inconsistent with the embolic theory while perfectly consistent with that of centrifugal spread, which would reach the femur of the same side before it had spread sufficiently far to attack the opposite femur.

THE HUMERUS.

In ten cases secondary deposit or spontaneous fracture occurred in one or both of the humeri. Of the eight separate bones in which fracture occurred it was found at the middle point in four and at varying points through the lower third, the thinnest part of the bone, in the remaining four. The seat of election for cancerous fracture of the humerus is therefore at the deltoid insertion. The infrequency of cancerous deposit in the humerus is probably apparent only. The arm is bound to the side by a mass of axillary growth and splinted by solid œdema. Thus it escapes spontaneous fracture and there is nothing at the necropsy to attract the pathologist's attention. Fracture of the humerus occurred on the same side as the growth in only three instances, while in four cases the opposite humerus broke.

CENTRIFUGAL SPREAD AS MANIFESTED IN THE SEAT OF ELECTION OF CANCER OF THE FEMUR AND OF THE HUMERUS.

The almost exclusive preference of secondary carcinoma for a point in the femur at or just below the great trochanter and its less marked preference for the middle point of the humerus seems at first sight to offer no particular support either to the embolic theory or to that of centrifugal spread. On consideration, however, it will be seen that in both bones the area invaded is the subcutaneous area which lies nearest to the trunk. If cancer spreads centrifugally from the primary focus along the deep fascia this is exactly what would be likely to happen. It will be shown later that the parietal growing edge of a cancer of the breast does actually lie in this layer. We have now obtained clear indications that the cancerous areas of the parietes in successive stages of the case are circles of ever-increasing radius concentred on the primary neoplasm.

PRIMARY EXTENSION IN THE DEEP FASCIA INDICATED BY OPERATION RESULTS.

The secondary deposits in the skin and the bones appear scattered and isolated; it is therefore improbable that parietal dissemination takes place *along* these layers. Since the main lymphatic plexus is situated upon, or close to, the deep fascia it is probable that parietal extension takes place primarily in the plane of the deep fascia and that nodules in the skin, the muscles, and the bones are local efflorescences from the cancerous *fascial* lymphatic plexus. Valuable evidence on this point may be obtained by comparing the results of two operators, one of whom removes a moderate area of skin and undermining the flaps excises the deep fascia much more widely than the skin. The other removes a wider area of skin but does not undermine the flaps and therefore removes a smaller area of deep fascia. Table II. shows the comparative results obtained.

TABLE II.—*Showing the Comparative Results of Very Wide Removal (a) of Skin; and (b) of Deep Fascia in Breast Cancer.*

Operator.	Number of cases.	Practice as regards removing.		Percentage of successes.	Percentage of external recurrences.	Situation of external recurrences.		
		Skin.	Deep fascia.			*Local* recurrence, position unknown.	Pectoral muscles or ribs.	Surrounding skin.
				%	%	%	%	%
Halsted.	50	Very wide removal.	Removal coterminous with that of skin, except towards axilla, where it is greater.	41	21	—	6	16
Watson Cheyne.	61 first series.	Wide removal.	Very wide removal.	Upwards of 50.	18	5	6·5	6·5

This table shows that the operator who removes the smaller area of skin yet has a lower percentage of skin recurrences, a result which is unintelligible if cancer spreads along the skin. The operator who removes the smaller area of deep fascia has a higher percentage of skin recurrences, in spite of his wider removal of skin, because growth subsequently extends to the skin from the infected area of the deep fascia which has been left behind.

THE LYMPHATIC ANATOMY OF THE PARIETES.

[The lecturer next reviewed the lymphatic anatomy of the parietes. He showed that the lymphatics of the skin did not, according to Sappey nor according to his own observations, form beneath the dermis the deep cutaneous plexus described by Arnold. He also showed that probably the main stream of lymph from the breast passes by the retromammary lymphatics to the pectoral fascia and thence indirectly to the axillary glands. He continued :]

The pectoral lymphatic plexus is often spoken of as if it were an anatomical entity. It is in reality merely a conventional subdivision of the deep fascial lymphatic plexus, a network of intercommunicating channels which invests the entire body. This great plexus is divisible by the median plane of the body and by horizontal planes passing through the clavicle and through the umbilicus into six catchment-areas, three on either side, draining respectively into the cervical, the axillary, and the inguinal glands. Within each area a special set of trunk lymphatics arises from the plexus and converges on the corresponding set of glands. The line, or rather zone, separating adjacent areas may be called the lymphatic water parting and is anatomically a zone of narrow tortuous channels nowhere traversed by trunk lymphatics—a region consequently where the lymph stream is at its feeblest and where even very fine particles are liable to be arrested. The general idea, then, which we have obtained of the parietal lymphatic system is that of a vast horizontal network of fine channels, coextensive with the surface of the body and receiving above numberless fine vertical tributaries, which convey to it the lymph from the skin and its appendages. Among the latter we must include the breast. From this great plexus the lymph is conveyed by six sets of lymphatic trunks, each draining a definite area, to the cervical, axillary, or inguinal glands. On its deep aspect the fascial plexus communicates by fine anastomotic vessels with the muscular and periosteal lymphatics. We are now in a position to trace the advance of carcinoma along the ramifications of the great parietal lymphatic plexus. The subject may be divided as follows: (1) dissemination within the limits of the breast; (2) invasion of the underlying pectoral fascia; (3) embolism of the axillary glands; (4) retrograde embolism produced by a reflux lymph stream; and (5) centrifugal lymphatic permeation.

DISSEMINATION WITHIN THE LIMITS OF THE BREAST.

Much of the literature of cancer of the breast centres on this subject. Since I can add nothing to the valuable and well-known work of Langhans, of Heidenhain, of Stiles, and of many subsequent authors on this subject, I do not propose to deal with it. Langhans was the first to observe that the small lymphatics of the breast are invaded early and widely far beyond the infiltrating edge of the primary growth. It remains, however, still uncertain whether this lymphatic invasion is embolic or proceeds by continuous growth along the vessels. Stiles,[11] who examined over 100 breasts removed by operation, shared the embolic view of Langhans. My investigations in the extra-mammary tissues, where the conditions of observation are perhaps more favourable, show continuous growth of cancer along the lymphatics (Lecture II.), and it seems unlikely that the mode of spread within the breast is by a different method.

EXTENSION OF GROWTH TO THE PECTORAL FASCIA.

Heidenhain,[12] in 12 out of 18 cases examined, found cancerous lymphatics running from the breast to the pectoral fascia. His observations showed that the cancer generally advanced along these vessels, and along those of the pectoral lymphatic plexus, by a process of continuous growth, less often by embolism. It is an important fact that cancerous lymphatics may be found in the pectoral fascia before the growth has become adherent to the muscle, an observation which I was able to confirm in a recent case. Thus in an early stage, prior to adhesion to the skin and even before adhesion to the pectoral fascia, an area of the deep fascial (pectoral) lymphatic plexus which underlies the growth shows cancer-filled lymphatics. I shall be able to show that the parietal metastases of breast cancer are especially frequent and widespread, not on account of any special cancerous proclivity of the skin in the subjects of breast cancer but because of the intimate connexion which Heidenhain proved to exist between the lymphatics of the breast and those of the great fascial plexus.

EMBOLISM OF THE AXILLARY GLANDS.

It is probable that embolic invasion of the axillary glands cannot occur until microscopic invasion of the pectoral fascia has taken place. Embolism of the axillary glands is probably secondary to the growth of cancer along the meshes of the pectoral lymphatic plexus which Heidenhain observed. As soon as cancer cells intrude from the smaller vessels into a trunk lymphatic they are swept by the stream to the axillary glands. After long delay they penetrate these glands and the supraclavicular glands and so attain the blood stream. The route we have been tracing is usually regarded as the main avenue of dissemination. So, no doubt, it would be but for one factor—the destructive action of the blood on cancerous epithelium which was demonstrated by Schmidt. The peculiarities of metastatic distribution show that cancer cells which gain access to the blood are reduced to impotence.

RETROGRADE LYMPHATIC EMBOLISM.

There is, however, another route by which dissemination might occur. As soon as the lymphatic glands are obstructed by growth a reflux lymph stream must pass across the middle line to the opposite axillary glands, upwards to the cervical, or downwards to the inguinal glands. Very great stress has by some authors been laid on this factor in dissemination. But on account of the valves it cannot take place to any extent in trunk lymphatics. Moreover, towards the periphery of each lymphatic area the trunks break up into fine plexuses. They are incapable, therefore, of conveying cancer cells to adjoining areas, unless these cancer cells can pass through networks of small lymphatic vessels. And this appears never to happen, for, as will appear in Lecture II., breast cancer shows a definite parietal growing edge without outlying embolic foci. And the opposite axillary glands, the opposite breast, or the inguinal glands, are never found to become cancerous early in the case, as should occasionally happen if cancer cells can reach them embolically from other lymphatic areas.

PERMEATION OF LYMPHATIC PLEXUSES.

We have seen that neither the direct nor the reflux lymph stream is capable of transporting cancer particles to points lying outside the lymphatic area in which the primary growth originated The direct lymph stream is filtered of its cancer cells at the first set of glands, the reflux stream is similarly filtered in the fine anastomotic plexuses through [illegible] ic areas Thus the [illegible] f *general* dissemina- [illegible] ts of the lymphatic [illegible] In whatever direction the cancer cells attempt to leave that area they find an effective filter blocking the way How to overcome the resistance thus interposed and to reach other lymphatic areas is the essential problem of dissemination In connexion with this problem I would like for a moment to draw your attention to the behaviour of porcelain filters with respect to micro organisms Mr Kenneth Goadby informs me that certain bacteria which cannot by any degree of pressure be forced through porcelain filters will nevertheless in a few days, if left within such a filter, grow through its pores and infect its outer surface It is similarly by the aid of their own proliferative power that cancer cells succeed in traversing the meshes of the lymphatic filter in which they are imprisoned It is, of course, well known that this is the mode by which cancer cells pass through lymphatic glands But this centripetal route of invasion is relatively unimportant because it leads finally to the blood where the cancerous foci usually disappear harmlessly In a precisely similar way, by actual centrifugal growth along the meshes of the lymphatic plexuses which are in relation to the primary neoplasm, cancer cells ultimately succeed in penetrating the fine anastomotic plexuses which, at the periphery of the lymphatic area concerned, bar the way into surrounding lymphatic areas To this process of actual cancerous growth along the fine lymphatic vessels I have ventured to attach the name lymphatic permeation or simply permeation It appears to me to be the master process of dissemination For whereas in attempted embolic dissemination *viâ* the glands the migrating cells are cast away in the blood, cancer cells which migrate by way of the peripheral anastomotic plexuses simply pass into the lymphatic vessels of adjoining areas without changing their conditions of life Advancing in this way, slowly and centrifugally from one lymphatic area to the next, permeation may conceivably bring about the impregnation of the entire lymphatic system with cancer, provided only that the cancer cells possess sufficient proliferative power An approximation to this condition is apparently indicated in the cases where subcutaneous nodules or bone deposits spare only the distal portions of the limbs

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[11] Stiles: On the Dissemination of Cancer of the Breast, Brit. Med. Jour., 1899, vol. i., p. 1452.

[12] Heidenhain: Ueber die Ursachen der Localen Krebsrecidive nach Amputatio Mammæ, Archiv für Klinische Chirurgie, 1889, p. 97.

PERMEATION AS SEEN ROUND PLEURAL IMPLANTATION GROWTHS

In order to make clear what I mean by permeation it will be well to study a concrete instance of the process In many cases of mammary carcinoma cancer cells obtain access to the pleural cavity and, gravitating through it, implant themselves at some point on the serous surface Soon small pseudo papillomatous secondary growths are seen projecting into the pleural cavity at the point of implantation If now a piece of the pleural membrane be stripped off and held up to the light each of these growths will be seen surrounded by an opaque, slightly thickened, more or less circular area of pleura, perhaps an inch or two in diameter, which presents to close examination a network of white lines just visible to the naked eye The microscope shows that these lines are the vessels of the sub pleural lymphatic plexus filled by lines of cancer cells In the pleura and in certain other situations, under the misleading name of "lymphangitis carcinomatosa," permeation has long been recognised and described Borst[13] regards this process as peculiar to the serous membranes, the diaphragm, the lungs, and the liver, and does not describe it as playing any important part in dissemination The name "carcinomatous lymphangitis" is evidently a misnomer It would be equally correct to describe a preparation showing lymphatics injected with mercury as one of mercurial lymphangitis In both cases the process is primarily mechanical or at any rate not inflammatory The mercury and the cancer cells, under the influence of pressure, follow the lines of least resistance But since in the case of the cancer cells this driving force is an internal pressure resulting from their own proliferation it is not quite correct to speak of cancerous injection of the lymphatics, the process of permeation is rather one of tendril like cancerous growth along the lymphatics. The anastomotic plexuses which divide the lymphatic system of the body into separate areas and form effective barriers against embolic dissemination are powerless to check the advance of permeation So far as this process is concerned the whole lymphatic system is a single network of accessible channels and by its slow centrifugal extension the whole body might ultimately be impregnated by cancer cells My main task in succeeding lectures will be to describe the details of this process, to show why its importance has escaped observation, and to justify my belief that it is the master process of dissemination

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The Lettsomian Lectures

ON

THE MENTAL DISORDERS OF DECAY.

Delivered before the Medical Society of London on Feb 6th and 20th and March 6th, 1905,

BY GEORGE H. SAVAGE, M D LOND,
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LECTURE III [1]

Delivered on March 6th

MR PRESIDENT AND GENTLEMEN,—The first group of cases I have to consider has been well called by Clouston postponed idiocy More recently we have had other names, insanity of adolescence and dementia præcox Secondly, I shall have to consider disorders of malnutrition, toxic states such as brain syphilis, and general paralysis of the insane, and, lastly, I shall have to describe true cases of senile dementia

Postponed idiocy has been called developmental and it must be remembered that the same initial mental or brain disease may lead to different exhibitions according to temperament, environment, and education Youth is not on the side of the neurotic, if in a youthful patient there is strongly marked inheritance of neurosis the danger is still greater A large number of these cases are simple in their onset There are a number of boys and a yet larger number of girls who break down at adolescence Clouston confirms my experience that the boys who break down at adolescence are less hopeful than the girls who break down under similar conditions There seems to be a definite class of individuals with a capacity to attain a certain stage, their nutritive side is all right, but as soon as the stress of sexuality comes, altruism, with love and allied emotional states, then these individuals have not the power to stand it and accordingly they break down Very many of these cases predisposed by heredity have with the onset of pubescence some other form of disturbance, and one which deserves further consideration—namely, febrile attacks I have seen patients, aged 15 or 16 years, said to be doing hysterical and stupid acts, whose friends stated that from infancy they had had every year or two a feverish attack, their temperature running up to 101°, 102°, or 103°, or even 104° F, but without any recognisable cause There seems to be a febrile condition that not infrequently ends in disturbance of the mind Then there is the subject who is predisposed by over-training, mental or muscular, or both An individual whom I have seen recently was a double Blue and a double first, and the result is dementia It is a case of overstrain and over training in a neurotic person A certain number of cases break down as a result of shock One has seen cases in which there has been a suspicion of criminal assault, and after that there have been hysterical symptoms, maniacal or hypochondriacal disorders, followed by permanent weak mindedness Undoubtedly in some of these cases there has been an assault

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[13] Borst: Die Lehre von den Geschwülsten, Wiesbaden 1902, vol ii, p 712.

[1] Lectures I and II were published in THE LANCET of Feb 18th (p 409) and March 11th (p 630) 1905, respectively

TABLE I.—CASES OF FEVER AFTER MISCARRIAGE OR LABOUR AT FULL TERM.

A—CASES TERMINATING IN DEATH. *B*—CASES OF SEVERE FEVER WITH RECOVERY. *C*—CASES OF SLIGHT FEVER WITH RECOVERY.

A—Cases terminating in Death.

No.	Labour at full term or miscarriage.	Age.	Bacteriological examination of uterus.	Bacteriological examination of vaginal discharge.	Date after confinement on which bacteriological examination was made.	Onset of symptoms after confinement.	Result.	—
1	Full term, eleventh pregnancy.	—	Streptococcus (pure culture).	No examination.	During sixth week.	Fever commenced on fifth day.	Death during seventh week after delivery.	*History.*—Retained membranes; temperature 105° F. and offensive purulent discharge from the cervix (sixth week); symptoms of peritonitis and pleuritis before death. No special treatment. No examination after death.
2	Full term.	—	Streptococcus pure culture).	No examination.	On twenty-second day.	Fever commenced on seventh day.	Death.	Uterus enlarged (twenty-second day); large sub-mammary abscess (containing streptococci in pure culture).
3	Full term, sixth pregnancy.	28	Streptococcus and bacillus coli communis.	Streptococcus and bacillus coli communis.	After death (cultures taken 13 hours after death).	Fever commenced on third day.	Death on sixth day after delivery.	*History.*—High intermittent fever; "typhoid" condition and collapse. *Necropsy.*—Cultures taken from the heart blood, spleen, and peritoneal sac all showed streptococci in pure culture.
4	Miscarriage (probably after an illegal operation), third pregnancy.	23	Streptococcus and bacillus coli communis.	Streptococcus and bacillus coli communis.	After death (cultures taken 12 hours after death).	Fever commenced second day after miscarriage.	Death on sixth day after miscarriage.	*History.*—Miscarriage a few days before admission into hospital; admitted in "typhoid" condition and moribund; died before reaching ward. *Necropsy.*—Cultures taken from heart blood, spleen, lungs, and peritoneal sac all showed both streptococci and bacillus coli communis.
5	Full term, first pregnancy.	30	Streptococcus and bacillus coli communis.	Streptococcus and bacillus coli communis	After death (cultures taken 18 hours after death).	Fever commenced on seventh day after labour.	Death on twenty-first day after delivery.	*History.*—Placenta prævia and post-partum hæmorrhage; thrombosis of the left femoral vein with swelling of the leg noticed on the seventh day; high irregular fever and attacks of dyspnœa. *Necropsy.*—Cellulitis of the left broad ligament; thrombosis of the left common iliac vein. *Bacteriological examination.*—Cultures taken from the cavity of the uterus, from the vagina, and from the thrombus in the vein all showed both streptococci and bacillus coli communis.
6	Full term, third pregnancy.	—	Streptococcus and bacillus coli communis.	Not examined.	Ninth day.	Fever commenced on second day.	Death on eleventh day after delivery.	*History.*—Forceps used; lochia offensive and temperature 104° F. (ninth day). Antistreptococcic serum used just before death. No examination after death.
7	Full term, sixth pregnancy.	—	Streptococcus and bacillus coli communis.	Not examined.	Sixth day.	Fever commenced on second day.	Death on seventh day after delivery.	*History.*—Lochia offensive; temperature 104° F. (sixth day); treatment, intra-uterine douching and exploration; antistreptococcic serum used just before death.
8	Premature labour, fourth pregnancy.	33	Streptococcus, bacillus coli communis, and staphylococcus pyogenes albus.	Bacillus coli communis and staphylococcus pyogenes albus.	Tenth day.	Fever commenced on seventh day.	Death on fourteenth day after delivery.	*History.*—Premature labour a few days before admission into hospital; admitted after sudden attack of hemiplegia, high fever. *Necropsy* eight hours after death. Placental site necrotic; ulcerative endocarditis; cerebral embolism with meningeal effusion. *Bacteriological examination.*—Cultures taken from the heart blood, spleen, and meningeal fluid all showed streptococci in pure culture.
9	Full term, fifth pregnancy.	34	Streptococcus, bacillus coli communis, and staphylococcus pyogenes albus	Streptococcus, bacillus coli communis, and staphylococcus pyogenes albus.	Fifteenth day.	Fever commenced on fourth day.	Death on nineteenth day after delivery.	*History.*—Retained placenta, exploration and removal, lochia suddenly ceased; high intermittent fever and vomiting. *Necropsy* six hours after death. Uterus enlarged and softened; uterine mucosa necrotic; peritonitis; spleen, liver, and kidneys engorged and softened; heart muscle softened; disseminated lobular pneumonia; excess of fluid in peritoneal sac. *Bacteriological examination.*—Cultures taken from the heart blood, spleen, and peritoneal sac all showed streptococci in pure culture.
10	Full term (? eighth month).	37	Streptococcus, bacillus coli communis, and another bacillus (anaerobic).	Not examined.	Third day.	Fever commenced on second day.	Died on fifth day after delivery.	*History.*—Child, membranes, and placenta born before arrival of medical man; child dead, but movements noticed five days previously; temperature (second day) 104° F.; uterus explored and placental fragments removed; temperature (third day) 100°; vaginal discharge offensive; 102° (fourth day); antistreptococcic serum given on fourth day; laceration of the cervix and perineum. Patient had undergone an anterior nephrectomy 12 months previously; the operation wound had never quite closed and was still discharging pus.
a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*

a	b	c	d	e	f	g	h	i
11	Full term, first pregnancy	24	Micrococcus pneumoniæ, bacillus coli communis and staphylococcus pyogenes albus	Not examined	Tenth day	Fever commenced on third day	Death on fifteenth day after delivery	*History* —Contracted pelvis, delivery by forceps, temperature from 103° to 105° F (tenth day) vomiting lochia offensive *Necropsy* (incomplete) —Pelvic peritonitis and cellulitis of the right broad ligament, a portion of the placenta was retained, pleuritis, no pneumonia. (See 'A Case of Primary Infection of the Puerperal Uterus by Diplococcus Pneumoniæ," Foulerton and Bonney, Transactions of the Obstetrical Society, 1903)
12	Full term	—	Micrococcus pneumoniæ bacillus coli communis and staphylococcus pyogenes albus	Not examined	Eighth day	Fever commenced on sixth day	Death on ninth day after delivery	*History* —Patient was admitted into hospital on the seventh day she could only talk in Italian and little in the way of history could be elicited *Necropsy* —Placental site necrotic, cloudy swelling of the kidneys, no pneumonia *Bacteriological examination* —The same three species of bacteria isolated from the uterus during life were obtained on cultures taken from the uterus after death *Histological examination* —Sections made through the placental site showed necrosis of the superficial layer of tissue, inflammatory infiltration below this, and numerous well marked encapsuled diplococci
13	Full term third pregnancy	—	Diplococcus (+ Gram) pure culture	Diplococcus (1) and staphylococcus pyogenes albus	Eighth day	Fever commenced on seventh day	Death on fourteenth day after delivery	*History* —Post-partum hæmorrhage retained membranes, lochia natural, temperature 105° F (eighth day) No examination after death
14	Full term	—	Diplococcus (– Gram) pure culture	Not examined	Twelfth day	Fever commenced on seventh day	Died on fifteenth day after delivery	*History* —Forceps case, temperature 105° F (twelfth day) No examination after death.
B.—Cases of Severe Fever with Recovery								
15	Full term fifth pregnancy	—	Streptococcus (pure culture)	Streptococcus (pure culture)	Fifth day	Fever commenced on third day	Recovery on seventh day	*History* —Fifth day lochia normal, temperature 104° F, exploration of uterus, removal of placental fragments, and douching of uterus
16	Full term, eighth pregnancy	—	Streptococcus (pure culture)	Streptococcus and bacillus coli communis	Sixth day	Fever commenced on fourth day	Recovery on seventh day	*History* —Sixth day lochia offensive, temperature 104° F no special treatment.
17	Full term	—	Streptococcus (pure culture)	Streptococcus and bacillus coli communis	Sixth day	Fever commenced on third day	Recovery on seventh day	*History* —Sixth day temperature 103° F treatment Intra uterine douches
18	Full term	—	Streptococcus (pure culture)	Streptococcus and bacillus coli communis	Fifth day	Fever commenced on third day	Recovery on sixth day	*History* —Child born dead and macerated fifth day lochia natural, temperature 104° F, exploration of uterus removal of placental fragments and intra uterine douches
19	Full term fourth pregnancy	—	Streptococcus (pure culture)	Streptococcus, bacillus coli communis and staphylococcus pyogenes albus	Sixth day	Fever commenced on third day	Recovery on twenty fourth day	*History* —Sixth day lochia slightly offensive, temperature 104 5° F, exploration of uterus Intra uterine douches and antistreptococcic serum
20	Full term first pregnancy	—	Streptococcus (pure culture)	Streptococcus and staphylococcus pyogenes albus	Fifth day	Fever commenced on fourth day	Recovery on twenty fourth day	*History* —Forceps case fifth day lochia normal temperature 105° F exploration of uterus and intra-uterine douches
21	Full term first pregnancy	—	Streptococcus (pure culture)	Not examined	Eighth week	Fever commenced during first week	Recovery in fourteenth week	*History* —Eighth week purulent discharge from uterus, temperature 104° F, an anti streptococcic serum had been used abdominal section, chronic pelvic cellulitis
22	Full term first pregnancy	—	Streptococcus (pure culture)	Not examined	Tenth day	Fever commenced on third day	Recovery in fifth week	*History* —Tenth day lochia normal, temperature 105° F profuse sudaminal rash, no special treatment
23	Full term fourth pregnancy	—	Streptococcus and bacillus coli communis	Streptococcus and bacillus coli communis	Seventh day	Fever commenced on fifth day	Recovery on twenty first day	*History* —Forceps case, seventh day lochia offensive, temperature 104° F, exploration of uterus removal of placental fragments intra uterine douches, and antistreptococcic serum
24	Premature labour fifth pregnancy	—	Streptococcus, bacillus coli communis, and bacillus pyocyaneus	Bacillus coli communis	Twenty first day	Fever commenced fifth or sixth day	Recovery on twenty eighth day	*History* —Twenty first day signs of pelvic cellulitis, lochia purulent, temperature 105° F, intra-uterine douches
25	Full term sixth pregnancy	—	Streptococcus and staphylococcus pyogenes albus.	Streptococcus, bacillus coli communis, and staphylococcus pyogenes albus	Third day	Fever commenced on third day	Recovery on fourth day	*History* —Third day lochia slightly offensive, temperature 102 5° F, intra-uterine douches.

arthritic fluid it is necessary to use some culture medium to which fresh human blood serum has been added; but in the special circumstances of the present investigation such media were not usually necessary, as in most cases the uterine discharge itself consisted mainly of blood. In certain cases the discharge from the uterus was purulent and without any obvious trace of blood and in these cases micrococcus gonorrhœæ, if present, would not have been obtained in culture. In some of our cases, then, there has been this possible source of fallacy to which we will refer again when dealing with certain cases in which the contents of the uterus appeared to be sterile of bacteria; we need only add now that in none of the 54 cases of puerperal fever did the microscopic examination of freshly prepared smears made from the discharge show intracellular cocci such as might on further examination have proved to be micrococcus gonorrhœæ.

Examination of cervical secretion in non-pregnant women.—The cervical secretion in non-pregnant women was obtained in the majority of cases without the use of a speculum; the woman was placed in the semi-prone position and the vagina being rendered patent the secretion was taken by means of a "swab" of sterilised cotton-wool mounted on a long wire. In the case of some of the nulliparous women, however, a Sims's speculum had to be used in order to obtain free access to the os. In this series of cases, in addition to the set of culture tubes used for the uterine discharge in the previous cases, smears of fresh human blood on sloped agar were used in order to insure a suitable medium for the growth of micrococcus gonorrhœæ.

Results of the examination of the contents of the uterus in normal puerperia.—We commenced our investigation with the examination of the contents of the uterus in a short series of 12 cases in which the puerperium had up to the time of our examination been normal. In no case had the temperature up to the time of our examination risen above 99·6° F., and in none of the cases did any rise of temperature above that point occur subsequently. The result of our examination of these cases was that in every case the contents of the uterus proved sterile of bacteria. In all of the cases sufficient blood was smeared out over the surface of the media inoculated to insure the growth of micrococcus gonorrhœæ had that organism been present. The bacteriological examination of the uterus was carried out at periods varying from three to ten days after confinement and the patients included both primiparæ and multiparæ.

In seven out of the 12 cases a bacteriological examination of the lochia, as found in the vagina, was also made. In three out of these cases no growth of bacteria occurred; in one case we obtained a pure growth of bacillus coli communis; in one case a pure culture of staphylococcus pyogenes albus; in one case we found both these bacteria; and in the remaining case we obtained a pure culture of a diplococcus which did not stain by Gram's method, which grew freely on ordinary nutrient gelatin at a temperature of 20° C. without liquefying the medium, and which we subsequently found in the contents of the uterus in two cases of puerperal fever and once in the cervical secretion of a non-pregnant woman. Our results in this small series of 12 cases are therefore in accordance with the conclusions of those who believe that the uterine cavity in the normal puerperium is sterile of bacteria. And, incidentally, our results were useful as a test of the efficiency of our method for obtaining a sample of the contents of the uterus free from any contamination by the lochial discharge in the vagina—a question of some importance when the results of our examination of the contents of the uterus in puerperal fever come under consideration.

We do not propose to attempt to weigh the relative value of work which has shown the sterility of the uterine contents in normal puerperia as against that which has given opposite result. We would only point out that practically every likely source of fallacy in this investigation works in one direction; faulty clinical methods in collecting the contents of the uterus and errors due to imperfect bacteriological technique tend alike to the production of bacterial growth on the culture media when the uterus itself is sterile. And, in short, in a matter of this kind, negative evidence must carry rather more weight than positive evidence, which is founded on the appearance of growth on the media inoculated. Amongst those who have obtained growth from the contents of the uterus in normal puerperia are Döderlein and Winternitz who examined the uterus in 250 "afebrile" cases and found bacteria present in 43.

—	Day of puerperium on which the examination was made.											
	1st and 2nd.	3rd, 4th, and 5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th.	14th.	15th.	Total.
Uterus sterile ...	2	3	27	10	30	52	39	34	8	1	1	207
Bacteria present	0	2	2	5	6	9	12	6	1	0	0	43

Vogel attempts to reconcile the contradictory results of different workers by the statement that the presence or absence of bacteria in the uterus has some relation to the stage of the puerperium at which the examination is made. He believes that in "afebrile" cases the uterine lochia are sterile during the earlier days but that in the later days bacteria will be found not infrequently. Vogel examined the contents of the uterus in two series of 15 cases each. In the first series of cases cultures from the contents of the uterus were attempted on the fourth day after labour, in the other series on the eighth or ninth day. The results were as follows.

—	Cases examined.	Sterile.	Streptococci found in—	Other bacteria found in—
Examined on fourth day	15	12	1	2
Examined on eighth or ninth day	15	5	2	8

The results obtained by Krönig must also be referred to. Krönig examined the uterine lochia of 63 "afebrile" puerperal women and found bacteria present in 13, streptococci in three, staphylococcus pyogenes aureus in one, micrococcus gonorrhœæ in four, bacillus coli communis in one, and anaerobic bacteria in six.

The contents of the uterus in cases of puerperal fever.—We may next proceed to consider the results of our examination of the contents of the uterus in cases of puerperal fever, together with some cases in which fever followed miscarriage. We have examined in all 54 such cases, as set forth in Table I., in which the cases are arranged in three series in accordance with their clinical severity. Series A includes two cases of miscarriage and 12 cases of labour at full term, all terminating in death. Series B includes four cases of miscarriage and 22 cases of labour at full term, in all of which the symptoms would be described clinically as "severe" and in which recovery followed. In every case the temperature rose to 102° F. or higher. Series C includes 14 cases of what would generally be termed "slight" fever after labour at full term. In none of the cases did the temperature exceed 102° F. and in all the rise of temperature, such as it was, constituted the main symptom of disease. In order to prevent any misapprehension we may explain how we arrived at this classification in series. After we had investigated our first 50 cases we arranged them in the three series under their respective numbers and, having regard only to the clinical symptoms recorded, our classification thus far was made absolutely without reference to the bacteriological findings; and it was only after we had thus grouped our cases into three series that we arranged individual cases in each series in accordance with the respective bacteriological findings. After our 50 cases had been thus classified and arranged we examined four additional cases, two of which terminated fatally and two of which recovered after symptoms of extreme severity.

Before proceeding to the detailed consideration of the bacteriological findings in these 54 cases we may mention that a few of our cases came from the wards of a lying-in hospital (all these cases are included amongst Series C). Some of the cases were attended in the obstetric out-patient department of a general hospital, amongst patients of the poorest class, and frequently living under the most insanitary conditions; others of the cases occurred in the private practice of various medical practitioners who were so kind *as to allow us to make the necessary examination.* Taken on the whole, then, our cases may be said to be fairly representative of general obstetric practice, but including, perhaps, an unusually high proportion of cases of severe illness.

The general results of the bacteriological examination in the 54 cases may be tabulated as follows:—

—	Sterile.	Bacteria found in—	Total.
Series A—Miscarriage	—	2	—
Labour at full term	—	12	14
Series B—Miscarriage...	—	4	—
Labour at full term	5	17	26
Series C—Labour at full term...	10	4	14
—	15	39	54

From Table I. it will be seen that out of 48 cases of fever after labour at full term 12 terminated fatally, giving a total case mortality of 25 per cent. Of 34 cases (Series A and B) in which after labour at full term the temperature rose to above 102° F. 12 died, giving a case mortality for this group of 35·3 per cent. In 48 cases of fever after labour at full term the contents of the uterus were sterile in 15 and contained bacteria in 33; the case mortality when bacteria were present in the uterus was 36·3 per cent.; in the other group of cases no deaths occurred. Of the 48 cases of fever after labour at full term the patient was a primipara in 21, a multipara in 23, and in four cases no information as to former pregnancies was obtained. The distribution of primiparæ and multiparæ in the three series of cases, excluding cases of miscarriage, was:—

—	Primiparæ.	Multiparæ.	Not known.	Total.
Series A—Severe cases, death	2	8	2	12
Series B—Severe cases, recovery ...	9	11	2	22
Series C—Slight cases, recovery ...	10	4	—	14
—	21	23	4	48

From this it will be seen that the relatively undue preponderance of primiparæ in our cases is mainly due to the relatively considerable proportion of them in Series C, a fact which probably is caused in part by the inclusion of a few cases from the wards of a lying-in hospital in which a large majority of the patients are primiparæ; and all of the cases quoted from this institution come under the description of "slight" cases. It will also be noticed that out of 44 cases in which the "parity" was known the primiparæ account for only two deaths as compared with the eight deaths amongst multiparæ.

(To be continued.)

A CASE OF MULTIPLE NEURO-FIBROMATOSIS.

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CASES of generalised neuro-fibromatosis are sufficiently rare to be worth recording and the following case presents several features of interest.

The patient, a man, aged 47 years, was admitted to the Leeds General Infirmary for "multiple swellings of the body and limbs," pain in the left arm and leg, and great weakness. The history he gave was as follows. He had been a *perfectly healthy man until he was 30 years of age when the* first lump appeared in the right lumbar region. It had never been painful but had gradually increased in size until it was about as large as a duck's egg, when it was removed at another hospital some two months prior to admission. A similar but larger tumour was removed from the front of the right chest at the same time. He did not know what the nature of these tumours was made out to be. A number of other tumours had made their appearance in various parts of the trunk and limbs during the last 15 years; the only symptoms they had caused were some pains and slight dysæsthesia in the affected limbs; the pains in the arm and the leg complained of on admission were of this nature. About 11 months previously he had noticed a swelling in the hypogastric region which had increased in size up to the time of his present admission. He could give no definite idea of the size of it when first noticed. The only symptom which he had attributed to its presence was that he had had *to get up rather more frequently at night to pass urine,* but there had been no increased frequency in the day-time. He had lost two stones in weight during the last two months.

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The patient looked as if he had lost flesh recently but was not strikingly emaciated or cachectic. In addition to the abdominal tumour there were found a number of smaller tumours scattered over the trunk and limbs. These varied in size from one-half of an inch to three or four inches in their long axis; they were fusiform or oval in shape; moveable to a varying extent; some were superficial and occurred along the course of the nerve trunks, others were deeper in the substance of the muscles and other tissues. They were firm, elastic, and painless to the touch. The skin was in no case adherent over them. A complete list of the situations in which they were discovered is given in the description of the post-mortem appearances.

The appearance of the abdomen was striking. There was a tumour in the situation and of about the size and shape of a pregnant uterus at the sixth month. On palpation it was smooth, firm, painless, and of uniform consistence throughout, so far as could be made out. It appeared to be fixed *somewhere in the pelvis but permitted some amount of lateral* movement.

As there were increased frequency of micturition and much constipation, which were thought to be due to the tumour filling up the pelvis, it was decided to attempt its removal and laparotomy was accordingly performed. It was then found to be adherent to the concavity of the sacrum by a short pedicle; there were also adhesions to the sigmoid flexure. It shelled out fairly easily but there was a good deal of hæmorrhage. *The patient died about four hours* after the operation from shock.

At the necropsy, 17 hours post mortem, the following conditions were found. There was a fair amount of blood extravasated into the peritoneal cavity. There was some erosion of bone about the middle of the concavity of the sacrum where the tumour had been adherent. It had also pressed on the left ureter, causing hydronephrosis with extreme secondary atrophy of the kidney. Tumours were also found in the following situations amongst others: (*a*) one of about the size of a hen's egg attached by strong adhesions to the lowest part of the right side of the sacrum; (*b*) one opposite the front of the eleventh left rib in connexion with a branch of the intercostal nerve; (*c*) in the substance of the left pectoral muscle; (*d*) on the left side of the lowest part of the rectum; (*e*) a small fusiform swelling in the course of the right median nerve; (*f*) opposite the left rhomboid muscle in connexion with a small branch of a posterior cutaneous nerve; (*g*) one of the size of a hen's egg in the substance of the left soleus; (*h*) a large tumour of about the size of a fist projected from below the edge of the left gluteal muscles (this proved to be part of a large multiple tumour-mass in connexion with the great sciatic nerve and extended up into the pelvis); (*j*) two small fusiform tumours in the course of the left pneumogastric in the neck; (*k*) a large *one, three inches long,* in the corresponding situation on the right side; (*l*) one of equal size and probably in connexion with the sympathetic, in the angle between the innominate and carotid arteries; (*m*) in connexion with the plexus gulæ, just at the passage of the œsophagus through the diaphragm (this was of about the size of a hazel-nut and was in direct continuity with a number of smaller tumours in this plexus, the solar plexus, and along the splenic artery); (*n*) a small one in the fissure beneath the liver; (*o*) in the spinal canal, in the cauda equina, and within the dura mater, one as large as a hazel-nut and two smaller ones (the nerves here presented the appearance of fusiform thickening in several places); and (*p*) one as large as a pea on the posterior root of one of the lowest dorsal nerves.

The large tumour had a very definite capsule and was of a uniformly oval shape with a slightly nodular surface. It measured approximately 20 by 15 centimetres in its diameters. On section it presented a loculated appearance in many parts, the loculi being due to areas of jelly-like degeneration which were either semi-opaque or translucent and of a bluish or greenish colour. There were many hæmorrhages into these jelly-like cysts, some of considerable size, and there were numerous small hæmorrhagic foci throughout the tumour. Most of the tumours presented an appearance identical with this one; generally the larger the tumour the larger the size of, and the more numerous were, the areas of degeneration. Only the smallest ones showed no degeneration. The brain was normal. Both lateral lobes of the prostate were enlarged and there were a few small gall-stones. There were no other abnormalities.

Histology.—The tumours received for examination were three in number. One was the large sacral tumour which had been removed by operation and which had been placed *en masse* in Kaiserling's solution (formalin, 400 cubic centimetres; potassii nitras, 15 grammes; potassii acetas, 30 grammes; and water, 2000 cubic centimetres) and transferred later to spirit. The second was a smaller tumour, about 3 by 1·5 centimetres, somewhat degenerated. The third was a small tumour, two by one centimetres, not yet degenerated, and with it was a considerable length of its nerve. The two latter were in the above-mentioned formalin solution when received, and were transferred to Müller's fluid in which they were kept some months. Pieces of all three were imbedded in paraffin by M. Heidenhain's (carbon bisulphide) method.

Pieces were cut from the large sacral tumour to include the growth, the hæmorrhage, and the jelly-like material. Externally, there was a thick connective-tissue capsule with many blood-vessels. No definite evidence of nerves could be seen in it. The tumour itself was a sarcoma, the growth consisting of elongated cells, some with several nuclei; the cells, as a rule, had several processes. Parts of the tumour, however, were more like a soft fibroma in structure, with small cells and an open network of fibres. A large part of the mass consisted of hæmorrhages and degenerate material of a homogeneous consistence. In some parts around these there was an open mesh-work in the tumour, infiltrated with plasma cells and red blood cells, and containing occasional mast cells. Masses of brown, highly refractile pigment were to be met with, particularly near the hæmorrhages. The tumour was fairly well supplied with blood capillaries, and round some of them, in sections stained with polychrom-methylene blue, there was a red colouration, probably metachromatic staining of mucin with the methylene-azur of the staining solution. The employment of Weigert's fuchsin-resorcin stain showed no elastic tissue in the tumour except round the vessels. The second tumour was uniformly sarcomatous, like the sarcomatous part of the large one, in the parts where it was not degenerated. There were no hæmorrhages in it but the degeneration exactly resembled that described above and around it were similar masses of pigment which appeared to be in some cases intracellular. The third tumour was uniformly sarcomatous, the growth exactly resembling the others. In two places, however, within this tumour strands of medullated nerve fibres were seen in sections stained by the Stroebe and Kultschitzky-Weigert-Pal methods. These nerve fibres appeared to be continuous with the tumour tissue, not demarcated from it by anything in the nature of a connective tissue sheath.

Relation of tumours to nerves.—All the tumours were definitely sheathed by a connective-tissue capsule. In the case of the smallest examined there were well-defined medullated nerve fibres stretched over the capsule. In the second tumour there were a few remains of nerve fibres in the same situation. Sections of the largest tumour were not stained to show this point as the material had been in spirit before it had been received for histological examination and thus was considered not suited for the necessary mordanting with chromium salts. But judging from the condition met with round the second tumour it is extremely improbable that any remains of nerve fibres could have been found. In sections stained by the Kultschitzky-Weigert-Pal method the myelin sheath was seen to be segmented, swollen, and varicose in some places and narrowed to fine fibrillæ in others. Staining by Stroebe's method showed variations in thickness, varicosities, and uneven staining of the axis cylinders. Sometimes one was to be seen ending abruptly in a corkscrew spiral as if it had been broken and retracted. In several places, principally near the tumours but also a few centimetres away from the third tumour, the connective tissue between the bundles of nerve fibres was infiltrated with polymorphonuclear leucocytes. Pieces of material from the third tumour, and the nerve a little distance away from it, showed no reaction of degeneration by Marchi's method. This means that either the myelin sheath had not undergone fatty change or that, if fatty change had taken place, it had occurred over seven weeks before death.[1]

This case is a good example of one variety of that group of cases to which the term "general neuro-fibromatosis" has been given. The several affections included in this group are as follows[2]: (1) multiple neuro-fibromata—generalised neuro-fibromatosis; (2) plexiform neuro-fibroma—plexiform neuro-fibromatosis; (3) molluscum fibrosum—cutaneous neuro-fibromatosis; (4) elephantiasis neuromatosa; (5) pigmentations of the skin associated with neuro-fibromatosis; and (6) "secondary malignant neuroma," being the sarcomatous transformation of one or other forms of neuro-fibromatosis. The best known variety of this group—multiple neuro-fibromatosis—can no longer be regarded, as formerly, as being due to the occurrence of multiple independent nerve tumours, in the strict sense of the word, but rather as local exaggerations of a diffuse or generalised overgrowth of the connective-tissue sheaths of the nerves. Each variety of the affection may occur independently and typically, but many cases occur which are intermediate, with every possible combination of lesions. The whole group is probably best known under the name of von Recklinghausen's disease, that observer having given in 1882 the first clear description of it, recognising the close relation of its various types. It is also known by the name, suggested by Bruns, "elephantiasis nervorum." The present case is an example of the last term of the series—secondary malignant neuroma.

As to the origin of the tumours the findings in this case harmonise completely with the generally accepted view that they arise from the endoneurium. The third tumour gives strong evidence on this point, which is strengthened by the description of a case by Sorgo.[3] Here some of the tumours were extremely small and in these he describes and figures multiple origins of the tumour concentrically round individual nerve fibres. Sorgo, however, goes on to say that the tumour originates from the neurilemma, a mode of origin *a priori* unexpected, and not, in our opinion, proved by his figure. Unfortunately, we did not see this paper until all the nerve-containing part of the third tumour had been cut up longitudinally, so we cannot compare transverse sections with his figure.

As to the effects of the neuro-fibromatosis on the nerve fibres we may further quote Alexis Thomson[4]: "The behaviour of the nerve fibres is one of the most disputed points in the morbid anatomy of neuro-fibromatosis and although the subject has received great attention, and although the most modern methods of staining the nerve fibres have been employed for its elucidation, it still remains undecided whether the nerve fibres participate in the morbid process or whether they remain passive and unaffected by the changes surrounding them. That the nerve fibres are lengthened as they pass over the tumour-like enlargements of the nerves or where they are dissociated from one another by the formation of new connective tissue between them, so that they pursue a wavy or spiral course, has been already referred to. Several observers have maintained that new nerve fibres are formed. ...... Although it is difficult to prove the negative, the new formation of nerve fibres may be regarded as unlikely in the absence of nerve cells. There is great difficulty in deciding the question as to the occurrence of degeneration in the already existing nerve fibres." And later: "It is very different in the case of sarcomatous transformation of the overgrown endoneurium, this being followed by the most extensive degeneration and destruction of the nerve fibres similar to that ...... occurring in the primary sarcoma of nerves."

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[1] Mott and Halliburton: Philosophical Transactions of the Royal Society of London, 194. 437 (1902). Quoted by Mann: Physiological Histology, p 252. Oxford, 1902.

[2] H. Alexis Thomson: On Neuroma and Neuro-fibromatosis.

[3] Virchow's Archiv, vol. clxx. (1902), p. 399.

[4] On Neuroma and Neuro-fibromatosis.

The findings in this case point to definite degeneration of nerve but whether this degeneration is due to the sarcomatous nature of the tumours or to their mere mechanical effects must remain to some extent uncertain. We hold the latter view, for, although the tumours were histologically sarcoma, they were still definitely encapsulated and capable of being shelled out. And there were no evidences of increasing disturbance of nerve function, such as is the rule in those cases in which sarcomatosis has supervened. The presence of leucocytic aggregations in the nerve is in harmony with degeneration in them and may be secondary thereto, as found by Ballance and Purves Stewart[5] in their work on nerve degeneration. So far as we know these leucocytic aggregations have not been described previously in this condition.

The distribution of the tumours in this case is, on the whole, typical. The involvement of one of the great plexuses (the lumbar), the occurrence of intramuscular tumours, and an extensive involvement of the sympathetic system are all common happenings. The vagus is far more frequently affected than any other cranial nerve. Implication of the nerves within the spinal canal occurs in about a quarter of all the cases and the nerves of the cauda equina are more usually involved. But the change is oftenest [illegible] which occurs [illegible] iem the same [illegible] nted out that [illegible] important particulars from primary sarcoma developing on previously normal nerves. About 17 per cent. of recorded cases of simple neuro-fibromatosis have developed sarcoma, and the sarcoma which occurs, while of the same structure as that which occurs in other situations, has the following peculiarities. Its onset, often in tumours that have existed for many years, is frequently determined by the removal of one of the tumours or other form of trauma, and while possessing a tendency to recur locally does not, with the rarest exceptions, give rise to metastasis but, on the other hand, is followed by a generalised sarcomatosis in the remaining tumours, and though the malignancy of these tumours is less than that of primary nerve sarcoma the cases invariably end fatally. For even if an early and successful removal of a tumour which has developed malignant features be carried out the patient is practically certain to sustain a fresh outbreak of sarcoma in other parts of his diseased nervous system. Our case illustrates some of the above points. One of the tumours (that which was removed) had taken on recent growth at a rapid rate and there existed throughout the other tumours a sarcomatous transformation, though not so extreme in degree.

Clinically, [illegible] increase in si[illegible] y ing structure [illegible] pain and loss of function of affected nerves, together with the usual accompaniments of wasting and cachexia. This case is probably in the stage of early and partial malignancy in the tumour removed (and but for which removal the patient might have lived some time longer), with early generalised malignancy in most, if not all, of the other tumours, which had not apparently given the usual clinical indications of such change. In this connexion the evidence of nerve degeneration described above is of special interest and importance, for the sarcomatosis of the tumours is so early that, in our opinion, they may be safely regarded as behaving in this respect like the simple tumours. The undoubted occurrence of such degeneration in simple neuro-fibromatosis has been noted in but a few cases, although of common occurrence where the tumour presents clinically the features of malignancy.

Two tumours had been removed two months prior to admission to the Leeds Infirmary and it is a matter for regret that the scars were not examined histologically. It is doubtful if this were the determining cause of the sarcomatosis which may have anteceded that event, although it may possibly have accelerated the progress of the disease.

The etiology of the affection is obscure. The only point of importance worth noting in this case is the influence of heredity, which has an especial bearing on the pathology. There have been only some 13 previously recorded cases in which heredity, or occurrence in families, has been evidenced and the particular variety of the affection was not always the same in the same family and the evidence occasionally not as convincing as in this case. Still, the proportion of cases in which such a factor has been traced, together with their frequent association with other developmental errors and their occurrence at birth or in early life, is such as to render very probable the view that it is a disease of the nervous system dating from intra-uterine life.

The clinical symptoms resulting from the presence of these tumours is, on the whole, remarkably slight, as is illustrated by our case, except in those which have undergone marked sarcomatous transformation, when they are the rule. But, as we have seen, the sarcomatous change in the present case, though generalised, was not sufficiently advanced to cause them. The absence of symptoms is often such that patients do not notice the presence of the tumours or cannot remember the date of their origin. An exception occurs, of course, where the tumours press upon the spinal cord or nerve roots or where there are effects from pressure on other viscera. (The ureter and kidney were involved in this case but it is not certain that any symptoms were referable to this.) This raises the interesting question as to how much pressure is necessary to cause nerve degeneration, in view of the rarity with which such degeneration has been found in these cases, and also how much degeneration is compatible with intact function, for here there were definite degeneration and very little evidence of disturbed function. Again, both vagi were freely involved, as is frequent, yet no symptoms referable to this fact seem to have occurred and this has been the rule in similar cases. The size of the abdominal tumour in this case is exceptional, though R. W. Smith, in his important memoir, records a still larger one.

We do not give a bibliography of the subject, for Alexis Thomson in his monograph, which we have freely utilised, has given an extensive one up to 1900 and we have noted no case of importance since that date.

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[5] The Healing of Nerves, Macmillan, 1901, p. 94.

THE TREATMENT OF TUBERCULOSIS OF THE LUNGS BY MEANS OF TUBERCULIN AND OTHER BACTERIAL DERIVATIVES.[1]

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AT a time when the costly methods of sanatorium treatment are being so closely considered it is not at all out of place to view the other more directly combative measures which from time to time have emanated from the laboratories with the object of ascertaining whether they hold out any hope of a more economic means of dealing with so widespread a disease as tuberculosis or whether by their employment it may not be possible to supplement the results of sanatorium treatment and so increase the number of cases of cure and improvement. That there is room for improvement is shown by the figures quoted by Jessen.[2] Engelmann found that the German sanatoriums produced a leaving cure of 74 4 per cent.; after four years 79·9 per cent. of these patients were dead or unable to work. Even after four years only 44 per cent. of the cases in stage I. were able to work In Turban's cases after one to seven years 30·4 per cent of the first stage cases were able to work. In the Basler sanatorium at Davos after four years from leaving, counting all cases, 64·3 per cent. were capable of full work. Meissen[3] gives a report of what are described as the best results of an average stay of five months in the Hohenhonnef sanatorium—248 in number. From three to 11 years later 84 per cent. were sound and able to work, 16 per cent. had relapsed, and some of these, about 3·6 per cent. of the total, had died.

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[1] A paper read before the University College Medical Society on Jan 18th, 1905.

[2] Centralblatt fur Innere Medicin, 1902, No. 23, S. 587.

[3] Zeitschrift fur Tuberkulose und Heilstättenwesen, 1903, Band iv., Heft 2, S. 115.

It is now some 14 years since Koch introduced what is known as the "old" tuberculin for the treatment of pulmonary tuberculosis. For many reasons the method fell into disrepute but now, probably because observers have learnt to be more patient and have carried out the treatment with less haste and more judgment and knowledge, there appears to be a tendency once more to consider the more direct attack of tuberculous disease by bacterial products combined with what is more usually understood as sanatorium treatment. Before proceeding to an account of these more direct methods it is necessary to call attention to several points. It will probably be not far wrong to say that in a general hospital cases of tuberculosis of the lungs are interesting from the single point of view of diagnosis and that when it has been decided that the disease is present the little that remains to be done in the case of the poor who frequent the hospital is to treat them symptomatically and to do all that is possible to prevent them from infecting those around them because in the large majority of cases the disease is too far advanced to allow of successful treatment by special methods. One of the first things to be discovered in a close study of tuberculosis of the lungs is that many phthisical patients live for years. Families may be decimated by tuberculosis, the source of infection being one of the parents who for years has been the subject of the disease but beyond having occasional attacks of bronchitis and "asthma" or winter coughs has had no symptoms calling for careful examination and treatment. The following is an account of such a family. The parents, both apparently well, have had 13 children. The first four and the seventh died at ages varying from a few weeks to four and nine months; it is impossible to say whether any of these were tuberculous. The fifth child died aged ten years from tuberculosis of the lungs; the sixth child, at six years, from tuberculosis meningitis; the eighth, ninth, and tenth children died at 15, 21, and 19 years respectively, all from tuberculosis of the lungs; there are three children living, one a girl, aged 28 years, quite well; another aged 18 years, who is well now but formerly was an out-patient at Brompton; and a boy, aged six years, who was brought to me and was found to be tuberculous. Both parents allowed themselves to be examined and the husband was found to be tuberculous. Such a history will serve to show how insidious a disease uberculosis of the lungs is and as quite possibly the father ad infected his children one after the other it will also now how necessary it is when once a case of tuberculosis of he lungs comes under observation to search for evidence of imilar disease in all those with whom the patient has been n contact.

Another point that requires consideration is the meaning f the term "cure." Loss of tissue cannot be made good ut it is quite certain that many people who have formerly ad the tubercle bacilli in their sputum are free from ymptoms of lung disease, have no tubercle bacilli in their putum, and are able to pursue their avocations in life with onsiderable success. Such a condition may be reasonably alled a cure, but by this we do not mean a cure in an absolute sense, such as we do of an attack of diphtheria. Tuberculosis of the lungs often is so slowly progressive that it does not fall to the lot of many physicians to be able to say they have watched such cases to the end and found that the patient has died at a good age from some other malady, the tuberculous diseases having entirely involuted. It is hardly necessary to recall the fact that the tubercle bacillus has only been certainly recognisable since 1882–84, when Koch discovered the organism and a certain method of recognising it. Advanced case of tuberculosis of the lungs where from three to five lobes are involved cannot be cured, though the disease may in favourable cases be arrested for a time. The problem, however, is very different when the question is raised whether a case with one lobe only involved, or a moderate amount of two lobes, can be cured. The answer is that such a case may be curable, but even in these cases it is not justifiable to say that a cure is certain, though it would be quite right to urge that such a case should be given every chance of sanatorium and other treatment.

Another point which should be carefully remembered is this, that it is not now considered so essential to spend time simply in investigating the degree of disease at any one part of the lung area, i.e., from what may be called a pathological point of view; to diagnose that the lung is in one or other of the three conditions of invasion, consolidation, or excavation is well enough in a post-mortem description, but from a practical point of view this method must be supplemented and what may be styled the "sanatorium" attitude must be adopted as well, and an endeavour must be made to discover rather how many lobes and what extent of each is involved at all. Turban[4] speaks of three stages: stage I., if only one lobe is the seat of moderate disease or if parts of two lobes are moderately involved; stage II., in which two whole lobes are moderately involved or one severely; and stage III., when the disease is more extensive than stage II. The adoption of this classification will save many rather unnecessary conflicts as to whether a cavity is or is not present and judging from the universal acceptation of Turban's grouping will serve to show how very necessary it is to know what are the superficial anatomical lines of separation of the various lobes and over what extent dulness to percussion, altered breath and voice sounds, and adventitious sound are present.

Lastly, it is necessary to remember the importance of detecting tubercle bacilli in the sputum, for cases of acute and chronic apical disease occur presenting even in the latter case the signs of cavities which are not due to tuberculous disease; unfortunately, tuberculous disease may be present without revealing any signs and the patient may not have any expectoration. If suspicious of tuberculous disease, judging from such ominous signs as wasting, night sweats, and hæmoptysis, it may be necessary to resort to the tuberculin test, though this requires the greatest care in application.

It must be very distressing for the public to hear that an observer whose experience is a very large one has recently been obliged to admit that the proportion of absolute cures of pulmonary tuberculosis, even when all methods are available, is not very large, if by absolute cure is meant the disappearance of symptoms and of abnormal physical signs, together with the loss of bacilli from the sputum. It would be most satisfactory if records of absolute cures were published in detail with special reference to the duration of the cure. Some observers even doubt that there is such a thing as an absolute cure of pulmonary tuberculosis when once the process has produced physical signs. This, however, is taking too sombre a view, for there are cases known to physicians of large experience in whom there has been an absolute cure such as has already been defined. Even if cases are not curable in an absolute sense patients may be told that so much can be done by open air and other treatment that life is greatly lengthened and you as medical men must be prepared with the knowledge of what cases are suitable for special treatment, for it is cruelty to send a hopeless case away from friends and home and it is a serious fault on the part of the medical man unnecessarily to put the friends to the cost of such special treatment. Naturally the authorities at sanatoriums aim at securing early cases for treatment, for such cases alone are capable of being cured, although not certainly.

1. *The tuberculins.*—The name "tuberculin" has been given to several potent agents which are prepared from the secretions of the tubercle bacilli or from the bodies of the bacilli. Robert Koch elaborated his first tuberculin in 1890–91 and this agent is sometimes spoken of as the "old" or original tuberculin (T). Designed at first as a remedial agent it has now become a most valuable diagnostic aid, but it is incorrect to say that it not used for remedial purposes because recently there have been published reports of its use, alone or combined with the newer forms of tuberculin, as an agent capable of materially improving the percentage cures of pulmonary tuberculosis. It is as well at this stage to remember that in this country the scepticism which followed on the failure of Koch's earlier attempts to cure cases of tuberculosis by means of tuberculin prevents not only the use of the old tuberculin for therapeutic purposes but even for diagnostic ones. In certain well-known continental sanatoriums the use of tuberculin in treatment is a common practice. Extended observations which have been carried out for many years with most rigid care and attention to detail on the value of the tuberculins are now being published and judging from the evidence which is brought forward it is impossible to avoid the view that tuberculins as a specific means of treatment have a real value.

The original or "old"-tuberculin is practically a glycerine extract of tubercle bacilli; it also contains some of the ingredients of the medium in which the bacilli are grown and some of the products of their own activity. The bacilli, which are not necessarily virulent, are grown in large shallow flasks containing slightly alkaline veal broth, glycerine, and peptone; free access is given to oxygen. After from six weeks to three months the bacilli will have [illegible] material. [illegible] 110° C. [illegible] a water [illegible] filtrate is again evaporated till it has reached one-tenth of its original bulk and is once more passed through a Chamberland filter. The resulting liquid is known as Koch's "original tuberculin"; it is brownish red in colour and the glycerine present renders it viscid. The old tuberculin has a specific gravity of 1179[6] and by means of this figure it is possible to convert the dosage from cubic centimetres to grammes. It is very common, however, to use measurement by centimetres when speaking of the old tuberculin. Unfortunately there is no exact standardisation of the old tuberculin; a rough one is that a full-grown guinea-pig should be able to tolerate 1 cubic centimetre and that a similar animal inoculated with tubercle bacilli should be killed by a dose of 0·1 cubic centimetre.

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[4] Ueber beginnende Lungentuberkulose, Wiesbaden, 1899, S. 31.

The toxins present have been investigated by Hunter, Kühne, and others. Several alkaloids are present, possibly responsible for the febrile reaction following injection. In addition there are present three or four albumoses, one of which was formerly considered to be remedial and another responsible for the inflammatory reaction provoked around the foci of tuberculosis. Peptone has also been detected in the old tuberculin. Considerable doubt exists as to whether albumoses are the real toxic agents responsible for the changes following injection. It is more and more suspected that they act merely as carriers of the real active ferments which so far have not been isolated. The important point to remember is that old tuberculin is not only filtered but it is sterilised; risk of inoculation with this fluid is, therefore, practically impossible. The large proportion of glycerine present renders it possible to preserve the old tuberculin indefinitely so long as it is kept in a cool place. In 1897 Koch produced a series of tuberculins—Tuberculin Oberer, known as Tuberculin O, Tuberculin "rest" or Tuberculin R, and Tuberculin alkalinum or Tuberculin A. The reason for the introduction of these agents was that it was felt that the original tuberculin contained but little of the toxic substances capable of provoking in the human body anything approaching to immunity. A young growth of highly virulent tubercle bacilli is procured from glycerine serum; the growth is then dried in vacuo and thoroughly pulverised in a steel mortar containing non-glazed porcelain balls; this is preferably carried out by machinery and should last five or six days. The powder is then mixed with sterile distilled water and thoroughly centrifugalised for three quarters of an hour. The supernatant liquid is then removed and constitutes what is known as Tuberculin O. The residuum is again dried, further triturated, and emulsified with another supply of sterile distilled water and centrifugalised once more; the upper portion is pipetted off. The residuum left is treated by a repetition of the above processes until at last no residuum is left. All the fluids pipetted off at each stage, except the first, are combined and are known as Tuberculin R. To preserve the fluid a certain quantity of glycerine is eventually added but before this is done the tuber- [illegible] filter; unlike the [illegible] it. It will be seen [illegible] these newer tuberculins, first, because they are obtained from highly virulent cultures, and, secondly, because they are not sterilised. Tuberculin alkalinum—i.e., Tuberculin A—is obtained by extracting dried tubercle bacilli with decinormal soda solution and then filtering. It is no longer used as it invariably produces abscess formation at the seat of injection. Tuberculin O and Tuberculin A produce effects which are closely allied to those produced by the old tuberculin—i e., they intensify the necrotic processes [illegible] tuberculous foci. [illegible] is the agent which [illegible] local reaction at the seat of lesion or injection; it appears to produce immunity. Old tuberculin causes local reaction and necrosis around the lesion and apparently also possesses the power to some extent of producing immunity. The necrosis is probably due to the interaction of two agents—one present in the old tuberculin and the other in the infected individual.[6] Wright[7] includes old tuberculin and Tuberculin R in his classification of tubercle vaccines—i.e, those derivatives of the protoplasm of the tubercle bacillus which, on introduction into the body, are capable of producing substances which enter into chemical combination with the tubercle bacillus—the so-called "tuberculo-tropic" substances of Ehrlich. It must be noted that this use of the term vaccine is somewhat at variance with the more classical use of the term. The term vaccine is closely associated with the name of Jenner and his method of treatment consisted in introducing an attenuated but not necessarily sterile vaccine into the body to protect against small-pox.

The strength of Tuberculin R is such that one cubic centimetre contains 10 milligrammes of solid matter. The doses, however, are not expressed in cubic measure but by weight, not, it must be remembered, of the liquid but of the dried substance contained within it. This is an important matter, for unless accuracy is observed in dosage such potent agents as the tuberculins are capable of producing serious results, as was probably the case in one of three fatal cases occurring after the use of tuberculin.[8] This was due to a confusion of the dosage of Tuberculin R with the dosage of Koch's "new tuberculin," known now as the "emulsion of tubercle bacilli" or "bacillary emulsion."[9] This tuberculin is simply an emulsion of the powdered bodies of tubercle bacilli in a 50 per cent. solution of glycerine; the mixture is allowed to stand till all appreciable particles have sunk and the supernatant liquid is drawn off and is ready for use. There is no sterilisation and there is no filtration. Thellung[10] discovered a sample of bacillary emulsion which produced fatal results on injection into animals. The emulsion is interesting because, like Tuberculin R, it has a marked power of raising the agglutinating properties of the serum of the animal into which it is injected, by which is meant that the serum readily causes the clumping of tubercle bacilli. One cubic centimetre of the fluid contains five milligrammes of powdered bacilli.

Besides the above three groups of preparations derived from the tubercle bacillus by Koch, other agents derived in a somewhat similar way have been prepared by other workers. Some have been almost discarded and others are so new that little information at present can be obtained as to their value. One of these more recent tuberculins is know as Béraneck's. Its mode of preparation is briefly the following.[11] Tubercle bacilli are grown in a mixture of broth and solution of lime. This is then filtered and the filtrate which is evaporated to a syrupy consistence is claimed by Béraneck to contain a group of bodies which he calls basitoxins. The remnants of the tubercle bacilli which have not passed into the filtrate are then digested with a 1 per cent. solution of orthophosphoric acid and filtered. The filtrate contains a group of bodies described by Béraneck as acidotoxins. Experimentally, Béraneck finds that guinea-pigs are enabled by the injection of a mixture containing equal parts of the basi- and acido-toxins to survive inoculations with tubercle bacilli. Denys[12] has also prepared a tuberculin by growing tubercle bacilli in glycerine broth, then filtering and using the filtrate; no heat is applied. It will be thus seen that this preparation, though possibly containing materials that are destroyed by sterilisation (carried out by Koch, in the preparation of old "tuberculin"), is more dangerous by reason of the absence of sterilisation. Hirschfelder,[13] believing that toxins become antitoxins by a process of oxidation by the tissues, prepared tuberculin from a virulent strain of tubercle bacilli and then oxidised it *in vitro* by means of hydrogen peroxide; after sterilisation this preparation was injected for remedial purposes. Hunter[14] and Hahn endeavoured to separate the remedial albumoses from old tuberculin but, as has already been mentioned, there is reason to believe that albumoses are rather the carriers of toxins than the actual toxic agents. Ruppel[14] has separated from tuberculin what has been called tuberculinic acid, which, however, according to Behring and Kitashima[16] is closely allied to nucleinic acid.

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[6] Waldheim: Die Serum-, Bakterientoxin- und Organ-Präparate, 1901, S. 186.

[7] [illegible] Serums Vaccines, and Toxins, London 1904, p 241.

[8] [illegible] vol lxxiv, No 499, p 171.

[9] [illegible] Adler, Präger Medicinische [illegible] schrift, 1901, Nov. 28th, S. 829.

[10] [illegible] Abtheilung I No 1, S 28.

[11] [illegible] 1903, No 48, p 393.

[12] [illegible] Médecine de Belgique, 1902, tome xvi, No [illegible]

[13] Deutsche Medicinische Wochenschrift, 1897, Therapeutische Beiträge, No. 4, S 25.

[14] Brit. Med. Jour., 1891, vol. ii., p. 169.

Two other forms of tuberculin, or rather modifications, are known as Klebs's tuberculocidin and antiphthisin.[17] Klebs, also believing that the process of sterilisation adopted by Koch in the preparation of old tuberculin drove off certain important volatile constituents, dispensed with the use of heat and separated by special processes tuberculocidin and antiphthisin which are of the nature of albumoses but present enzyme action. Klebs was able to show that tuberculocidin was capable, after injection into an infected animal, of producing marked morphological changes in the tubercle bacilli. Finally, Hahn, following Buchner's methods, obtained by the hydraulic pressure of masses of tubercle bacilli a solution which he called tuberculo-plasmin. Von Ruck[18] has also prepared for use an aqueous extract of Koch's tuberculin, the attempt being made, as was Hunter's, to obtain an agent which produced no harmful symptoms.

2. Before dealing with the statistical part of the subject it will be well to turn to the other efforts that have been made directly to combat tuberculosis. Various workers have endeavoured to produce what are known as *antituberculous sera.* The principle of preparation is considerably different from that underlying the production of tuberculin, though the end in view may be of the same order—viz., to secure the neutralisation of toxins produced by the tubercle bacilli in infected individuals by the development of anti-bodies, to secure the production of bacteriolysins for the purposes of solution of the bacteria or to increase the function recently described by Wright (*vide supra*) as an opsonic pressure or power present in the serum, by which power the bacilli succumb the more readily to the digestive action exerted by the phagocytes of the blood.

Antituberculous sera are produced in the same way as antidiphtheritic serum. The first attempts in the direction of the use of antituberculous sera were made by Richet and Héricourt[19] who sought to render rabbits immune to experimental inoculation by the use of the serum of dogs—animals which are naturally immune to tuberculosis. Behring, Nissen, and other workers have shown that this method is useless. The next step was to inoculate animals with tubercle bacilli and Richet and Héricourt introduced virulent human tubercle bacilli into dogs; after six days the dog serum was obtained and introduced into the tuberculous patient and apparently with some good results. A further attempt was made by Behring and others to produce an antituberculous serum in animals by the injection of tuberculin. Babes and Proca attempted to check avian tuberculosis by the injection of dead or attenuated human bacilli. At this stage Maragliano developed his method, basing it on the idea that neither the old tuberculin nor Tuberculin R really contained all the toxins of tubercle bacilli. His tuberculin was really a mixture of two tuberculins to all intents and purposes like old tuberculin and Tuberculin R with the exception that for the preparation of the former virulent strains of tubercle bacilli were used; the one prepared by sterilisation contained, as old tuberculin does, a substance which causes a rise of temperature, and the other, like Tuberculin R, contained a substance which causes a fall of temperature. In 1899 Maragliano[20] described a variation of his earlier mode of preparation, using heat to 90°–95° C. instead of 100° C. To obtain an antituberculous serum he injected this toxic material into dogs, asses, and horses in increasing doses for several months and three to four weeks after reaching a maximal dose the animal was bled and the serum obtained. This serum is said to be both bacteriolytic and antitoxic.

Nicholls[21] has prepared a serum from goats by means of injections of Koch's Tuberculin R. The last of these antituberculous sera to attract attention is one introduced by Marmorek.[22] After discussing the effects of tuberculin Marmorek expresses the opinion that tuberculin introduced into tuberculous subjects stimulates the tubercle bacilli to produce a toxin which is capable of causing a reaction—rise of temperature, &c.—and he finds that this reaction is especially marked in cases of early infection. He has devised a special method by means of which he asserts that he is able to obtain this special substance. He uses a young culture of tubercle bacilli and cultivates in a special medium consisting of a mixture of glycerine broth and of a leucotoxic serum obtained from a calf which has been previously treated for a long time with injections of leucocytes obtained from guinea-pigs. In this medium the special toxic agent differing from tuberculin is produced; by means of the filtrate obtained from this medium Marmorek asserts that rabbits can be rendered immune against tubercle bacilli. In order to produce serum for curative purposes horses are injected with the filtrate during a period of eight months. The serum obtained from horses treated in this way renders rabbits immune against the tubercle bacilli, though at the time of writing Marmorek had not succeeded in making guinea-pigs immune against tubercle bacilli. The immunised rabbits on being killed were found to be free from tuberculous lesions, though control animals had succumbed to tuberculous infection following inoculation with tubercle bacilli.

3. *Vaccination against tuberculosis.*—The use of vaccines in tuberculous cases has already been referred to. It is, of course, quite clear that it is not meant that vaccination against tuberculosis is possible by means of the vaccine used against small-pox. It is in many ways unfortunate that the term should be used in any sense other than the original Jennerian one, because in the case of small-pox the actual ferment, organised or unorganised, has not yet been discovered, whereas in tuberculosis this difficulty has been surmounted. However, the term is in use and it is necessary to know what is meant by it. The idea is that tubercle bacilli may be so attenuated by various means that inoculation with them does not produce any tuberculous disease but is capable of producing anti-bodies. Such attenuated organisms have been introduced into lower animals or lower animals have been inoculated with avian or bovine tubercle bacilli. The serum of these inoculated animals has been used but then such treatment would, strictly speaking, be a serum treatment to which reference has already been made. No one so far has dared for prophylactic, diagnostic, or remedial purposes to inoculate a human being with a culture of tubercle bacilli however attenuated, and Maragliano's so-called vaccine described by him at the International Congress of Medicine at Madrid in 1903[23] is non-living so that it cannot be other than some form of tuberculin or serum. At this stage the question may be raised whether it is not a useless task to endeavour to produce immunity to this organism when almost all clinical experience and much experimental work tend to show that immunity against the tubercle bacillus is impossible of production. This objection no longer holds, since Wright[24] has not only demonstrated the possibility of increasing the defensive properties of the serum against this particular organism but has reduced the problem to positive mathematical proof.

Antistreptococcic sera.—The last method requiring attention is one which aims at overcoming the secondary infections which prove so serious when once tubercle bacilli gain access to the lungs. Some maintain that these other infections precede the tuberculous one. Before any of the above special methods of treatment are instituted it is necessary to reduce the fever by all the general methods, such as rest in bed, fresh air, &c. It is not possible in all cases to bring the temperature to the normal limit, for a pure tuberculous infection is capable of maintaining an elevation of a degree or so. Unfortunately general methods only too frequently fail to reduce the temperature to such moderate limits as 99° or 100°. To obviate this difficulty much attention has of late been given to the use of antisera calculated to overcome the other organism or organisms present in cases of mixed infection of the lungs, more especially the streptococcus. The difficulty in finding an antistreptococcic serum which will, in a remedial sense, fit the particular streptococcus causing different forms of streptococcic septicæmias is a very great one, so that it would be naturally expected that this method would be likely to meet with many failures. An effort has, however,

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[15] Hoppe Seyler's Zeitschrift fur Physiologische Chemie, Band xxvi., Hefte 3 and 4, S 218.

[16] Berliner Klin[illegible] No. 25, S. 537.

[17] Die causale [illegible] 1894, S. 487.

[18] Th[illegible] 08.

[19] Comptes Rendus [illegible] de Biologie, 1889, March 2nd, p 157.

[20] Berliner Klinische Wochenschrift, No. 49, S. 385.

[21] Montreal Medical Journal, 1903, vol xxxii., p. 475.

[22] Archives Générales de Médecine de Paris, Nov. 24th, 1903, p. 2945; THE LANCET, Nov. 21st, 1903, p. 1470, and March 26th, 1904, p. 854; and Berliner Klinische Wochenschrift, 1903, No. 48, S. 1108.

[23] Medical News, July 4th, 1903, p. 1.

[24] Loc. cit.

been made to overcome this difficulty by the introduction of what is known as polyvalent antistreptococcic serum.

The application of tuberculin in treatment.—If the more special treatment with tuberculin is to be tried then certain rules advocated by Goetsch[25] and others should be followed. The patient should be free from fever or the febrile reaction should be very slight; the amount of tuberculin injected must not be increased unless the last dose has been tolerated without any reaction; the patient must be kept in bed on the day of injection as well as on the following day; if reaction takes place then the next dose should be of the same size as the one which preceded it; if a very marked reaction takes place then the dose is repeated at a longer interval, say, from four to eight days, and is reduced in amount; supposing no reaction occurs after each increasing dose then the intervals of injection should be two free days; these rules apply to the use of old tuberculin and bacillary emulsion. Petruschky[26] gives the following table of the doses of old tuberculin and bacillary emulsion to be administered at intervals as above directed and it will be noticed that both forms of tuberculin are measured by weight. As a vehicle Petruschky recommends a solution of pure carbolic acid one part, sodium chloride 1·5 parts, and distilled sterilised water 200 parts. The syringe kept specially for the purpose should be sterilised and the seat of injection should be cleansed with spirit and ether.

DOSES FOR ADULTS.

Old tuberculin (in milligrammes).—0·1 milligramme—0·25—0·5—1·0—2·0—3·0—4·0—6·0—8·0—10·0—15·0—25·0—35·0—45·0—60·0—80·0—100·0.

Bacillary emulsion containing five milligrammes of solid substance in one cubic centimetre (in thousandths of a milligramme).—0·1 thousandths of a milligramme—0·3—1·0—2·0—3·5—5·0—7·0—10·0—15·0—25·0—35·0—45·0—60·0—80·0—100·0.

Should the treatment with old tuberculin be badly tolerated it has been found beneficial to institute a course of bacillary emulsion as above indicated, continuing with it till a dose of 0·1 milligramme is reached, when treatment with old tuberculin in the doses above mentioned is recommenced. It is also found advisable to repeat the [illegible] even for several [illegible] by "intervals." [illegible] le and unfavourable signs during the treatment with tuberculin and in the near future it is probable that Wright's methods of estimating the opsonic power of the blood rather than methods for testing the agglutinative power will be used to supplement and possibly to replace the ordinary clinical estimates of the patient's improvement or the reverse and with an accuracy which is mathematical. The same means of estimating the changes in the opsonic power of the serum of a patient under treatment with tuberculin injections are also available for determining the time at which it is most favourable to carry out subsequent injections; an injection given during the negative phase of the phagocytic reaction as estimated according to the method of Major W. B. Leishman, R.A.M.C., may cause a greater depression of phagocytic power which, as Wright has shown, is due to a greater fall of opsonic power in the serum of the patient's blood.[27]

Results of tuberculin injection as shown by statistical records.—From a collection of 656 reported cases largely drawn from publications of Pottenger, *vide infra*, in which the tuberculins were used in the earliest stage of pulmonary tuberculosis, the percentage of cures in the sense already defined and in some cases observed for six years, in others for several months, averaged 91. In a series of 611 cases in a similar condition treated without tuberculins the average percentage of cases was 62—a difference of 29 per cent. In this last connexion, to show what a vast difference there is between the results obtained at sanatoriums where the circumstances of the patient are so much more favourable and the surroundings more conducive to improvement these figures may be compared with those of the Brompton Hospital. In 1902, 296 ordinary cases of tuberculosis of the lungs with one or two lobes affected were admitted; of these 22 per cent. only are reported much improved. In 1903, of 160 similar cases admitted 42 per cent. are reported as much improved. Trudeau has also given the results of two sets of cases of similar degree of lung affection; 46 cases treated with tuberculin gave a cure of a little over 80 per cent.; of 47 cases not treated with tuberculin 72 per cent. were cured in the same sense as the others. Turban[28] has given details of two sets of cases with tubercle bacilli in the sputum; of 86 cases treated with tuberculin 52·6 per cent. showed permanent good results and 47·7 per cent. were freed from tubercle bacilli in the sputum; of 241 cases not treated with tuberculin but with an equal degree of involvement of the lung and with tubercle bacilli in the sputum, 39·4 per cent. only showed permanent good results and only 27·4 per cent. were freed from the tubercle bacilli in the sputum. Turban[29] has also given the results of treatment in cases in which the disease had reached what he calls the third stage; 21 were treated with tuberculin and 75 per cent. were alive at the end of two years; of 84 similar cases not treated with tuberculin 50 per cent. only were alive at the end of two years. Lawrason Brown, reporting results obtained at the Adirondack Sanatorium,[30] found that in 325 early cases the percentage of cure of the total number was 63 per cent., as against 72 per cent. when tuberculin was used. This would indicate that tuberculin produced but very little improvement, and criticising the figures given by Brown it would really appear that 204 out of 282 cases were apparently cured without tuberculin, which is 72·3 per cent.—*greater* than the results with tuberculin. Pottenger,[31] collecting records of a large number of cases of tuberculosis of the lungs, irrespective of stage of severity, finds that 44·9 per cent. are apparently cured when culture products are used and only 13 per cent. when this method is not adopted. Moeller and Kayserling[32] speak most favourably of

Table showing the Results of Treatment of Early Cases of Pulmonary Tuberculosis.

With Tuberculin.

Observer.	Publication.	Total treated.	Stage.	Percentage cured.
Turban.	Welcker's Beiträge zur Frage der Volksheilstätten, p. 22.	20	I.	100
Trudeau.	Transactions of the Association of American Physicians, 1900, p. 36.	24	,,	83
V. Ruck.	Clinical Reports, Winyah Sanatorium, 1899.	105	,,	93
Jessen.	Centralblatt für Innere Medicin, 1902, No. 23, p. 585.	14	,,	100
Wilkinson.	Brit. Med. Jour., 1902, vol. i., p. 1389.	12	,,	100
Klebs.	Quoted by Pottenger.	14	,,	100
Rembold.*	Quoted by Wilkinson.	16	,,	75
Goetsch.	Quoted by Pottenger.	356	,,	78
Pottenger.†	Therapeutic Gazette, 1902 (p. 13) and 1903 (p. 163).	10	,,	100
Lawrason Brown.‡	Zeitschrift für Tuberkulose und Heilstättenwesen, 1904, Band iv., Heft 3 und 4.	31	,, (probably)	72
Pétruschky.§	Berliner Klinik, 1904, Heft 188.	54	I., II.	100
		656	—	91
	Without Tuberculin.			
Bowditch.	Report of Massachusetts State Sanatorium at Rutland.	66	I.	59
Clapp.	Report of Massachusetts State Sanatorium at Rutland.	82	,,	64
Trudeau.	Report of Adirondack Cottage Sanatorium.	300	,,	68
Stubbert.	Report of Liberty's Sanatorium.	163	,,	58
		611	—	62

* [illegible]

† [illegible]

‡ Appa[illegible] indicativ[illegible] or if present no tubercle bacilli.

§ Patients were strong, chronic, non febrile cases.

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[25] Deutsche Medicinische Wochenschrift, 1901, No. 25, S. 405.

[26] Berliner Klinik, 1904, Heft 188.

[27] Wright: Brit. Med. Jour., 1904, vol. ii., p. 583.

[28] Loc. cit., S. 153

[29] Ibid.

[30] Loc. cit.

[31] Therapeutic Gazette, 1902, p. 13.

[32] Zeitschrift für Tuberkulose und Heilstättenwesen 1902, Band iii., Heft 4, S. 279.

the use of old tuberculin in 18 cases and also of the bacillary emulsion of Koch in seven cases. Klebs[33] gives as a result of treatment by tuberculocidin: Stage I., 16 cases, 16 healed; stage II., 22 cases, none dead, none unimproved; and stage III., 68 cases, 41 essentially improved. Jessen's results are as follows: Stage I., 14 cases, in all a great improvement; stage II., 11 cases, 55·4 per cent. decidedly better; and stage III., 11 cases, 36·0 per cent. improved; this is usual in this stage. Von Ruck,[34] using tuberculocidin and antiphthisin, finds an apparent recovery in 81 per cent. of cases in stage I., 35·1 *per cent. of cases in stage II., and 9 per cent. of cases in* stage III.

Use of Marmorek's antituberculous serum.—This serum is given either in two doses daily of two and a half cubic centimetres each or in one five cubic centimetres for four days followed by a week's rest. The administration for four days followed by a week's rest is repeated three times. An interval of 14 days elapses and then the above course is repeated. If the temperature of the patient rises at any time no more serum is injected for a week. Marmorek[35] finds no results in advanced cases of pulmonary tuberculosis or in cases of tuberculous meningitis but there is improvement in less advanced cases of disease of the lung; rapid absorption of fluid was found in two cases of pleural effusion. No untoward local or general reactions occur. Dieulafoy[36] reports the results of the use of Marmorek's serum on four cases of pulmonary tuberculosis, two with pulmonary and laryngeal tuberculosis and one with effusion. The serum did not appear to have a favourable effect on the fever, the sputum, or the general nutrition. The observations were carried out in September and October, 1902. Guinea-pigs inoculated with tuberculous sputum and treated with the serum died sooner than control animals simply inoculated with tuberculous sputum. Klein and Jacobson[37] collected 31 reports on the use of this serum as published by Rothschild-Brunier,[38] Montalti,[39] Jaquerod,[40] Latham,[41] and La Néele and de Cornières,[42] and contributed cases of their own. Their opinion is favourable to the use of the serum. Montalti reports on six cases: the least advanced were practically cured and four others were distinctly benefited. Jacquerod thinks the results quite justify a continuance of the method. Rothschild-Brunier made observations on one case the subject of tuberculous lung disease and on several others which were being treated for fistula and bone and joint disease. Latham's results of the use of the serum in pulmonary tuberculosis point to a definite specific action on the part of the serum but for remedial purposes he recommended that the serum should be applied in cases less severe than the ones in which he tried the method. Lucas-Championnière[43] was unable to observe any favourable results in a case of Pott's disease, in tuberculous abscess of the hip, tuberculosis of the lungs and testicle, and two other cases of local tuberculous disease. Béraneck[44] reports that his tuberculin has been tried in 90 cases, with and without fever, and thinks that he has seen improvement in 60 per cent. Paris[45] gives full details of the mode of administration and dosage of Béraneck's serum. After the injection a general rise of temperature may take place with malaise, headache, rigors, and profuse sweats. Paris has used it in 65 cases, 14 of which were in the first stage of pulmonary tuberculosis, 19 in the second, and 32 in the third. As a result of the treatment, all the first group were cured, seven of the second, and none of the third. Other than the effects mentioned above Paris found the tuberculin quite harmless and in some 5000 injections had no case of abscess formation. Maragliano's serum appears to be disappointing, but Mircoli[46] gives details of the results in 2899 cases with cure in circumscribed febrile and non-febrile cases amounting to about 22 per cent.

Finally, there remains to be considered the antistreptococcic treatment of pulmonary tuberculosis. Menzer[47] gives the results of 22 cases. 11 of these cases were the subjects of pulmonary tuberculosis in the first stage; eight were cured (disappearance of catarrhal signs and an average gain in weight of 12 pounds in three and a fifth months), and three, still under treatment, gained five pounds in a little over a month. Three other cases in the second stage showed improvement with a gain of weight. Five cases in the third stage also improved, gaining weight, and three others were unimproved. Bonney[48] reports his results in the treatment of mixed infection in pulmonary tuberculosis. Of his 26 cases, three were quite cured; distinct improvement was found in 17 *cases, though in eight of these symptoms alone were relieved,* the ordinary course of the disease remaining unchecked; in the remaining six cases no results were obtained. Ostrovsky[49] describes how Menzer's serum is obtained from horses which have been rendered immune against streptococci obtained directly from man. Ostrovsky reports the results of treatment of 24 cases, possibly including Menzer's cases. 12 cases were cured, ten were definitely improved, and two were relatively improved. The methods adopted to estimate improvement in these cases is unsatisfactory, so that cure has a very doubtful meaning.

I have thus endeavoured to bring before you the various materials which may be used for the specific treatment of tuberculosis and also the results obtained. No material has, so far, been before the medical world so long as Koch's tuberculins. Judging from the evidence it would seem that the use of the tuberculins materially improves the results of treatment. It would seem therefore quite justifiable to supplement the ordinary treatment by sanatorium methods with this specific one. Tuberculin treatment is of little use alone, so that its re-introduction, though of such material value, would not reduce the cost of treatment.

Devonshire-street, W.

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[33] Jessen: Zeitschrift fur Tuberkulose und Heilstättenwesen, 1903, Band v., Heft 2, S. 151.

[34] Therapeutic Gazette, 1896, p. 308.

[35] Loc. cit.

[36] Bulletin de l'Académie de Médecine, 1903, No. 39, p. 465.

[37] Bulletin Général de Thérapeutique, vol. cxlviii., pp. 132, 171, and 210.

[38] Progrès Médical, 1904, p. 375.

[39] Ibid., 1904, p. 283.

[40] Revue de Médecine, 1904, p. 375.

[41] THE LANCET, April 9th, 1904, p. 979.

[42] Bulletin de la Société de Thérapeutique, Feb. 10th, 1904.

[43] La Semaine Médicale, 1903, No. 49, p. 402.

[44] Loc. cit.

[45] Revue Médicale de la Suisse Romande, 1904, xxiv., 10, p. 629.

[46] Gazzetta degli Ospedali, Sept. 9th, 1900, p. 1121.

[47] Münchener Medicinische Wochenschrift, 1903, S. 1877.

[48] Medical News, 1903, June 13th, p. 1108.

[49] Du Traitement de la Phtisie Pulmonaire par le Serum Antistreptococcique de Menzer, Paris, 1903.

A CASE OF ŒSOPHAGEAL POUCH SUCCESSFULLY TREATED BY EXCISION.

BY A. BOYCE BARROW, F.R.C.S. ENG.,
CONSULTING SURGEON, ROYAL FREE HOSPITAL; SURGEON TO KING'S COLLEGE HOSPITAL;
AND
JOSEPH CUNNING, F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE ROYAL FREE HOSPITAL.

THIS case is interesting both from the point of view of diagnosis and treatment as well as from the comparative rarity of the affection.

In February, 1904, a woman, aged 55 years, was admitted to the Royal Free Hospital with the diagnosis of epithelioma of the œsophagus. Her chief complaint was difficulty in swallowing which had been coming on for eight years. In 1897 she was treated for "bronchitis" by her medical attendant. In 1899 she attended a throat hospital and was recommended to have some carious teeth removed but no improvement followed. In 1900 she attended another hospital, again for "bronchitis," but without improvement. Her "bronchitis," she said, consisted in bringing up a large quantity of frothy sputum from the throat but she never suffered from cough. During the previous six months there was a marked increase in the difficulty of swallowing solid food. She volunteered the information that she had regurgitated, not vomited, food quite unchanged as long as three days after taking it. As instances, she gave a pickled onion and portions of rabbit. She also complained that stooping caused regurgitation and that she made a curious noise on swallowing. The patient looked so thin and half starved that several surgeons who saw her were tempted to say, "Oh! she looks as if she had malignant disease." On examination of the neck no swelling or enlargement of the glands could be detected, but on bilateral pressure over the œsophagus just below the level of the cricoid cartilage, a certain amount of gas could be squeezed up into the mouth. On swallowing two or three times gas could again be squeezed up. A medium sized bougie stopped eight inches from the teeth and could be felt to the left of the trachea. A small bougie could be passed into the stomach.

As an œsophageal pouch was now suspected from the history of regurgitation of unchanged food and from being able to squeeze up gas on pressure at the base of the neck two bougies were passed together. The first went into the pouch, the second into the stomach. The regurgitated food was examined for free hydrochloric acid but none was found. An attempt to throw some light upon the case with the Roentgen rays was unsuccessful. Metal bougies were used but seeing them at certain points in the neck was no evidence as to what prevented their onward passage. An attempt at filling the pouch with bismuth was also unsuccessful.

Operation by MR. BOYCE BARROW.—A large œsophageal bougie was passed eight inches from the teeth and could be felt in the neck below, and to the left of, the cricoid. An incision was made four and a half inches long from the left *sterno-clavicular articulation along the anterior* border of the sterno-mastoid muscle. The sterno-mastoid was pulled outwards, the sterno-hyoid and sterno-thyroid inwards, exposing the carotid sheath. The vessels were then retracted outwards and the trachea was displayed to the inner side. The red muscular wall of the œsophagus was then seen and lying to the left of it and behind it was a white fibrous-coated pouch one and a half inches long with the bougie in it. On tracing the pouch upwards its neck was discovered to be in the lowest part of the posterior wall of the pharynx. The bougie was now removed and the fibrous coat of the neck of the pouch was divided and turned back as a cuff. The mucous membrane was then ligatured and cut through and the fibrous coat was stitched up over it. A few stitches were put in to bring the muscular coat together over the site of the neck of the pouch. A drainage-tube was placed down to the wall of the œsophagus and the rest of the wound was stitched up. The drainage-tube was removed on the third day as no saliva had come through, showing that the stitches were holding and that there was no infection from the œsophagus. The patient was fed by nutrient enemata for seven days and was then able to swallow milk. At the end of a fortnight she was discharged with the wound healed and was able to swallow any kind of food.

Two months later the patient reported that she had increased seven pounds in weight, that she had no difficulty in swallowing, that there was no regurgitation, and that she was no longer troubled with the frothy saliva which had caused her to be treated for "bronchitis." Eight months after the operation she again showed herself and was then three and a half stones heavier than at the time of the operation.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

PURPURA AS A LATE COMPLICATION IN A CASE OF SCARLET FEVER.

BY JOHN W. MILLER, M.D. VICT., M.D. LIVERP., D.P.H. CANTAB.,

ASSISTANT MEDICAL OFFICER OF HEALTH OF BLACKBURN.

THE patient in this case was a boy, aged four years, who suffered from scarlet fever and was admitted into the Blackburn Fever Hospital under the care of Dr. Alfred Greenwood on Oct. 27th, 1904. The illness commenced on Oct. 25th and the attack was of a fairly severe type, the throat symptoms being well marked. Nasal discharge was present on admission to hospital. Otorrhœa commenced in the left ear on Nov. 1st and in the right ear on the 7th and these discharges continued until the child's death. His temperature ranged from a minimum of 98° F. at 6 A.M. on Nov. 8th to a maximum of 102° at 6 P.M. on Oct. 27th. The symptoms existing at the time of admission underwent gradual improvement until on Nov. 8th it was noted that the child's general condition was good and his temperature normal. His temperature remained normal until the evening of the 11th, when it was 102°. On the 12th there were enlargement of the glands of both sides of the neck and tenderness on pressure. The neck was more swollen on the 13th and 14th, which swelling diminished until the 17th, it then being slight and remaining so until death supervened. On the 19th at 10 A.M. hæmorrhage was first noticed in the tissues around the left eye, causing discolouration of the skin and swelling of the underlying tissues. There was also bleeding from both nostrils. On this day the temperature at 6 A.M. was 101° and at 6 P.M. it was 99·4°. On the morning of the 20th the skin around both ankles was seen to be affected by this hæmorrhagic condition over an area measuring one and a half inches by one inch. The skin was purplish-red in colour and there was some swelling of the underlying tissues. On the evening of the same day hæmorrhages, accompanied by similar discolouration of the skin, were noticed over the sacral regions (dimensions, four inches by four inches), the right hip (dimensions, one and a half inches by one inch), and both wrists (dimensions, two inches by one inch). The subcutaneous tissues over the right hip were markedly swollen and there was also swelling to a less extent over both wrists. The patient was now in a semi-comatose condition, very restless, and frequently crying out as if in pain. The respiration and pulse-rate were increased and the lips were blanched. The temperature on this date was 101° at 6 A.M. and 100·8° at 6 P.M.

On the morning of Nov. 21st it was found that the hæmorrhages had grown larger; the one in the sacral region now extended upwards towards the neck and outwards; the one over the right wrist extended upwards for about four inches and laterally across the whole breadth of the forearm; and the one over the left wrist extended laterally across the arm and upwards as far as the elbow. There was also more swelling of the underlying tissues. The condition of the patient during the day gradually became worse, the uræmia being more marked, and death took place at 6 P.M. from exhaustion. The temperature at 6 A.M. was 102·4° and at about 5.50 P.M. it was 100·6°. There were no other clinical signs beyond those mentioned. Astringent treatment internally failed to produce any beneficial effect. The urine was examined for blood and albumen on the 19th, 20th, and 21st, with negative result. There was no further bleeding from the nose after the 19th nor was there hæmorrhage from any other mucous membrane. The gums were normal. Inquiry failed to elicit any hereditary tendency to bleeding in the family. Two other brothers, who developed scarlet fever at the same time, have since recovered from the disease without any similar complication. The above-mentioned complication is exceptional, commencing during convalescence on the twenty-sixth day of the disease.

Blackburn.

NOTES ON A CASE OF TETANUS AND ITS TREATMENT.

BY FREDERICK W. HENDERSON, L.R.C.P. & S. IREL.

WHILE cutting hay on July 10th, 1902, a man was sharpening his scythe when he slipped and fell on it, cutting the palm of his hand. The cut extended from the head of the metacarpal *bone of the index finger in a circular form* to the base of the metacarpal bone of the little finger, deep down to the bones. The hæmorrhage was profuse, several arteries having to be ligatured. The wound was washed out with carbolic lotion and the edges were brought together with several sutures. Healing took place quickly without much discharge and the sutures were removed in a week or ten days' time. On July 25th symptoms of lockjaw set in which chloral and bromides controlled very well. On August 1st several spasms of the muscles prevented the patient from walking and in falling in his room he caught hold of a chair to draw himself up, in doing which the edges of a corner of the wound were partly pulled open. On the 5th tetanic convulsions set in very acutely, all the muscles of the back and the legs being violently convulsed every minute. A telegram was at once sent to Messrs. Parke, Davis, and Co. of London for antitetanic serum which was injected early that afternoon and again in four hours' time. This checked the convulsions and an injection was continued morning and evening till 15 bottles of the serum were used when the convulsions entirely disappeared. The wound was frequently washed with carbolic lotion and dressed antiseptically and was completely healed on Sept. 1st.

I think the case is worth recording as the convulsions were [illegible] serum was injected and the man [illegible] of September. Messrs. Parke, [illegible] be commended on their prompt despatch of the serum.

Elham, near Canterbury.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Subacute Atrophy of the Liver.—Prehistoric or Predynastic Vesical Calculus.—Imperforate Ileo-cæcal Valve.—Carcinoma of Adrenal.—Osteoplastic Carcinoma in Bones.—Obliterative Arteritis in the Prime of Life.

A MEETING of this society was held on April 4th, Mr. RICKMAN J. GODLEE, Vice-President, being in the chair.

Dr. S. G. SCOTT described a case of Subacute Atrophy of the Liver. An unmarried woman, aged 23 years, with a good previous history, had been jaundiced for eight months; there had been some vomiting and the fæces were clay-coloured. On admission to the Leeds General Infirmary nothing was made out on examination. Exploratory laparotomy shed little further light. Hæmorrhage supervened and caused death. The liver was small, soft, and wrinkled; it weighed 22 ounces (625 grammes). On section the cut surface was red with gamboge spots. These spots consisted of dead and dying liver substance. The red material was a very cellular connective tissue, in which were many glandular tubules. These tubules were arranged in rings round a central vessel. They were composed in their outer part of cells like those of the smallest bile-ducts, with which they were continuous. On the inner side towards the central vessel the cells were columnar, contained fat vacuoles, and secreted bile. Morphologically, however, they were not liver cells. Dr. Scott considered that these appearances were to be interpreted as regeneration of the liver lobule from the bile-ducts. He also suggested that there might have been recovery if hæmorrhage had not supervened but thought that coincidently with the regeneration a fibrosis would have taken place.—Dr. SCOTT, in reply to questions asked by Dr. F. J. POYNTON, Dr. F. PARKES WEBER, and Mr. GODLEE, said that the bile from the gall-bladder had been examined and was sterile and did not present any abnormality. There was no obstruction to the bile-duct though the gall-bladder was distended with bile. Doses of calcium chloride had been given to the patient before the operation but not to any large amount.

Mr. S. G. SHATTOCK exhibited a Prehistoric or Predynastic Vesical Calculus which was of much historical interest as proving the existence of urinary calculus at so remote a period. The calculus was found by Professor Elliot Smith in one of the graves of the prehistoric cemetery at El Amrah, in Upper Egypt, and was presented by him to the Museum of the Royal College of Surgeons of England. The presence of a vase of stone showed the grave to have antedated by many generations the time of Menes, the first dynastic king (B.C. 4800). The age of the calculus was thus at least 7000 years. It was found lying between the innominate bones of a boy, aged about 16 years, and it consisted of compact uric acid, which gave the usual chemical reactions, thickly encrusted with phosphates. Microscopic section of the uric acid body showed it to consist as usual of coarse pale-yellow crystals radially disposed in columns. After solution of the uric acid with caustic potash a transparent matrix was revealed as in normal circumstances. The complete absence of calcium oxalate was noteworthy. In India 70 per cent. of the urinary calculi consisted of this substance, which must be ascribed largely to the use of vegetable food-stuff. In the later dynasties the food of the ancient Egyptians was chiefly vegetable. It was interesting, therefore, to notice that the recent investigations on the prehistoric people showed that they were hunters; this appeared in the discovery of hunting lances of flint in the prehistoric graves in which clay models of kine had also been found. Immensely more interesting would the calculus have proved had it been possible to associate it with the bilharziosis commonly held to explain the great frequency of urinary calculus in modern Egypt, but this, in spite of an indefinite expenditure of time and care, the speaker had been unable to do. Had the chitinous capsules of the ova been present they would certainly have been preserved and would certainly have been discoverable. The occurrence of bilharziosis in the prehistoric age therefore was not as yet shown. Nevertheless, its possibility remained and it had occurred to him to question whether the bilharzial hæmaturia might be in some explanatory way related to the first of the Biblical Egyptian plagues, but a reference to the narrative would show the incongruities attaching to such an attempt. Mr. Shattock had had the opportunity of examining a second ancient Egyptian calculus from a tomb of the Second Dynasty; it contained no bilharzia ova though in its cortex was a cavity full of the coxidia of a mould. The coxidia looked so little changed that attempts were made to cultivate from them but no growth was raised. This calculus was found (with three others) in a grave excavated at Naga-ed-dêr by Dr. George A. Reisner on behalf of the Egyptological Expedition of the University of California, subsidised by Dr. Phoebe Hearst.—Dr. G. F. STILL referred to the passage of sand from the bowel and asked whether investigations had been carried out as to the nature of this sand. He had seen the condition occur in children who were the subjects of mucous disease.—Dr. POYNTON said that tophi when examined microscopically showed the same hyaline matrix which Mr. Shattock had described after dissolving out the uric acid crystals. The first step in the formation of tophi was the necrosis of tissue followed by a deposit of biurate of sodium in very fine crystals.—Mr. SHATTOCK said, in reply, that the intestinal sand which he had described was of vegetable origin. Dr. Garrod had described intestinal sand which was mineral in character.

Dr. J. CATTO exhibited a specimen of Congenital Occlusion *of the Bowel at the Ileo-cæcal Orifice.* The child was born in the practice of Mr. A. Hair and was admitted to the Great Northern Central Hospital with symptoms of complete intestinal obstruction, under the care of Mr. Peyton T. B. Beale. Despite an enterostomy the child died on the third day. At the post-mortem examination the child was found to be a well-developed male. The organs, other than the intestinal tract, were normal. The middle two-fourths of the small intestine were congested and were covered with recent fibrinous lymph, the coils adhering to each other and to the left anterior abdominal parietes. The contents for the same area were of watery consistence and of pea-soup colour, becoming greener and more inspissated as the cæcum was approached. The large intestine was of the size of a pencil and empty. It was bound to the posterior abdominal wall, having no mesentery developed. The obstruction was due to a complete septum at the ileo-cæcal orifice, probably produced early in embryonic life.—Dr. G. F. STILL asked whether the adhesions which had been described were old or recent. One of the explanations of these cases of obstruction was to attribute the condition to intra-uterine peritonitis. The obstruction was more frequently situated somewhat above the ileo-cæcal valve. He asked what the condition of the large intestine had been.—Dr. SCOTT referred to a baby with signs of intestinal obstruction who had a similar occlusion of the ileo-cæcal valve. The child died shortly after operation.—Dr. CATTO, in reply, said that the adhesions which were present in the abdomen were of quite recent origin.

Dr. W. BULLOCH read, on behalf of Dr. C. E. ADAMS, a communication on Precocious Development associated with Cancerous Tumour of the Left Adrenal Body. The case was identical in its clinical and pathological aspects with those communicated this winter to the society by Dr. Sequeira and Dr. Bulloch. The patient, a boy, was normal until the age of nine years when puberty set in which was associated with a remarkable development of hair on the face and great muscular development so that at the age of 14 years he had the appearance of a full-grown man. A large tumour in the abdomen was found to be inoperable and death ensued 17 months after the operation. The necropsy showed an immense tumour of the left adrenal body and extending into the liver which weighed 15 pounds. Microscopical examination by Dr. A. N. Ledingham showed the tumour to be a malignant hypernephroma.—Mr. GODLEE pointed out the long course which some of these cases of adrenal tumours ran.—Mr. SHATTOCK said that the external sexual characters were dependent upon something more than the presence of the testicles, for if the testes were removed from a cock it still retained its male characteristics. He suggested that the epithelium of the suprarenal glands probably had an important influence on these characteristics.

Dr. F. H. THIELE exhibited and described specimens showing Large Masses of Subperiosteal Growths around the ribs, the sternum, and the scapula following primary carcinoma of the prostate. The primary metastases occurred in the medulla of the bones and grew into the subperiosteal tissue through the foramina which exist in the bones for the passage of vessels. This had been shown by von Recklinghausen in his monograph. The specimens also showed marked osteoplastic changes in the bones; the ribs, the sternum, &c., were almost of the density of ivory. There was, however, no bone formation in the growths outside the bones. This was also described by von Recklinghausen who saw that this bony change occurred not only as an irritative change produced by the growth on the old bone but was an integral part of the carcinoma itself. It was not a peculiarity of any form of carcinoma but was simply a local attribute due to the transplantation of the growth into a soil which gave rise to bone. Bone formation occurred not [illegible] with other forms such as [illegible] the growth was the more [illegible] changes; the more sharply [illegible] the less osteoplastic changes occurred. The evidences of new bone formation were: 1. The presence of a small nodule of spongy bone in even the smallest extra-medullary growths. 2. The great sclerosis amounting almost to eburnation of some of the bones like the ribs, the sternum, and the femur. 3. The formation of bone in the [illegible] ases occurred most fre- [illegible] e thyroid, the prostate, [illegible] prostatic growths were [illegible]. The order of involvement of the bones was as follows: vertebræ, femora, pelvis, ribs, sternum, humerus, flat bones of the skull, fibula, tibia, radius, and ulna Bone metastases might produce erosion, expansion, infiltration and osteoplastic changes, and subperiosteal tumours and osteoplastic changes. The result depended upon the infiltrating or sharply defined nature of the metastases.—Dr. W. S. LAZARUS-BARLOW said that it was the growths which were mainly cellular which were more especially associated with metastatic growth in the bone, whilst those growths which were mainly fibrous invaded other tissues.

Dr. E. MICHELS and Dr. PARKES WEBER communicated a paper on Obliterative Arteritis leading to Gangrene of the Extremities in otherwise healthy men in the prime of life. The patient, a cigarette-maker, aged 39 years, a Jew from Roumania, had had his right leg amputated below the knee in 1889 after having suffered for over a year from severe pain in the foot and the muscles of the calf accompanied by a kind of "intermittent claudication" of the extremity. In June, 1903, he began to suffer in a similar way in the left lower extremity and in October, 1904, owing to a certain amount of gangrene together with intolerable pain and at the patient's repeated request, other treatment having been found useless, the left leg was amputated below the knee at the German Hospital. Since then the patient had been free from pain and the wound had healed well. Examination of the amputated extremity showed that the lumen of the popliteal artery was obliterated by connective tissue, apparently mainly resulting from organisation of a clot; the arteria dorsalis pedis showed extreme endarteritis obliterans. No changes were found in the veins or the nerves. Professor J. Israel had recently drawn attention to an idiopathic gangrene of the lower extremities occurring in men between 30 and 40 years of age, especially Russian Jews. Such cases had, according to him, been observed at Berlin, Königsberg, and Dorpat. Dr. Michels and Dr. Weber knew of three cases in London in poor East-end Jews, all of them between 30 and 40 years of age. There was no evidence that the affection was due to syphilis, alcoholism, renal disease, saturnism, ergotism, or premature senility. It was a question whether excessive cigarette smoking could play a part in the etiology—that is to say, in specially predisposed individuals.

LIVERPOOL MEDICAL INSTITUTION.

Br[illegible] cal Mastoid Operation.—A [illegible] ld on March 30th, Dr. J[illegible] the chair.

D[illegible]. JOHN HAY read a note on Bradycardia in which special reference was made to that form of pulsus rarus caused by "heart block." He described in detail the case of a man, aged 26 years, in whom the rhythm of the auricles was independent of, and different from, that of the ventricles. The following were the important features of the case. 1. Marked infrequency of the pulse, which varied from 17 to 30 beats per minute. 2. Transient loss of consciousness associated with disappearance of the pulse at the wrist. 3. Auricular contractions occurring much more frequently than, and independently of, ventricular contractions. 4. An enormous heart, weighing 29 ounces. The necropsy revealed no cause for this increased size. The heart was exhibited and also a drawing of it made by Dr. A. Keith of London, who was of opinion that there was a stretching of the auricular canal and also an attenuation of the bond between the base of the tricuspid valve and the base of the ventricle. The second case was that of a man, aged 62 years, in whom the heart block was not compl[illegible] conductivity, the time [illegible] the auricle to the ventri[illegible]. As a result of this only [illegible] was able to excite the [illegible] was 32 per minute and although the patient was apparently in good health he had a very much diminished area of cardiac response. The note was illustrated by charts, diagrams, pulse tracings, and lantern slides.—Dr. W. B. WARRINGTON, Dr. C. J. MACALISTER, Dr. R. J. M. BUCHANAN, and Dr. W. CARTER took part in the discussion.

Mr. ROBERT A. BICKERSTETH read a note on Prostatectomy and after quoting histories of cases in illustration of his remarks he discussed the circumstances which should guide the surgeon in his choice between the suprapubic and the perineal routes. He pointed out the necessity for a very full and careful ex[illegible] case and showed how it was [illegible] ay to distinguish in advance b[illegible] were easily removable and others in which removal might be a matter of very considerable difficulty. For the easier cases, which comprise the fibro-adenomatous enlargements and form the bulk of the cases requiring operation, the suprapubic operation, and enucleation after Mr. P. J. Freyer's method, was certainly the operation of choice. There remained other cases, however, in which it seemed likely that enucleation with the finger would be either very difficult or altogether impossible; for these the perineal operation was best, a transverse incision securing a full exposure and a good view of all the parts concerned. Lantern slides illustrating the successive stages of such a perineal operation were shown and the general indications for prostatectomy were further discussed.—Remarks were made by Mr. C. A. BALLANCE (London) and Mr. D. DOUGLAS-CRAWFORD.

Mr. HUGH E. JONES read a paper on the Difficulties and D[illegible] Mastoid Operation. After defining [illegible] to the work of Schwarze, Stacke, [illegible] numerated the difficulties peculiar to this operation: (1) the selection of suitable cases, which consisted in (*a*) limiting the complete operation to cases which really required it; (*b*) deciding whether to operate or not on cases where there was grave general disease; (2) avoidable difficulties on the part of the operator, such as working in a poor light or without an intimate knowledge of the anatomy of the part; and (3) unavoidable difficulties—e.g., variations in the position and size of the antrum, sclerosis of the bone, and a forward position of the lateral sinus. The facial nerve was the most important structure to avoid and there were several ways in which it might be injured: (1) by the faulty introduction or careless holding of Stacke's protector; (2) by the too free removal of the posterior wall of the meatus at its inner end; (3) the bone if brittle might be cracked by the chisel at a point not intended; (4) by careless curetting in the region of the fossa ovalis and sinus tympani; and (5) by curetting cells or fistulæ in the lower deep anterior part of the petro-mastoid or posterior wall of the meatus. The difficulties of skin grafting, provided the whole of the disease had been eradicated, were purely technical and could be overcome by practice and patience. Packing was advocated in cases in which it was not certain that the whole of the diseased tissue had been removed. The dangers peculiar to the operation were classified as follows: 1. Those arising from coincident general disease—e.g., advanced tuberculosis, diabetes, marasmus, and congenital syphilis in infants. 2. Coincident undetected intracranial disease—e.g., serous meningitis, latent [illegible] ical [illegible] and [illegible] result [illegible] foci [illegible] the [illegible] tor, [illegible] whether a general surgeon or an otologist, not only to be prepared to face and to learn to master any of the difficulties and dangers enumerated but also to see his patient safely through to a complete and final healing of the wound.—

Mr. Ballance also read a paper on the same subject.—Dr. W. Milligan said that the fundamental principles of surgery should be adopted in the treatment of septic disease of the temporal bone—viz., free exposure of the diseased area and the establishment of free drainage. The peculiar anatomical difficulties of this region should be studied very carefully before undertaking the radical operation. He exhibited various sections of the temporal bone in order to demonstrate some of the difficulties described by Mr. Jones. The treatment of the soft parts was of the utmost importance and he was an enthusiastic advocate of the grafting operation, which not only materially diminished the length of the after-treatment but secured more certain results, especially in so far as the healing of the inner tympanic wall was concerned. Continuous and light packing was irksome to the patient and to the surgeon and he was inclined to think that it tended to promote rather than to retard the growth of exuberant granulation tissue. In the treatment of tuberculous cases he advocated in the first instance merely providing efficient retro-auricular drainage, together with the removal of sequestra and later, when the general condition of the patient had improved, the performance of the radical operation.—Mr. W. Thelwall Thomas, Mr. E. M. Stockdale, Dr. Edgar Stevenson, Mr. J. Bark, and Dr. Warrington also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Pathology.

Exhibition of Specimens.

A meeting of this section was held on March 17th, Dr. H. C. Earl, the President of the section, being in the chair.

Sir W. Thornley Stoker, President of the Academy, exhibited specimens of a Columnar Cell Carcinoma of the Uterus in a very early stage and a Columnar Cell Carcinoma of the Rectum and Sigmoid Flexure also involving the left ovary.

The President of the section made a communication on cases of Human Actinomycosis and showed specimens from a case of Actinomycosis of the Right Kidney with a metastatic abscess in the cerebrum. He mentioned that many of the peculiar yellow grains were made up of dead organisms and cultivations were therefore not easy to obtain. He considered that the increase in the number of cases reported was due to better observation.—Mr. K. E. L. G. Gunn related particulars of cases which he had seen and also mentioned a case where, owing to the discovery of mycelial threads in the discharge, a mistaken diagnosis of actinomycosis of the rectum was given. Later the disease proved to be carcinoma.—Dr. T. P. C. Kirkpatrick mentioned a somewhat similar case occurring in the lip where a diagnosis of actinomycosis was at first made but subsequently this also was shown to be cancer.

Mr. Arthur H. Benson and Dr. H. C. Mooney showed sections of a Sarcoma of the Conjunctiva which formed a black tumour, of the size of a split pea, and had been removed from the conjunctiva of a married woman, aged 40 years. It was growing by a rather small pedicle from the conjunctiva of the globe, close to the sclero-corneal margin at the outer side of the left eye. The patient stated that she first noticed it 11 years ago as a very small dark reddish spot. For the past five years it had grown steadily but very slowly and some large vessels ran to its base. It was capable of being raised up with the ocular conjunctiva and was excised with scissors, leaving what appeared to be a perfectly healthy conjunctiva below it. The origin of the growth seemed to have been one of the small collections of pigment sometimes seen in a perfectly healthy conjunctiva. Its extremely slow growth, its low degree of malignancy, and its limitation entirely to the conjunctiva were remarkable.—Dr. Mooney, who had made sections of the tumour, said that it was composed of two parts, the larger one consisting of small spindle-celled pigmented sarcoma, the pigment being abundant, particularly near the periphery and round an excentrically placed non pigmented area. This non-pigmented area or core which was placed towards the base of the tumour, was made up of large swollen-looking epithelioid cells, loosely arranged with plentiful intercellular substance. Many of these cells had one or two vacuoles. The conjunctiva covering the tumour was for the most part thickened and at places cornified.

Mr. Gunn showed a specimen of Gangrenous Intussusception removed from a child; and sections, together with a model, of a Cancer of the Prostate implicating the wall of the bladder.

Leeds and West Riding Medico-Chirurgical Society.—A clinical meeting of this society was held on March 17th, Mr. E. Ward being in the chair.—Mr. H. Secker Walker showed two cases of Chronic Otorrhœa, the one being complicated with cerebral and the other with cerebellar abscess. Improvement followed on drainage of the abscesses. The patients were boys aged respectively ten and 14 years.—Mr. A. L. Whitehead showed a case of Retinitis Pigmentosa with Posterior Pyramidal Cataract, Degeneration of the Vitreous, and Optic Atrophy.—Mr. G. Constable Hayes showed a case of Optic Atrophy in a patient suffering from early locomotor ataxy. There was a three months' history of gradual loss of vision but the patient otherwise felt quite well. There was no history of syphilis. The symptoms observed were optic atrophy (with some choroido-retinitis), Argyll Robertson pupil, and loss of patellar reflexes.—Mr. Ward showed a man, aged 42 years, suffering from Gonorrhœal Stricture of the Urethra of 20 years' duration. 12 months ago abscesses formed in the perineum, burst, and formed again, and urine was passed through the abscess cavity. On Jan. 11th the stricture was completely excised, the piece removed being one inch long. The whole was imbedded in thick suppuratory tissue which broke down under pressure. The ends were united in the upper wall and a tube was put into the bladder. On March 7th a 9–12 instrument was passed without pain and without encountering any stricture.—Mr. H. Littlewood showed two cases of Colectomy for Malignant Disease of the Splenic Flexure, a case of Colotomy, a case of Splenectomy for Large Moveable Spleen producing several attacks of intestinal obstruction, a case of Splenectomy for Traumatic Dislocation of the Spleen with Twisted Pedicle, and a case of Pyloroplasty.—Mr. R. Lawford Knaggs showed a case of Appendicitis with Abscess, Fæcal Fistula, Pyopneumothorax, and Gastric Fistula. The patient, who was 13 years of age, began to suffer from acute abdominal symptoms on June 5th, 1904. On June 15th the contents of a pelvic abscess measuring three pints were evacuated through a median incision. On July 27th a fresh abscess reaching into the pelvis was opened and the appendix with concretions was removed. On August 8th the patient expectorated ten ounces of very foul sputum, following some lung symptoms. An empyema was localised at the left base. This suddenly became tympanitic and was incised on August 11th. On the 18th food began to come through the empyema opening almost directly it was taken. On Oct. 1st the patient was quite well, except for slight fæcal fistula which had since closed. Mr. Knaggs also showed a case of Punctured Fracture of the Orbital Plate of the Left Frontal Bone followed by Cerebral Abscess. The patient was admitted to hospital on June 11th, 1904, with a bone crochet hook transfixing the upper lip and orbit for three inches. The hook was removed. The orbital periosteum was separated and the aperture in the orbital plate of the frontal bone was exposed. The frontal bone was trephined, the left frontal lobe in the dura mater was raised, and the aperture in the dura mater was exposed. A small spicule of bone was removed from inside the aperture. Satisfactory progress was made till July when double optic neuritis, vomiting, and coma developed. On July 11th a second operation was performed. The frontal lobe bulged prominently on opening the dura mater. The results of exploration were negative and the flap was replaced. On the 15th a quantity of pus having a faint odour escaped by the drainage apertures. The protrusion of the brain, which had been increasing, began to diminish. Steady improvement followed and the patient was quite well on August 7th.—Mr. Walter Thompson showed a case of Rupture of the Small Intestine. The patient was a man, aged 20 years, who received a wound of the abdomen one and a half inches above the pubes, the left rectus being ruptured but the peritoneum not opened. There was blood in the cavity. Two ruptures were found in the small intestine about six feet apart. There was extensive laceration of the mesentery. 6 feet 6 inches of the small intestine were resected and union was accomplished by end-to-end anastomosis. A small peritoneal rupture in the sigmoid region was closed by suture.—Mr. H. Collinson showed a case of Compound Comminuted Fracture of the Humerus with Rupture of the Musculo-spiral Nerve.—Dr. T. Churton showed cases of Monocular Diplopia, Primary Optic Atrophy, and Osteo arthritis or Charcot's Joints. He also showed (with Dr. S. G. Scott) a case of (?) Acute Lymphatic Leukæmia.—Dr. A. G. Barrs showed a case of Spleno-medullary Leucocythæmia much benefited by the x ray treatment. The patient was a man, aged 43 years, of indoor employment. During the last four years he had experienced want of energy, early fatigue, and a gradual loss of one and a half stones in weight. During the last 12 months he had felt a [illegible] body. Treatment with [illegible] exposure being given [illegible] the abdomen and the knees. This was continued for 21 days. Thereafter the back was substituted for the abdomen. Some x ray irritation and folliculitis leaving pigmentation appeared on the abdomen three days after the abdominal applications were discontinued. After 20 days the white cells were only a quarter of the number they were at first. The polymorphonuclear neutrophiles increased from 61·6 to 83·2 per cent. The myelocytes decreased from 31·8 to 7·6 per cent. The spleen became first softer and then smaller; it was now about half its former size.—Dr. C. M. Chadwick showed a case of Multiple Tumours of the Abdomen and one of Cerebellar Tumour.—Dr. T. Wardrop Griffith showed cases of Early Disseminated Sclerosis, Hemiplegia (Anomalous), Primary Lateral Sclerosis, Disseminated Sclerosis, and Multiple Sarcomata.—Dr. E. F. Trevelyan showed two cases of Supposed Spinal Syphilis in men, also cases of Early General Paralysis, Localised Paralysis of the Extensor Communis Digitorum, and a case of Paralysis Agitans in a man, aged 50 years, coming on shortly after a severe injury to the head.—Dr. Carlton Oldfield showed a case of Birth Palsy. The child was helpless in mind and body. Although three and a half years old she behaved like an infant of five or six months. She had no speech but could hear well. The limbs could be moved freely but they were of no use because of their spasticity. Sensation was unaffected. Trophic disturbances were absent. The bladder and the rectum were quite under control. There was no tremor or athetosis.—Dr. W. H. Maxwell Telling showed a case of External Gastric Fistula. The patient was a woman, aged 34 years, who had suffered from dyspepsia since the age of 16 years. Symptoms of gastric ulcer (pain, vomiting, hæmatemesis), appeared between the ages of 22 and 25 years. At 25 years of age (July, 1896) she was admitted to Leeds Infirmary for these symptoms and loss of weight, together with "epigastric swelling" in the situation of the present fistula. This was a small, hard, tender mass, with the skin not adherent; it had appeared two weeks before. She improved considerably, gaining two stones in weight. On March 4th, 1905, she noticed that her clothes were wet and that liquids swallowed appeared through the fistula. Comment was made on the unusual nature of this case in that there had been no intermediate stage of abscess.—Mr. B. G. A. Moynihan, in discussing the case, drew attention to the fact that these fistulæ only tended to heal spontaneously when there was a sinuous tract of tissue intervening between the ulcer and the external opening.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on Feb. 21st, Dr. C. F. M. Althorp, the President, being in the chair.—Dr. T. W. Hime read a paper on Compulsory Notification of Infectious Diseases in Bradford during 24 years considered as a preventive measure, with comparative reference to other towns. Dr. Hime pointed out that it was thought at the time of its introduction that compulsory notification would be the means of completely blotting out infectious diseases. As a matter of fact, however, since that time scarlet fever, enteric fever, and diphtheria had steadily increased year by year. He could not point to any remedy but he thought it was high time that steps should be taken to deal with these diseases.—Dr. J. T. Neech, medical officer of health of Halifax, said that there was a wide field for thought and reflection. He believed that many cases of so-called diphtheria were not diphtheria at all. Recently a special diplococcus had been found in the throat in these cases which required investigation.—Dr. S. G. Moore, medical officer of health of Huddersfield, doubted whether the increase was due to the fact that more cases were notified now than was formerly the case. Many cases of so called measles which were really scarlet fever were not notified at all.—Mr. H. Shackleton, Dr. R. H. Crowley, Dr. J. T. Kitchin, Dr. W. Scatterty, and Dr. F. W. Eurich also spoke.—Dr. Hime replied.——A meeting was held on March 18th at the Royal Infirmary, the President being in the chair.—The following pathological specimens were exhibited:—The President: (1) A Gall-bladder with 2505 Gall-stones removed from it; and (2) a Gall-bladder and Gall-stones removed from the Cystic, the Hepatic, and the Common Ducts.—Dr. H. J. Campbell: Stereoscopic Views of Specimens of medico-legal interest.—Dr. Crowley: (1) Colon with Perforation from a case of Ulcerative Colitis; (2) Perforation of a Tuberculous Ulcer of a Portion of the Intestine in the Sac of an Inguinal Hernia; (3) New Growth of the Trachea; (4) Carcinoma of the Lung; (5) Carcinoma of the Stomach; (6) Carcinoma of the Pancreas with Secondary Growths in the Liver; (7) Heart with Ulcerative Endocarditis; (8) Extensive Softening of the Brain, due to syphilitic arteritis; (9) Gumma of the Spleen; and (10) Liver and Spleen from a case of Banti's Disease.—Dr. Eurich: Microscopical Demonstration: (1) Neuroglia Scavenger Cells; (2) Calcification of Nerve Cells; (3) Elastic Fibre Stain (inflamed skin); (4) Degenerating Nerve Cells (spinal cord); (5) Persistent Thymus; (6) Ova of Bilharzia; (7) Actinomyces; (8) Fat stained with Sudan; (9) Senile Choroid Plexus; (10) Unusual Tuberculous Sputum; (11) Anthrax Spores; and (12) Anthrax Bacillus in tissues, &c. Various Cultures, &c., of Bacteria—especially the differentiation between the typhoid bacillus and allied species. Pathological Specimens: (1) Tuberculous Ulcers of the Intestine and Tabes Mesenterica; (2) Tuberculous Tumours in the Human Liver; (3) Tuberculosis of the Liver, the Spleen, and the Kidneys of the Pig; (4) Ovarian Cystoma; (5) Extensive Subarachnoid Hæmorrhage (Anthrax); (6) Laryngeal Diphtheria with Interstitial Emphysema; (7) Pericarditis; (8) Partial Placenta Prævia (fourth month); and (9) Hæmorrhage into the Spinal Cord and other preparations.—Mr. J. Basil Hall: (1) Specimens of Myoma Uteri removed by Abdominal Hysterectomy; (2) Specimens of Carcinoma Uteri removed by Abdominal Hysterectomy; (3) Epithelioma of the Colon from a case in which the Transverse Colon and part of the Bladder were excised; (4) Ovarian Cyst becoming Gangrenous from Torsion of the Pedicle; (5) Growth of the Cheek implanted during the removal of an Epithelioma of the Palate and Tonsil; (6) Tumour of the Testis; (7) Sarcoma of the Axilla; and (8) Growth of the Penis.—Mr. W. H. Horrocks: (1) Sarcoma of the Testis; (2) Ectopic Gestation; and (3) Fibroma Uteri.—Dr. Rabagliati: (1) Four cases of Abdominal Hysterectomy; and (2) Two specimens of Myoma from Hysterectomy.—Dr. T. J. Wood: (1) Hydatiform Degeneration of the Chorion; (2) Hypertrophied Prostate removed by Operation; (3) Liver showing Calcified Hydatid Cyst which caused no symptoms till accidentally ruptured; (4) Bladder and Kidneys showing Tuberculous Disease; (5) Epithelioma of the Lower Jaw from a woman, aged 36 years; (6) Ovarian Cystoma with Papillary Growths; (7) Suppurating Ovarian Cyst with great Enlargement of the Fallopian Tube; (8) Vesical Calculi; (9) Renal Calculi; and (10) Biliary Calculi from the Common Bile Duct and Cystic Duct.

Clinical Society of Manchester.—A meeting of this society was held on March 21st at the Palatine Hotel. Dr. E. S. Reynolds being in the chair.—Dr. H. Ashby opened a discussion on Vomiting in Infants and after briefly describing the structure, movements, and innervation of the stomach pointed out that vomiting, being a reflex act, might be physiological or pathological, or might partake of the character of both. As a physiological reflex it might be useful in overloaded stomachs; as a pathological reflex it might indicate cerebral or other disease. It might take place by the contraction of the stomach alone or by the abdominal muscles, or by the union of both. Chronic vomiting or regurgitation shortly after food was of no significance unless it was accompanied by loss of weight and might be looked on as a safety-valve action. In such cases less food should be given. If accompanied by loss of weight and it succeeded an acute gastritis it was often most obstinate, as there were extreme irritability of the stomach and impaired power of digestion. A residue of food, mostly curd, always remained in the stomach after the digestive process had ended. This decomposed and fermented and when another meal was given this condition became worse and a habit from the first hour after it is known to be contracted, when it readily yields to simple management; also that it is often a dangerous thing to leave a cold to take care of itself. "The Golden Rules Index" is contained on five pages and is a summary of the entire book "as an aid to the memory." The five chapters into which the book is divided deal successively with the nature and treatment of colds; with hints on cleanliness and bathing; with hints on clothing; with pure air and ventilation; and with alcohol and its relation to health and cold. The text is sound and sensible and the treatment recommended is judicious.

The Sewage Problem: A Review of the Evidence Collected by the Royal Commission on Sewage Disposal. By ARTHUR J. MARTIN, Assoc.M.Inst.C.E., M.R.San.I. London: The Sanitary Publishing Co., Limited. 1905. Pp. 363. Price 8*s.* 6*d.*—The evidence so far taken before the Royal Commission on Sewage Disposal amounts to a very valuable collection of practical information upon the subject. The Commission was appointed early in the year 1898 and its labours are not yet concluded. It has, however, issued several reports which are calculated to give considerable assistance to those local authorities who have to face the question of sewage disposal. Everyone knows what a difficult task it is to extract complete information upon any given point from a mass of evidence. Mr. Arthur J. Martin has immensely simplified this task for those who seek information on the sewage problem by publishing in the volume before us a digest of the more important evidence on some of the practical points which are dealt with. He has written a continuous story in which certain paragraphs of evidence are inserted so that, as he says, the witnesses so far as possible speak for themselves. The result is a book in which the present position of the question is clearly reviewed. The author's task could not have been light and he has kept the several branches of the subject quite distinct and has succeeded in quoting just that evidence which is required. Further, he has dealt with the whole question, so far as it has been investigated by the Royal Commissioners, with an open mind. This labour of scientific compilation will be widely appreciated by all those concerned in this great sanitary question.

Practical Exercises in Chemical Physiology and Histology. Arranged by H. B. LACEY and C. A. PANNETT, B.Sc. Lond. Cambridge: W. Heffer and Sons. London: Simpkin, Marshall, and Co. 1904. Pp. 112. Price 2*s.*—This book consists of a compilation of practical exercises in chemical physiolology and histology, the authors having drawn upon several well-known standard works on the various branches of the subject. The work should, therefore, be convenient to the student commencing a course of practical physiology and histology. Whilst not presenting any novel feature in the plan adopted or offering any new observations the exercises bear the impression of having been tested practically by the authors. The exercises are admittedly arranged to meet the requirements of students preparing for the physiology examination, stages I., II., and III. and Honours, of the Science Department of the Board of Education. The examples given of quantitative analysis are few and somewhat prosaic.

Neolithic Dew Ponds and Cattle Ways. By ARTHUR JOHN HUBBARD, M.D. Durh., and GEORGE HUBBARD, F.S.A. London: Longmans, Green, and Co. 1905. Pp. 71. Price 3*s.* 6*d.* net.—The memorials of our primitive ancestors have an abiding interest for us who are alive at the present day and these little islands are very rich in such memorials. Scattered over nearly the whole of the south of England are many so-called "British camps" and of these two are specially notable—namely, Chanctonbury and Cissbury Rings on the South Downs. With these gigantic earthworks are closely connected that curious feature of a down country, the dew ponds, and in the book before us Dr. Hubbard and Mr. Hubbard have set themselves to elucidate the connexion between the earthwork, the dew pond, and the cattle track. The physics of a dew pond are first considered and it is pointed out that their perennial supply depends upon the complete insulation of the water-containing area from the surrounding earth. This is effected by means of a layer of dry straw which is then covered with finely puddled clay. Such a pond loses heat rapidly at night, thus bringing about condensation of the atmospheric moisture. In reference to this point an interesting letter appeared in our contemporary *Nature* of Sept. 20th, 1900, in which the writer, Mr. Arthur Marshall, put forward the theory that a difference of electrical tension was responsible for the deposition. During the night of April 1st, 1899, he exposed two porcelain basins on a ridge of the South Downs. These basins were supported by silk threads and in each of them was placed a sheet of copper. This sheet was in one case earthed by means of a wire, but in the other case it was insulated by the silk threads although the insulation was imperfect owing to the threads becoming wet. In the morning the basin with the earthed copper contained 18 cubic centimetres of water while the other contained only 15·5 cubic centimetres. It is not, however, the physics of the dew pond which concern Dr. Hubbard and Mr. Hubbard so much as the economic aspects of these structures and they have collected much evidence to show that dew ponds were closely connected with the water-supply both for the dwellers in the earthworks and their cattle. Besides Chanctonbury and Cissbury other earthworks, such as Maiden Castle, Ogbury and Figsbury Rings, are dealt with and also, though it has no connexion with dew ponds, Maumbury Ring. The book is of great interest and well worth reading.

Exercises in Practical Physiological Chemistry. By SIDNEY W. COLE, M.A. Cambridge: W. Heffer and Sons. London: Simpkin, Marshall, and Co. 1904. Pp. 152. Price 5*s.*—Text-books on practical analyses are often disappointing in practice inasmuch as it is sometimes found that the directions given in order to obtain a definite result do not succeed. This is invariably due to a want of attention to detail on the part of some writers of text-books when dealing with experimental procedure. There are many chemical tests, for example, which, if they are to succeed, must be conducted in a certain way and frequently it happens that the addition of reagents in a certain order must be observed. The kind of blemish described does not apply to Mr. Cole's exercises and this is not surprising since he has first worked through and obtained the results stated in each and every exercise given in the book. In view of the fact that 248 exercises are thus presented it follows that the author has mastered those details which are essential to a successful issue. The exercises cover more ground than is at present necessary for most examinations in medicine, so that the plan is to give the student a general knowledge and not a mere acquaintance with a part of it which suffices for examinational purposes. The directions in which failure or success may follow are clearly indicated. A somewhat novel plan adopted in the book is presented in the spaces provided at the end in which the student may draw various crystalline forms from preparations made by himself. At the foot of the blank sheets the name and description of the preparation are given. In a similar way a blank chart is provided for recording absorption spectra. Mr. Cole clearly understands how students should be taught practical methods and how their powers of observation should be trained and no more need be said in bringing his book to the notice of those about to commence a course of practical or physiological chemistry.

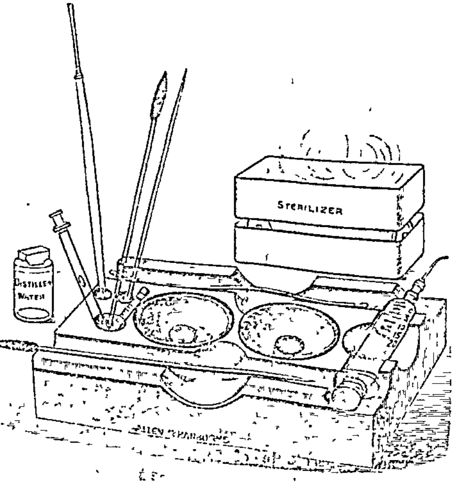
Simple Methods of Testing Sewage Effluents. By GEORGE THUDICHUM, F.I.C. London: The Sanitary Publishing

Co. 1904. Pp. 60. Price 2*s.* 6*d.*—This is a handy little guide to the testing of sewage effluents for works' managers, surveyors, and others. The methods are, on the whole, quite simple and are described in terms which should be easily intelligible to those engaged in the management of sewage works. While many analytical processes which are conducted with the view of obtaining an idea of the extent of purification effected by a given process can only be carried out by the trained chemist, there are many simple operations which the intelligent works' manager can perform for himself and which give valuable indications as to the efficiency of the purifying plant. In such a case this book supplies just the information needed and within the limitations indicated.

New Inventions.

A NEW DRESSING SLAB.

IN the illustration there is shown a glazed earthenware slab measuring four and three-quarter inches in length by three inches in width by three-quarters of an inch in thickness. It serves as a support for lacrymal or hypodermic syringes, glass rods tipped with wool, probes, and similar instruments. On it there are formed (1) two long shallow grooves and one shorter groove for receiving instruments, each groove being provided with a central bevel; (2) two crater-like depressions capable of holding one fluid drachm, each having at its lowest point a recess of a capacity of five minims whereby a syringe is enabled to draw up the last drop of the contained solution; and (3) one large and two small wells in which various articles can be placed upright, a syringe or a glass cylinder in the larger well and a glass rod or the nozzle of a syringe in the smaller ones. The lid of the box in which the slab is kept is washable and can be used as a cover for the slab when the latter is standing on the table and the sterilised instruments are *in situ* ready for the surgeon. The slab is easily rendered aseptic by boiling, it cannot be overturned, and will be useful in consulting rooms where small quantities of expensive drugs are employed. The price of the slab is 2*s.* It is supplied by Messrs. Allen and Hanburys, 48, Wigmore-street, London, W.



Harley-street, W. R. E. HANSON, M.A., M.B. Cantab.

ACCIDENTS (MINES AND FACTORIES) BILL.

WE have received the following letter from the honorary secretary of the Metropolitan Branch of the Association of Certifying Factory Surgeons concerning the above-mentioned Bill, which is down for second reading on April 10th.

OBJECTIONS OF CERTIFYING FACTORY SURGEONS' ASSOCIATION TO ACCIDENTS (MINES AND FACTORIES) BILL AT PRESENT DOWN FOR SECOND READING.

To the Editors of THE LANCET.

SIRS,—*Clause 4 proposes* to aboli [illegible] the cause of machinery accidents [illegible] certifying factory surgeon. As re [illegible] only report received by the Factor [illegible] employer.

Employers' Reports are Misleading.

We are able to say through our [illegible] employers do not form any tru [illegible] occurred; their reports are often [illegible] to suppose that an employer will [illegible] due to his machinery being improperly guarded.

Clause Unworkable.

Sub-clause 5 proposes that the Secretary of State shall direct that certain accidents be investigated by the certifying surgeon. We believe that this would be quite unworkable and would result in no accidents at all being investigated by him. No matter how carefully drawn up such directions were it would be impossible for the local [illegible] year.

[illegible] Secretary of State already possesses power under Section 20, Factory Act, 1901, to obtain this information from the certifying factory surgeon.

Evidence of Injured Person.

[illegible]

Objections raised by Home Office.

The objections which may be raised to this scheme are: (1) The trouble to the occupier of sending two notices; (2) that trivial accidents would be unnecessarily reported; (3) the cost of surgeons' fees; and (4) that surgeons' reports are of no use.

Objections of Home Office Answered.

1. No trouble has been experienced up to the present by the occupier having to send tw [illegible] certifying surgeon [illegible] course of a year.

2. We do not agree that [illegible] should not be investigated [illegible] these often reveals serious [illegible] remedied, thus preventing [illegible] future.

3 The total sum paid by Government to certifying surgeons for accident fees does not exceed £6000, a very small sum considering the amount of good which is obtained for it.

4. Times without number it is found on visiting factories that [illegible]

W. H. F. OXLEY,
Hon. Sec. Metropolitan Branch Association of
119, East India Dock road. Certifying Factory Surgeons.

PS.—We think there are some good points in the Bill, such as the [illegible] accidents. We think that the Bill should be [illegible] endment [illegible] Clauses a [illegible]

HOSPITAL SATURDAY FUND.—The annual general meeting of the Metropolitan Hospital Saturday Fund Association was held on April 1st at the offices, Gray's Inn, Mr. W. V. Stratford presiding. The report of the council for 1904, which was adopted, showed that the receipts from the workshops and business houses had reached £24,344, the highest recorded in the history of the Fund, being an increase as compared with last year of £670.

THE LANCET.

LONDON: SATURDAY, APRIL 8, 1905.

The Expenses of Public Vaccination.

THE report of the departmental committee of the Local Government Board on the expenses of public vaccination has at last been laid before Parliament. The committee sat in the autumn of 1903, concluding its labours in December of that year, and the report is dated April, 1904. It must be inferred from this delay that the Government intends to remodel the Act this session instead of re-enacting the measure as it now stands on the Statute-book while carrying out the recommendations of the committee by Orders in Council. Whatever doubts may exist as to the delay which has taken place there can be none as to the thorough nature of the work of the committee. Its findings are in the main careful and judicial and no one who has followed the minutes of evidence with attention can avoid the conclusion that the members are in possession of the smallest necessary details of the subject. While the old Vaccination Acts were in force, under which public vaccination was performed at "stations" and at stated intervals, the total cost for England and Wales has fallen gradually from £112,942 in 1872 to £72,665 in 1899. This decrease in expenditure was due to the faulty administration of the Acts by local bodies. In districts where there was active hostility to vaccination no compulsion was enforced and in districts where there was no active objection administration had become lax. The country was for seven years awaiting the final report of the Royal Commission of 1889, which did not finally present its report until 1896 and the effect was felt. The new Act was passed in 1898 and its first year of working ended on Lady Day, 1900. The cost of vaccination rose at once to £237,527 and in 1902 it reached £270,628. This enormous increase alarmed the boards of guardians and one-half of their number memorialised the Local Government Board on the subject. It had been realised that the working of the new Act would be very expensive but in drawing comparisons between the total cost of the procedures under the old Acts and the new one certain accidental features had not occurred to the minds of even those most conversant with the subject. No one knew, except the experts of the Local Government Board and the public vaccinators, how lamentably the vaccination of the country had declined and no one foresaw the inevitable result of that decline—the small-pox outbreak of 1902–03, with the equally inevitable rush for revaccination on the part of a frightened populace. If we compare the cost in 1872 with that in 1902 and make proper estimates for the increase of population and for the cost of public *re*vaccination, we shall find that the sum in the latter year is barely double that of the former; on the other hand, there is no question that the work, the time occupied, and the travelling expenses of the public vaccinator have all been increased fivefold by the changes in method introduced. Under the old system the "stations" were only opened on a limited number of days; an average number was three days each quarter, and (until compulsory vaccination was allowed to get into abeyance) the vaccinator was certain of some adequate returns, however distant his station might be. The travelling expenses were nominal; the time occupied was small, because 30 babies might be vaccinated in an hour if they were present. No clerical work beyond the entry of each case in the register and the filling in of the certificate was necessary. Matters are very different now; the actual operation of vaccination cannot be performed under 20 minutes; notice must be sent to the parent and the visit must be made by appointment within the hours of 9 A.M. and 4 P.M., however long the journey may be. The most trifling cause for refusal or postponement must be accepted and no extra payment is made or allowed for any extra journey.

Though it is true that a large number of boards of guardians did arrange fees with their vaccinators which afforded a poor average of remuneration for the enormous increase of work which was performed, the appendices to the report, when considered carefully, show how poor the pay has been. Half the boards of guardians in England and Wales have appealed to the Local Government Board for a reduction of the fees and yet the committee recommends the lowering of the *minimum* fees and trusts to the consideration of these very boards to offer a good average of stipend for the very careful and exacting work which is now demanded. The minimum fees paid under the Order of 1898 were 1*s.* for each child reported by the vaccination officer as unvaccinated by the time he or she attained four months of age and 5*s.* for each successful vaccination at the child's house or for each revaccination at the patient's own house. Many boards of guardians paid larger fees than these, granting 2*s.* for each unvaccinated child (technically known as fee (*a*)) and sums in excess of the minimum which were supposed to cover the large amount of unremunerative work. Under the committee's recommendations a system of "zone" minimum fees is to be established; thus fee (*a*) remains the same, while for successful vaccination within one mile of the vaccinator's house only 3*s.* can be claimed, 4*s.* for cases between one and two miles, and 5*s.* for over two miles. For work effected beyond three miles the vaccinators and their boards will have to make special terms. The fees for revaccination at the vaccinator's house will remain at the rate of 2*s.* 6*d.* The committee is careful to point out that it does not consider these figures as affording a sufficient remuneration in every case, and in districts where the population is scattered or where there is local opposition to the practice of vaccination consideration of these conditions should be, in its opinion, taken. In such districts it feels assured that boards of guardians will in the future be willing to pay higher fees than the minimum required by statute. It is difficult to feel the same ready confidence that all boards of guardians will display this liberality. The committee itself emphasises the fact that the boards and the public are imperfectly acquainted with the duties which the public vaccinators are now called upon to perform, and there is little likelihood that the mere issue of this report will tend greatly to leaven the large mass of this ignorance, while the fact that the minimum fees have been lowered by the recommendations will be readily grasped and as readily acted on. No question exists in the minds of the public health department of the Local Government Board and of the committee of inquiry that the standard of vaccination has risen under the present working to a highly efficient level. The proportion of infantile vaccination has reached a point promising real safety to the country, the "insertional results," with their increased protective value, have been greatly enhanced when compared with those of the "arm-to-arm" operation, while the confidence in the quality of the lymph and in the methods of the operation induced in the public mind has admittedly been a factor which has assisted to swell the expenses. The evidence of one witness was accepted in a curiously phrased paragraph by the committee as to the effect of this confidence. For since the passing of the Act of 1898 an increasing number of persons of superior position and means who formerly would have called in their private medical attendants have availed themselves of the services of the public vaccinator. The varied reasons for this change in opinion are carefully brought out in Mr. MAUDE's evidence[1] and are summarised in the report, which does not, as it should, condemn this abuse of public vaccination.

Thus while the report acknowledges the excellence of the work done and the great labour involved in its performance, the profound knowledge of the question of vaccination, clearly possessed by the authorities in Whitehall, must lead them to appreciate the difference between first-rate and inferior work on the part of their vaccinators. It was admitted on all hands that the work effected under the old Acts was not always first class; it may be asked, does any business-like community expect first-class work from men whose remuneration is cut down to the lowest point? A better standard of work exacted and a better standard of pay provided promptly produced a higher class of result. The work and the pay stand in the position of the premisses to a syllogism and every logician knows the effect on the result if either premiss is disturbed. It is therefore with regret that we discover that the only real practical outcome of the committee's labours is a recommendation of the reduction of the vaccinators' fees. The reduction of fees proposed is based on the assumption that the urban vaccinators have been over-paid when receiving the minimum fee of 5*s.*, while the committee recognises the hardship inflicted on many rural officials who have had to travel enormous distances for exiguous fees per journey. How small these fees were under the old rates of pay is abundantly illustrated by some of the tables prepared by witnesses. One union is found paying an average of 6*d.* per mile for the work done, there being an average mileage per case vaccinated of 12 miles, and the minimum fee of 5*s.* for successful cases. When we remember that this work has to be done by previous appointment the insufficiency of the remuneration is obvious. The committee states (§ 83) its opinion that having regard to the work done the remuneration of public vaccinators since the Act of 1898 came into force has in many cases not been excessive, particularly in country districts. At the same time it considers that the fees may be reduced without hardship if the provisions of the Order are made more elastic, but the changes in the direction of elasticity appear very slight, in fact to consist in the proviso that if vaccination is refused or deferred for any reason except that of the certified ill-health of the child the vaccinator need pay no further visit, as he has to do at present, but the child must be taken to the vaccinator's house. The relief in other directions of work is purely nominal and is in no degree likely to make up for the curtailed emoluments. The suggested change that public vaccinators should have the same fixity of tenure of office as other Poor-law officers have will be welcomed by those officials whose association has long striven for this security. The law by which a public vaccinator's contract may be terminated at 28 days' notice by his board of guardians has been a grave injustice, as it has frequently been employed by boards to cut down the fees to the legal minimum by the threat of immediate dismissal if the terms are not accepted. The proposals of this report will not be received with any satisfaction by the urban vaccinators and many of the rural officers will have a hard fight to secure an adequate return for their important labours. We trust that the Local Government Board will accord to them proper support when the time comes. Since the advisers of that Board obviously rate good vaccination at its proper value it is to be regretted that the committee has not had the courage at this appropriate juncture to recommend that the payment for this work should be debited to other accounts than those of small boards of guardians whose purview in many matters (and especially in that of vaccination) is frequently narrow and prejudiced.

The Teaching of Hygiene and Temperance in Elementary Schools.

AN important conference of medical practitioners was held at the Examination Hall, Victoria Embankment, on March 24th, Sir WILLIAM H. BROADBENT being in the chair, to discuss the question of promoting the teaching of hygiene and temperance in elementary schools.[1] The chairman, in his opening speech, pointed out that there could be no doubt of the necessity of such instruction and that therefore the training of teachers and the provision of suitable books were the first considerations. Lord LONDONDERRY, President of the Board of Education, in receiving a largely attended deputation of medical men pointing out the importance of this matter, while expressing sympathy with its objects declared that the teachers in elementary schools were not as yet qualified to give instruction in hygiene. Sir VICTOR HORSLEY stated at the meeting that the petition from which the movement originated (which was signed by nearly 15,000 medical practitioners) had been circulated widely and had received very favourable consideration from a large number of educational authorities in different parts of the country, but in the meantime the Board of Education had published a memorandum by Sir MICHAEL FOSTER criticising adversely certain syllabuses in use among teachers for their guidance in the instruction of children in these subjects. According to Sir VICTOR HORSLEY these criticisms were so misleading that a protest had been drawn up and forwarded to the Board of Education. In conclusion Sir VICTOR HORSLEY stated that "the object of the present medical movement was to secure that the subjects of bodily health and vigour and of healthy homes should receive as much attention at least as geography and history." With these objects and with the adequate instruction of both teachers and pupils in the fundamental principles of hygiene, both personal and domestic, we are in complete and absolute sympathy, as the results can only be beneficial, but the two documents referred to, the memorandum of Sir MICHAEL FOSTER and the protest signed by a number of well-known medical practitioners, are both of a nature to require comment.

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[1] Minutes of Evidence, p. 61, Q. 1514 et seq.

[1] See THE LANCET, April 1st, p. 881.

At the outset it may be admitted that Sir MICHAEL FOSTER'S memorandum is a misleading and unfortunate document—misleading in virtue of its incompleteness and somewhat unnecessary technicality and unfortunate in its liability to misconstruction. The memorandum as published by the Board of Education with extracts from "certain" syllabuses employed in the teaching of hygiene and temperance is incomplete, since the syllabuses themselves are not included and no reference is given to enable them to be identified, whilst the attempt to define in scientific language certain terms which have a more or less indefinite significance as used popularly, such as "nourishing" and "intoxicating," is far from satisfactory. On the other hand, although we are in the main in accord with the letter of protest addressed to Lord LONDONDERRY, it is, perhaps, a little unnecessarily severe in its castigation of Sir MICHAEL FOSTER'S memorandum. The obvious intention of Sir MICHAEL FOSTER is to protest against the too sweeping assertions sometimes made in relation to the actions of alcohol and to the dogmatic application of the teachings of physiology to everyday problems without careful consideration of all the factors concerned. To give an example, the following paragraph is quoted from one of the syllabuses: "A poison is something antagonistic to life. Food supports life; poison destroys life. Alcohol is defined as a poison because it acts in a contrary way to food." So slipshod and inaccurate a definition merits the criticism which it receives from Sir MICHAEL FOSTER who states: "If we take into consideration *all* variations in the conditions of the body and not those of 'health' alone it may safely be stated that there is no substance which in a certain dose may not, under certain conditions, be taken into the body with beneficial effects. The qualities leading a substance to be called a poison are relative, not absolute." Unfortunately, Sir MICHAEL FOSTER, in order to illustrate the truth of this important proposition, points out that substances like oxygen and water, which are admittedly essentials of life, may under certain artificial conditions become injurious, without sufficient explanation of the artificiality of those conditions, with the result that misconception is very liable to occur, as is shown by the remarkably ingenuous note of the Board on this matter to the effect that no reference is made (in the syllabuses) to "any dangerous properties of oxygen." Again, Sir MICHAEL FOSTER quite rightly objects to statements such as the following extracted from the syllabuses: "We need not then be afraid to speak of alcohol by its proper designation as a poison. In small quantities it does not kill, but the same thing may be said of strychnine, arsenic, and other poisons. We may sum it up thus: in considerable quantities alcohol will kill, in smaller doses it does injury corresponding to the amount taken"; and again, "Alcohol within the body is always our foe and never our friend." The inconsequence of such statements when examined critically is obvious, but Sir MICHAEL FOSTER again invites misconstruction by pointing to the injurious effects of distilled water on tissues and stating that the argument used in the syllabuses might with equal justice be employed in favour of total abstinence from distilled water, a statement which is apt to suggest that the injurious effects of alcohol and distilled water are of like character and degree. There can be little doubt that in the end both Sir MICHAEL FOSTER and his critics have practically the same objects at heart since Sir MICHAEL FOSTER in his memorandum writes: "There ought to be no difficulty in teaching even young children hygienic duties in a broad way, basing the teaching on the results of common experience, using physiological science, and then only simple and general physiological truths, as illustrating those results and showing the sound basis on which the teaching rests. But to teach hygiene as is proposed in the syllabuses submitted, in the form of deductions from special physiological observations often of a doubtful character, can only be productive of harm."

It is earnestly to be hoped that one outcome of the matter may be a comprehensive discussion of the aims and the scope of the teaching of hygiene in elementary schools and the publication of an authoritative and explicit syllabus of such instruction by a committee of hygienists, physiologists, and educationists, if possible under the auspices of the Board of Education. A proper syllabus of this kind dealing with the subject in a broad way and not confined to the uses and abuses of alcohol but including reference to the injurious effects of other substances in excess, including tea, is, as stated by Sir LAUDER BRUNTON, one of the signatories of the protest, in a footnote appended to it, a pressing need at the present time.

King Edward's Hospital Fund for London.

THE proceedings of the annual meeting of the General Council of KING EDWARD'S Hospital Fund for London, of which we gave a full report last week, are in many respects calculated to exert an abiding influence alike upon the hospital administration and upon the medical education of the metropolis. It has long been evident to all interested in the question that the complete independence of the London hospitals and the active competition for support in which they are frequently engaged are not conducive either to efficiency or to economy, and the founders of the Metropolitan Hospital Sunday Fund early entertained a hope that its influence might be useful in promoting a harmonious adjustment of the claims of contending charities and in diminishing rivalries which were by no means certain to issue in the survival of the fittest. It soon became manifest, however, that neither the Sunday Fund nor the Saturday Fund was so organised as to exert any considerable authority over hospital management or to deal with its difficulties in any effective manner; and hence, excepting in a very few instances, the functions of the distribution committees became arithmetical rather than judicial. The establishment of King Edward's Fund was the signal for a new departure in this respect; not only because its committees were so constituted as to command an increased degree of public confidence, but also because their investigations into questions of claims and merits were more effective than any which had previously been attempted. A society actively supported by Royal patronage, wielding the power of the purse to a large and constantly increasing extent, and commanding the services of many persons eminent in the clerical, legal, and medical professions, was a body qualified to form conclusions which could not be disregarded with impunity. A hospital on which such a body bestowed damaging criticism was hardly likely to succeed in an appeal from that criticism either to the general public, or to the more restricted number of its previous supporters, and opinion was gradually taught to look for, and to acquiesce in, the decisions of the Fund, and to recognise that hospital administration is a matter demanding the knowledge of experts and capable of being tested by rules which they are able to apply. The hands of the administrators of the older funds were materially strengthened by the trust which the public soon learned to repose in the new one; hence we have just seen that a diminution of the grant from the Sunday Fund to the National Hospital for the Paralysed and Epileptic on the score of undue expenditure upon in-patients, instead of producing the indignant protests which it would probably have called forth only a few years ago, was speedily followed by careful and painstaking inquiry upon the part of the committee and by reforms which, without any impairment of efficiency, effected a saving of £2000 within a year. Hospital boards and officials have been compelled to recognise their responsibility, not only to their subscribers but to the public, for the proper and judicious expenditure of the large sums annually committed to their stewardship and to see that good intentions furnish no defence against well-founded charges of undue costliness of management or of undue carelessness in administration.

The most important question raised in the report of King Edward's Fund for the past year, and one which was dwelt upon by the Prince of Wales in his speech from the chair, had reference to the propriety of the assistance hitherto given by many hospitals to the medical schools connected with them. The question, as our readers will remember, was originally raised by the antivivisection society or societies which, like a well-known scriptural character, spoke "not because they cared for the poor" but under the influence of widely different motives; and it is probable that the first and not unnatural effect of their agitation was to arouse a feeling of opposition on the part of many of the genuine friends of hospitals and a determination to support the school subsidies against their assailants. Lord Stanley, as treasurer of the London Hospital, has informed the public that his committee tested the feeling of its supporters by inviting them to earmark their contributions as applicable, at the discretion of the committee, either to the patients or to the school and that the contributions thus earmarked within a week amounted to twice as much as the largest sum ever given by the hospital to the school within a year. But the question was too important to be disposed of in this summary manner and the governing body of King Edward's Fund appointed a special committee to inquire into, and to report upon, it, a committee consisting of Sir Edward Fry, the Bishop of Stepney, and Lord Welby, to which Mr. Danvers Power, the chairman of the committee of the National Hospital for the Paralysed and Epileptic, consented to act as honorary secretary. The report of this committee set forth that of the 12 hospitals which have medical schools at least eight had contributed from their funds to the cost of medical education, and proceeded to declare that the committee "do not find that any special considerations have been advanced in justification of the expenditure by the hospitals on the schools." Whatever differences of opinion may exist with regard to the soundness of this conclusion, it is at least certain that the governing body of the King's Fund intends to act upon it, and that the payment of subsidies to the schools, apart altogether from the grounds urged by the first opponents of the practice, will for the future be systematically discouraged by the Fund. The expressions used by the Prince of Wales, although extremely moderate, were none the less decided. He said that, in consequence of the date of the report, the hospitals could not act upon it during the present year in such a way as to clear their accounts of the school charges and that he hoped that the authorities of the Fund would be regarded as acting reasonably if they deferred dealing with the question until the year 1906 and thus gave the hospitals nine months in which to consider their position. After the lapse of that time it would be required of them that the whole of the grants from the King's Fund should be applied to the relief of the poor, so that the contributors to that Fund might have complete assurance that their money was employed in no other manner. It may be presumed, we suppose, that the Fund would not raise any objection to the exercise of such a discretion as that which Lord Stanley's committee has asked for and obtained from a certain section of its supporters.

But the aspect under which the Prince of Wales's declaration will be chiefly interesting to the medical profession, and one upon which His Royal Highness himself laid stress, is that of the probable effect of the change upon medical education. The Prince of Wales displayed complete acquaintance with the results of conducting that education, or at least the preliminary portions of it, in a number of small and insufficiently equipped schools, and he spoke hopefully of the benefits which might be expected to arise from the transference of the preliminary and intermediate subjects to an institution specially organised for the purpose and as far as possible of a university character. He expressed his pleasure in the knowledge that the Senate of the University of London had already put forward a scheme for the establishment of an Institute of Medical Sciences in connexion with the University, and he appealed to the public to supply the funds necessary for this purpose, making especial reference to the recent generous donation from Mr. Beit. It is well known that members of the Royal Family do not speak in public upon technical subjects save after consultation with competent advisers and we may therefore conclude that His Royal Highness's expectations of improved medical education are shared by many members of the profession, as they are by ourselves. There will, no doubt, be a period of transition, during which the old order will be weakened, while the new will not yet be in a position to meet all the demands likely to be made upon it, but difficulties of this kind are inseparable from change and must not be suffered to diminish our perception of the benefits which the change will ultimately secure.

Annotations.

"Ne quid nimis."

THE PURITY OF WATERCRESS AND WATERCRESS BEDS.

Suspicion has more than once been entertained that watercress has given rise to an outbreak of enteric fever and there is little doubt that watercress is not infrequently cultivated in an environment which is liable to specific pollution. It would appear from a report recently issued by the London County Council and drawn up by the medical officer of the Council, Sir Shirley Murphy, that watercress may well be the carrier of disease, since at any rate not all the known beds situated within some 50 miles of the county of London and supplying the London market exist under conditions of strict sanitary requirement. So far, however, the evidence that watercress can be a source of danger because it acts as a carrier of sewage-contaminated water has not been thoroughly conclusive. It is at any rate obviously desirable that watercress should not be allowed to be cultivated in water which is grossly polluted or which shows a worse degree of impurity than does an ordinary drinking water-supply. As a result of a topographical inquiry made over the area just mentioned by the county council inspectors the best beds were found, generally speaking, upon a bottom of hard clean gravel. Such beds are regularly cleansed and in some instances are occasionally treated with lime in order to destroy organisms deemed to be injurious to the watercress. On the other hand, there were beds found in sluggish streams or backwaters having muddy bottoms and receiving the drainage of grazing lands. The water-supply was found to be derived from various sources, such as rivers, canals, natural springs, and artesian wells. The causes of pollution were found to be many and various. Surface drainage from grazing lands is often allowed to enter the beds and in some instances house drainage and the drainage from trade premises are permitted to aggravate the mischief caused by want of proper cleansing and the unchecked growth of rank vegetation. Dr. Frank Clowes, chemist to the Council, examined 129 samples of water from watercress beds and his examination led him to classify the results into four groups. In the first group, including 53 samples, the purity of the water as regards nitrogenous organic matter was about the same as that of Thames-derived filtered water. 47 samples in the second group were found to contain the same nitrogenous equivalent as the water of the Thames above the water companies' intakes. The third group included 22 samples in which the nitrogenous organic matter was excessive and the fourth group included certain samples in which the nitrogenous organic matter was very excessive. In the third and fourth groups, in fact, there can be little doubt that the samples were polluted with sewage. The bacteriological inquiry carried out by Dr. A. C. Houston confirmed the evidence yielded by topographical investigation. The best waters contained no "coli-like" microbes of any sort, and the least satisfactory waters contained from 1000 to 10,000 "coli-like" microbes per cubic centimetre and yielded positive results with the bacillus enteritidis sporogenes test. On the basis of the bacillus coli test the best waters were from 1 to 10 million times purer than the least satisfactory waters. Generally speaking, Dr. Houston finds that watercress reflects bacteriologically its aqueous environment—that is, the more polluted the water the less pure is the watercress and the purer the water the cleaner is likely to be the watercress. The importance of thoroughly washing the watercress is shown by the fact that the final as compared with the first washing of impure watercress was usually found to contain a much smaller proportion of objectionable microbes. The results seem to indicate, however, that no ordinary amount of washing could be relied on to remove from watercress grown in polluted waters all undesirable microbes. This may be due either to bacteria so firmly adhering to the exterior of the plant as to resist being swept away during the washing process or to the watercress harbouring microbes within its structure or to a combination of these causes. In regard to standards applicable to the water "feeding" watercress beds Dr. Houston thinks that the imposition of drinking water standards would press rather heavily on the watercress industry. He suggests a broad classification in regard to bacteriological purity on the lines already tentatively brought forward in his reports to the Local Government Board and to the Royal Commission on Sewage Disposal. It is evident that some control in this matter is called for, since the consumption of watercress amounts in London to as much as 1500 tons per annum. Nor is its consumption confined to the poorer classes who use it as a pleasant adjunct to bread and butter, for it is frequently used as a salad with game and poultry.

"A NEW FOOD FOR USE IN TYPHOID AND OTHER FEVERS."

We have received a copy of a pamphlet bearing the above title, written by Dr. J. W. Springthorpe, physician to the Melbourne Hospital, and reprinted from the *Australasian Medical Journal*, in which the writer draws attention to the disadvantages which he considers that milk possesses as a food. He is of opinion that it but imperfectly fulfils the requirements of a food during fever. Professor Voit has shown that three and a half pints of milk of good quality (from 8 to 10 per cent. of cream), though satisfying a healthy idle adult, are deficient in the albumin required, and while containing twice the fat are wanting in carbohydrates to the extent of two-thirds of that contained in an ideal diet. A diet for use in cases of fever should contain more carbohydrates and less albumin than an ordinary diet and should be free from fat; therefore Dr. Springthorpe argues that even with the addition of some form of animal broth the quantity of milk recommended by physicians must fail to meet the requirements of a patient suffering from continued fever. Further, he maintains that though a fluid food in the mouth, milk becomes a more or less solid food in the stomach—the undigested curd represents so much less of albumin, whilst the curds themselves are a frequent cause of rise of temperature, restlessness, diarrhœa, and "other aggravations of an already serious if not dangerous condition." He admits, however, that curdling may be diminished by appropriate dilution and admixture Milk, too, s stated to be a food very likely to ferment; hence distension and all the discomforts and dangers which follow therefrom. After enumerating other disadvantages which he alleges that milk possesses as a food in cases of fever he proceeds to suggest a substitute. He draws attention to the fact that whilst testing the suitability of various food-stuffs for the growth of Eberth's bacillus M. de Bavay discovered that a sterilised hopped malt extract was superior to either broth or milk in its resisting power, there being absolutely no growth whatever when typhoid bacilli were introduced into it. Analysis showed that it consisted of soluble carbohydrates, peptones, parapeptones, and amides, a small proportion of ash, rich in phosphoric and lactic acid, and the extract of hops. The malt extract was tested practically during an epidemic of typhoid fever and Dr. Springthorpe came to the following conclusions: 1. That sterilised hopped malt extract may be given as a food in place of milk in the treatment of typhoid fever. 2. That the extract has many advantages over milk. Thus, its composition may be made definite; it is easy to keep and to administer; there is no risk of its becoming sour; there is no need of peptonising or of adding alkalies or effervescents; and it can be taken with acids. 3. That "in many ways it meets the requirements of the case better than milk." Thus, the active principles are pre-digested, the carbohydrates predominate, and fat is absent. 4. It exerts upon the disease a beneficial influence which is not found in the case of milk. In an appendix to this communication directions are given for the preparation of the extract. The results obtained by Dr. Springthorpe are certainly interesting and the preparation merits further trial.

INCOMPATIBILITY IN THEORY AND PRACTICE.

IN an interesting paper (published in the *Pharmaceutical Journal* of Feb. 18th) Mr. J. P. Gilmore has communicated his views on incompatibles. The various cases of incompatibility are grouped by the author under their main headings, due severally to the production of an insoluble substance, to theoretical chemical disagreement without detriment to therapeutic effect, and to the formation of products the medicinal properties of which are dissimilar to those presumably required by the prescriber. It will at once be conceded that the last case alone, as cited by Mr. Gilmore, deserves serious consideration. Many drugs act best in the solid form as, for instance, the salts of bismuth, while the acid in the gastric juice frequently dissolves many insoluble compounds. There are a few cases in which absolute danger results from this class of incompatibles—e.g., where strychnine is totally precipitated from an alkaline solution, on standing, there is a great chance of the patient taking the greater part of the alkaloid in the last dose. Again, chemical disagreement has in certain cases been shown by long usage to be either an advantage or without deleterious effect. Thus prescribers daily gain satisfactory results from combinations of lead and opium, ergot and iron, digitalis and iron preparations, and ferrous iodide and mercuric chloride. In such cases there is generally no necessity for the dispenser to trouble the prescriber. Indeed, many cases of incompatibility are so designed by the prescriber. An instance illustrating this point has been recorded of a laryngeal paint containing cocaine hydrochloride, sodium bicarbonate, mucilage of acacia, and water. Advantage is here taken of the fact that the anæsthetic action of cocaine on the mucous membrane is more energetic in the presence of sodium bicarbonate. But when chemical incompatibility leads to the formation of products of different therapeutic value—e.g., a combination of strychnine and chloral hydrate to which Mr. Gilmore refers in his paper—the case assumes an importance that cannot be over-estimated. The difficulty is increased from two causes, the unfamiliarity of many prescribers with the interactions of various drugs and the general lack of therapeutic knowledge among dispensers. Hence the dispenser, unless he has had long experience, is often at a loss to know whether certain combinations are harmful or not. In such cases he should not hesitate to consult the prescriber. Two instances of incompatible combinations evidently due to error are given by Mr. Gilmore: the first a diarrhœa mixture containing diluted sulphuric acid with chalk mixture; and the second a lotion containing cocaine hydrochloride and sodium bicarbonate in water, the directions being to filter through paper. In the latter case the operation of filtering would naturally remove the cocaine from solution. The subject of incompatibility is difficult to deal with, not so much from the frequency with which usually harmless incompatible substances are prescribed together but from the risk that either in ignorance of the harmfulness of a particular combination or with a desire on the part of the pharmacist not to trouble the prescriber unnecessarily fatal results may occasionally follow from the dispensing of an incompatible prescription as written. The wide use of the newer synthetic remedies undoubtedly increases the risk, though it will be materially reduced as their various actions become better known. It would seem desirable that in the future the scope of pharmacy and materia medica might be widened in the preliminary medical examinations, while dispensers should be encouraged to understand more of the physiological and therapeutic action of the remedies which they compound. In the meantime a mutual confidence between prescriber and dispenser cannot but be of benefit to the patient when unlooked-for difficulties arise.

GONORRHŒAL POLYARTHRITIS IN THE PUERPERIUM.

IT is not sufficiently recognised that the puerperium may waken into activity a pre-existing gonorrhœal infection and give rise to a condition which may be mistaken for puerperal fever. At the meeting of the Société Médicale des Hôpitaux of Paris on Dec. 23rd, 1904, M. Mosny and M. Beaufumé reported the following case. A married woman, aged 28 years, was delivered normally of her first child on Jan. 24th, 1904. On the fourth day of the puerperium the temperature rose to 104° F., which was attributed to influenza. On the fifth day the temperature was again normal but on the sixth it rose again to 100·8°. During the rest of the time she was in hospital it remained normal. There were no other symptoms. She left hospital against advice on Feb. 2nd. On the 5th she had slight pains in the left shoulder and elbow and perspired abundantly at night. On the following day the left knee was affected and then the left wrist. She was readmitted on the 10th. When examined on the 11th she complained of pains in the joints. The right elbow and wrist-joints and the metatarso-phalangeal joint of the right great toe were swollen, red, and painful. The left knee was very swollen; it was not the seat of much spontaneous pain but movements were so painful as to be impossible. Vaginal examination showed only a slight laceration of the cervix and a little leucorrhœa. Salicylate of methyl was applied to the joints and one and a half grammes of quinine were given daily. On the following day the swelling of most of the joints had subsided but the left knee was still more swollen. On the 18th it was aspirated and yielded 40 cubic centimetres of greenish sero-purulent fluid containing ordinary polynuclear cells. Microscopic examination did not show either streptococci or gonococci. Cultures on gelose and bouillon were negative but some gonococci were found in the pus which was deposited at the bottom of the tube of bouillon. Cultures on serum and on blood and gelose yielded the gonococcus in pure culture. The gonococcus could not be found in the vaginal mucus or in the urethra. For a long time before marriage the patient had suffered from abundant leucorrhœa after menstruation. For a year the discharge had been thick and yellowish and stained her linen. On the 18th the left knee was enveloped in cotton wool, tightly bandaged, and placed in a splint. Salicylate of sodium was given in daily doses of eight grammes and the dose was gradually diminished. This treatment was not efficacious and therefore on March 9th salophen in doses of five grammes daily was substituted for the salicylate. At this time the muscles of the left lower limb were much atrophied. The salophen also failed. All medication was stopped on the 25th and only the immobilisation and compression of the knee were maintained. On April 5th the temperature became normal but the knee remained tender. On the 23rd treatment by immobilisation and compression was changed to massage and passive movements. The atrophy was so great that the circumferences of the thigh and the leg were two centimetres less than on the other side; on the other hand, the circumference of the knee was from two to three centimetres greater. Improvement took place and on May 14th movements of the knee could be performed without pain. On the 27th the patient was discharged able to walk but the muscular atrophy was undiminished. The important point in the case is the complete latency of the gonorrhœal infection until it was stimulated into activity by the puerperium. It is also noteworthy that the history did not disclose the existence of gonorrhœa and no signs of it were found at the pelvic examination. Moreover, the child did not suffer from ophthalmia. The gonococcic arthritis, therefore, simulated the usual form of puerperal arthritis, the streptococcic. When the arthritis took a mono-articular phase confusion with puerperal arthritis was no longer possible. The case shows the necessity of careful bacteriological examination in the diagnosis of gonorrhœal arthritis.

THE MORALITY OF THE DUTIES ON SPIRITS.

ON Monday next the Chancellor of the Exchequer will present the Budget in the House of Commons and it is generally known that the financial statement in regard to the year's revenue is satisfactory and that there will be a balance of some millions to the good. An interesting feature of the year's revenue, we learn, is that despite this surplus the income derived from the taxation of alcoholic liquors has very appreciably declined. This, of course, means a diminished consumption of wines and spirits which may be traced, perhaps, to a moral improvement in the nation's temper or, as is more probable, to a reduced spending capacity of the individual brought about by commercial depression. Personally, we should welcome a falling off in the revenue from alcoholic liquors if such a circumstance only helped to remove the reproach, as the forthcoming Budget appears to do, that our finances are largely supported by the nation's indulgence in alcohol. The argument, moreover, that because wines and spirits are an important source of revenue it would be inconvenient from a purely fiscal point of view to interfere with the activity and the custom of the trade would receive a healthy set-back. It is notorious that when Chancellors of the Exchequer have had their attention drawn to the desirability of the Government exercising control over the purity and the quality of excisable liquors they have evaded the question, fearful lest any action should interfere with a substantial source of revenue. The Government or its officials only care to collect the tax regardless entirely of the quality or the wholesomeness of the spirituous drink upon which that tax is imposed. There is thus no discrimination made between the genuinely described and the falsely described. In a word, all spirits are merely alcohol from the fiscal point of view and all question as to the materials from which the spirit has been made is completely ignored—that is to say, the tax is the same whether the foundation of the spirit has been malt, grapes, corn, molasses, sugar, potatoes, or, in fact, anything from which alcohol can be made, and the category may include a list of very undesirable materials. Surely this uncompromising method of taxation is a grave injustice to the consumer who, after all, bears the tax. Is it logical, is it just, to impose upon the consumer the same amount of tax on the genuine article as upon that which is incorrectly described? The principle that the consumer should be completely in the dark as to the genuineness of the article upon which he pays a heavy tax is surely unsound. It is all very well from the tax-gatherer's point of view but morally it is wrong. The consumer is entitled to get genuine tea, coffee, or cocoa when he asks for them and he expects to participate in the tax in accordance with the adjustment of the customs tariff, but he naturally would resent having to bear the same rate of imposition on mixtures of tea, coffee, or cocoa. There is a duty on cocoa of 2*d.* per pound which, of course, the consumer indirectly pays, but there is no duty on starch. When, however, a mixture of cocoa and starch is sold to him as cocoa he is cheated and he has a remedy in the Sale of Food and Drugs Act. He is similarly cheated when on demanding a grape spirit (i.e., brandy) or a malt spirit (i.e., whisky) he is supplied with grain spirit or patent spirit which is obviously not of the nature, quality, or substance of the article demanded. Yet whatever spirit he may happen to be supplied with he pays the same duty and the reply of the Government is laconic enough, "It is all alcohol." Such an answer may satisfy fiscal needs but it is distinctly detrimental to the welfare and the health of the community. It is, in fact, time that the public received some consideration and protection in this matter and it is anomalous that a system of taxation should exist which deals with the genuine article on the same terms and level as it does with an article which is practically falsely described. It amounts to deriving revenue from a species of fraud.

THE INSTRUCTION OF THE YOUNG WITH REGARD TO VENEREAL DISEASE.

WE have before us a series of five lectures[1] delivered to the students of the University of Copenhagen by Professor Erik Pontoppidan with a view to instruct a general audience of young men, not necessarily intended for the medical profession, as to the significance and the prevention of venereal disease. These lectures were first given under the auspices of the International Conference "Pour la Prophylaxie Sanitaire et Morale" held at Brussels in 1899 and they have since been repeated in the autumns of 1900, 1901, and 1902, no doubt with the object of attracting the attention of junior students at the beginning of the academic year. The lecturer has aimed at imparting to his audience a measure of scientific knowledge of the hygienic aspect of venereal infection corresponding to the instruction sought to be made general with regard to tuberculosis during recent years. He explains at some length the nature and the causes of venereal disorders and the outlines of the treatment necessary to eradicate them from the infected person, dwelling upon the consequences to the individual of the neglect of adequate measures and upon the results to the community of the unchecked dissemination of the evil. This neglect, he points out, is due to ignorance and in a great measure also to other causes such as the desire for secrecy and he urges fuller knowledge accompanied by more open recognition of the danger together with prevention not only by medical and sanitary precautions but also by the setting up of pure and healthy ideals of life. The subject is one of great importance and the question as to how far it can be broached publicly and discussed with a view to the amelioration of existing conditions is in itself one upon which diverse opinions are held. Of the prevailing ignorance none can doubt. In the more intelligent class from which Professor Pontoppidan's hearers were drawn it leads to medical aid being sought either not at all or too late and to a want of perseverance which is equally undesirable. With regard to the ignorance of the less educated classes we note that the lecturer refers to the existence in Denmark of a hideous superstition, with which medical men and lawyers practising in criminal courts are familiar in this country, that sexual intercourse with a virgin, or the passing on of infection to a child, will cure venereal disease. When such ideas as this require to be stamped out it can hardly be denied that more extended knowledge is desirable; and when the desirability of discussing such topics with the young is disputed it must be borne in mind that this, as a rule, amounts to the substitution of sound and accurate knowledge imparted by one in the position of a teacher for such information as his hearers would otherwise gather from untrustworthy and tainted sources and would disseminate in unhealthy conversation among themselves. With reference to the lives led by young men in universities Professor Pontoppidan refers with approval to the influence of athleticism in the discouragement of sexual indulgence and pays a high, and let us hope deserved, compliment to English universities and to the attitude towards licentious talking and living which he finds prevailing in them. The conditions existing in the British army, on the other hand, fill him with surprise and horror which he does not disguise and he would no doubt point to the rank and file of our battalions as a suitable field for the development of knowledge as a prophylactic. His lectures, however, are for a different class and we would recommend their perusal and the consideration of the course suggested in them by teachers of those who when instructed are most likely to be able to influence others, if not by precept at least by their example.

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[1] What Venereal Diseases Mean and How to Prevent Them. By Professor Erik Pontoppidan, M.D., chief physician to the Western (Lock) Hospital, Copenhagen. Translated by W. Jessen. London: John Bale, Sons, and Danielsson, Limited. 1905. Pp. 79. Price 2*s.* net.

AN INTERNATIONAL MEDICAL ASSOCIATION AGAINST WAR.

ON March 21st there assembled at the house of Dr. Rivière, in Paris, more than 200 medical men. The object of the meeting was the association of medical men for the purpose of doing all in their power to do away with war. It was decided to found an International Medical Association against War and it was proposed to hold a congress on the subject in two years' time. Those present were constituted the committee of the movement and officers were elected as follows. President: Dr. Rivière. Vice-Presidents: Dr. Philippeau, Dr. Suarez de Mendoza, and Dr. Th. Mende Ernst. General Secretary: Dr. Mazery. Secretaries: Dr. Pokinotoff, Dr. Antonelli, Dr. Cree, Dr. de Torres Mendiola, Dr. de Castro Soffia, and Dr. Cogrel. Treasurer: Dr. Marechal. Delegated secretaries: Dr. Mazery, Dr. Cree, and Dr. Cogrel. Dr. Rivière, who opened the proceedings in an able discourse, reminded his hearers of the horrors of war; he pointed out how the North Sea incident showed very well what arbitration could do and argued that medical men who were so intimately acquainted with human misery, both physical and moral, were by that very fact the most fitted of the community to collaborate in the great work of substituting arbitration for war. Dr. Rivière has set up a high ideal but there is no one who will not earnestly hope that this ideal may be realised in the near future. Even though war, as it undoubtedly does do, calls forth the finest qualities of human nature, the hideously effective action of modern methods of destruction sickens the heart. And its effects are not limited to the battlefield. As our great master of English prose said (he is speaking of the distress and anxiety with which the casualty lists from Flanders were studied in this country after Waterloo): "If such an interest could be felt in our country and about a battle where but twenty thousand of our people were engaged, think of the condition of Europe for 20 years before, where people were fighting, not by thousands, but by millions; each one of whom as he struck his enemy wounded horribly some other innocent heart far away."

DANGERS TO THE OPERATOR FROM THE X RAYS.

THOUGH the injuries inflicted on the patient in the use of the x rays have been repeatedly recorded little attention has been directed to the dangers to the operator. However, some alarmist reports come from America and if at present the evidence is not sufficient to accept them absolutely at least a good case is made out for greater care in using the rays. According to a recent editorial article in the *Medical News* of New York Dr. Tilden Brown has demonstrated absence of spermatozoa (azoospermia) in the semen of a number of patients and physicians who had spent more or less time exposed to the x rays. They, however, were not conscious of any loss of potency. These observations are supported by certain experiments made in Germany. About 18 months ago Albers-Schönberg found that if the abdominal surface of male guinea-pigs or rabbits was exposed for a prolonged time to the x rays the animals became sterile but their potency was unimpaired. This sterility was due to the development of azoospermia, which was shown by Seldin to depend on the disappearance of the epithelium of the seminiferous tubes. Recently Hulberstaedter has described experiments which show that the ovary is even more susceptible to the action of the rays than is the testis. In the *Boston Medical and Surgical Journal* of March 9th Dr. H. W. van Allen has discussed the dangers to the operator from exposure to the x rays and their prophylaxis. He has reported seven cases in which men were exposed to the action of the x rays in the genital region with the production of more or less dermatitis. The following is an outline of these cases:—1. 12 exposures, the last four months ago. Spermatozoa normal. 2. 12 exposures, the last a year ago. Spermatozoa normal. 3. 35 exposures, the last five months ago. Spermatozoa absent. Sexual function apparently normal. Age 38 years. 4. Ten exposures a year ago. Spermatozoa normal. 5. 15 exposures four months ago. Spermatozoa absent. Age 56 years. 6. An x ray tube maker, aged 42 years, who had changed his occupation and not been exposed for six months. No spermatozoa. 7. 45 exposures, last one 14 months ago Spermatozoa absent. Age 40 years. The cases of azoospermia were not those in which the dermatitis was marked but the ones treated the longest. The observations led Dr. van Allen to look for other effects. He found that in x ray workers of experience the skin and its appendages first suffer. The nails and the hair are brittle and of slow growth. The skin is dry and of a yellowish hue which is almost characteristic. Indigestion, especially of the intestinal kind, is present. The workers complain of inability to concentrate their thoughts for any length of time and are drowsy, although many suffer from insomnia. Their disposition is somewhat irritable. They complain of an abnormal sensation of cold. Radiographs of the thinner parts of the body show premature sclerosis of the arteries. To prevent such effects Dr. van Allen recommends that the operator should be entirely removed from the x ray atmosphere. The whole apparatus except the tube should be in one room and the tube and the couch for the patient in an adjoining room. The wall separating the rooms should be covered with sheet lead not less than $\frac{1}{32}$nd of an inch thick. Through this should pass the wires to the tube. In the wall should be a peep-hole, which might be protected with the glass from which are made cut glass articles (containing as much as 20 per cent. of lead). Or the hole might be protected by means of two mirrors facing one another at an angle with the perpendicular of 45°, one covering the opening and the other above it. The silver-covered mirror would prevent the non-reflectable x rays from striking the operator but he could see by the ordinary rays of light reflected from the mirrors everything in the room. The mirror covering the opening could be depressed by means of a handle and the fluoroscope used to judge the tube and the character of the light which it gave off. The only objection to this plan is that fluoroscopy would be abolished but Dr. van Allen does not consider this a disadvantage, as he thinks that it is less trustworthy than radiography.

INEQUALITY OF THE PUPILS IN PLEURISY WITH EFFUSION.

INEQUALITY of the pupils in diseases of the chest has been recently described by French writers. In 1902 M. Souques reported three cases of inequality of the pupils in pulmonary tuberculosis.[1] He attributed the inequality to pleuritic thickening and adhesion which involved and paralysed the pupil-dilating fibres of the sympathetic as they passed out from the cord in the ramus communicans of the first dorsal nerve. More recently inequality of the pupils in diseases of the lungs and the pleuræ has been discussed by Dehérain.[2] The subject of inequality of the pupils in pleurisy with effusion is almost entirely new. All that Dehérain says of it is that "in four cases of tuberculous pleurisy with serous effusion inequality of the pupils was constant for several weeks." He says nothing of the nature or the degree of the inequality or of its relation to the quantity and the nature of the effusion. M. A. Chauffard and M. L. Laederich have contributed an important paper on Inequality of the Pupils in Pleurisy with Effusion to the *Archives Générales de Médecine* of March 7th, in which they throw considerable light on these and other points. In pleurisy with effusion they found inequality of the pupils in seven out of 17 cases—i.e., in 41 per cent. of the cases. The larger pupil was almost always on the side of the effusion. The inequality varied much from day to day, sometimes even disappearing on certain days to return later. It was never found after the effusion was completely absorbed. The inequality was always moderate and never attained the magnitude observed in diseases of the brain and the spinal cord; sometimes it was so slight that it had to be looked for carefully by exposing the eyes to equal amounts of light with a medium condition of accommodation. On looking at a very near object the inequality disappeared; the pupils contracted to their maximum extent and became equal. The seven cases in which the inequality was observed comprised one case of "cardiac pleurisy" and six of tuberculous pleurisy. The 10 negative cases consisted of six cases of tuberculous pleurisy, one case of hæmorrhagic pleurisy (probably cancerous), two cases of pleurisy following pneumonia, and one case of "cardiac pleurisy." In these 10 cases all degrees of effusion were observed. Comparing the positive and the negative cases no relation could be traced between the amount of the effusion or the presumed condition of the apex of the lung in the tuberculous cases and the inequality. Paracentesis thoracis, even when 1250 cubic centimetres of fluid were removed, had no effect on the inequality. Discussing the cause of the inequality M. Chauffard and M. Laederich do not accept the mechanical theory put forward by Dehérain, that it is due to pressure of enlarged lymphatic glands or of the effused fluid on the pupillary fibres of the sympathetic. The fact that it varies from day to day is opposed to the former theory and the fact that paracentesis does not affect it is opposed to the latter. The inequality seems to be a functional phenomenon. Its explanation appears to lie in the dictum of Schiff: "All peripheral sensory irritation causes dilatation of the pupil." Probably it is due to irritation of the branches of the vagus distributed to the lung on the affected side. The unilateral character of the phenomenon is explained by Pflüger's law: "Reflex movements are first manifested on the side of the irritation."

THE HEALTH OF MARGATE.

IN his report for the year 1904, Mr. Bertram Thornton, medical officer of health of Margate, draws attention to the healthiness of the town and the excellence of the water-supply. As is well known the population of Margate is liable to great variations on account of the immense influx of visitors during the summer months. The estimated population on which the birth-rate, the death-rate, and other numerical averages are based is computed yearly from the data obtained at the decennial census which is held in the month of March. In Margate the estimated population to the middle of 1904 was 24,263, but for a few weeks during the summer season the population probably exceeds 100,000. The birth-rate in the borough was 19·0 per 1000 and the corrected death-rate was 12·8 per 1000, both of them being below the corresponding averages of the last ten years; by excluding the deaths of visitors the general death-rate would be reduced to 10·7 per 1000. The water-supply from local sources had become so impregnated with salt (as much as 170 grains to the gallon) that a new supply obtained from the chalk has been brought from the district of Wingham, 14 miles from Margate. The chemical and the bacteriological analyses of this water have given very satisfactory results and the yield is more than equal to the demand.

MILK-BORNE SCARLET FEVER.

AN outbreak of scarlet fever which occurred in the Little Woolton sanitary district in Lancashire is described in a recently issued report by Dr. C. Stuart Pethick, the medical officer of health, who inclines to the view that the infection was milk-borne. Little Woolton is a small township which in 1901 contained 218 inhabited houses with a population of 1091 persons. Between November, 1903, and March 29th, 1904, no cases of scarlet fever were notified, but between March 29th and April 16th there occurred 30 cases and of these patients 28 received their milk from the same dairy farm; in some of them the initial throat symptoms were severe and there were two deaths. On April 10th handbills were delivered at each house advising that the milk should be boiled and that no cans should be admitted to the premises. The farmer also ceased to supply milk from his own farm for a period of six days from April 12th. In Dr. Pethick's opinion the dates above mentioned point to the probability (1) that the outbreak was due to some infection of the milk which came into operation about March 25th, and (2) that for 10 or 11 days the milk was receiving a continuous supply of infection. The district then remained free from the disease until June 13th. On April 6th the farm was visited and a careful examination of all the persons residing or employed there was made without eliciting any explanation of the outbreak. The milk, however, was supplied to 46 households in 20 of which the disease appeared. It was taken out in the farmer's cart and either ladled directly into the customers' vessels or into separate little cans which were left at the houses. Mr. Stafford Jackson, M.R.C.V.S., of Liverpool reported that the farmer's herd of ten cows was in a perfectly healthy condition and an examination made by Dr. Albert S. F. Grünbaum of the University of Liverpool showed that there were no micro-organisms in the milk beyond those ordinarily found.

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[1] Bulletins de la Société Médicale des Hôpitaux, May 23rd, 1902, p. 484.

[2] La Presse Médicale, Oct. 1st, 1904.

THE PRINCE OF WALES.

WITH reference to the recent operation upon the Prince of Wales we understand that His Royal Highness's progress is entirely satisfactory, an assurance which His Royal Highness's excellent health, his love of outdoor exercise, and his simple habits would lead us to anticipate.

THE PROPOSED UNION OF MEDICAL SOCIETIES IN LONDON.

WE published last week a letter from the President of the Royal College of Physicians giving notice that a meeting would be held on Monday, April 10th, at 5 o'clock, at the Royal College of Physicians to consider the advisability of the union of the medical societies of London in one Royal Society of Medicine. It is certain that the idea has aroused the interest of members of the societies and that the meeting will be well attended. Among the leading men of our profession there are many in favour of the plan of union, some of whom will speak at the meeting. But, after all, it is not they who would most enjoy the advantages of a new Royal Society of Medicine but rather the younger men, who can ill afford the expense of belonging to many societies. There is a certain loss of enthusiasm in the present system because subjects which should be debated in the presence of all interested in them come up for notice now in front of one group of men and now in front of another. This means a loss of strength in the conclusions come to and should be remedied by a scheme of union.

SCHOOL HYGIENE.

WE have but recently discussed some aspects of this important subject in a leading article[1] and we have now before us a report submitted to his health committee by Dr. A. Mearns Fraser, medical officer of health of Portsmouth. Dr. Fraser's report is practically a *précis* with comments by himself of the proceedings of the Conference on School Hygiene recently held at the University of London. He endorses the opinion so strongly upheld at the conference, and one in which we cordially concur, that every education authority should possess an expert medical and sanitary adviser. In his remarks on school furniture Dr. Fraser reminds his readers of what is perfectly obvious—namely, that children are of different sizes and therefore that one pattern of seat will never be quite satisfactory. He recommends a modified "Sheffield system," consisting of one fixed desk of such a length as to give room for six children. The children sit on separate seats with backs, and these seats as well as the desk are screwed to the floor. Dr. Fraser's modification is simply to make the support of the backs curved instead of straight. He maintains that the alternative of separate adjustable seats and desks for each child is too expensive to be adopted. Considering how important it is that all children should be able to sit comfortably upon their seats at such a distance from the desk as may suit them we should have thought that some way might be found of making that portion of the seat on which the child sits adjustable after the fashion of the back seat of a dog-cart without much additional expense. Dr. Fraser's report, however, is certainly well calculated to make the education authority which he addresses take an interest in the duty of providing sanitary methods of education for the 40,000 children with the care of whom it is intrusted.

GERMAN MEDICAL CONGRESS.

THE twenty-second "Congress for Internal Medicine" will be held from the 12th to the 15th of this month at Wiesbaden, under the presidency of Professor Erb of Heidelberg. Professor Ziegler (Jena) will deliver an address on the Present Position of the Doctrine of Heredity in Biology and Dr. Martius (Rostock) will read a paper on the Significance of Heredity and its Rôle in Pathology, especially in regard to Tuberculosis. Amongst the communications to be read at the Congress are the following:—The Treatment of Leukæmia by the Roentgen Rays, by Dr. A. Hoffmann (Düsseldorf); Investigations in regard to the Secretion of Mucus by the Intestines, by Dr. Schütz (Wiesbaden); the Treatment of Cardiac Affections by Electric Baths (Alternating Currents), by Dr. A. Laqueur (Berlin); the Mechanism of the Circulation, by Dr. Homberger (Frankfort); and Some Observations on Experimental Diabetes, by Dr. Lüthje (Tubingen). In connexion with the Congress there will be an exhibition of scientific instruments, apparatus, and preparations of special interest to physicians. Notices of communications are to be sent to Geheimrat Dr. Emil Pfeiffer, 13, Parkstrasse, Wiesbaden.

ACCIDENTS IN MINES AND FACTORIES.

IN another column we publish a statement sent to us by the metropolitan branch of the Association of Certifying Factory Surgeons concerning certain clauses of the Bill now before Parliament to amend the Factory and Workshop Act of 1901. The Bill is down for second reading on April 10th but as the Budget is fixed for that day there is but small chance of its being considered. To put the matter shortly, the Act of 1901 divides accidents into two classes called A and B. Those in Class A are reported to the factory inspector and to the certifying surgeon and are investigated by the latter. Those in Class B are reported to the inspector only and no power apparently exists by which the inspector can report such accidents to the surgeon. The amending Bill, which is the outcome of the report of the Departmental Committee appointed by the Home Office to inquire into the notification of industrial accidents, seeks to overcome this anomalous position by practically eliminating the certifying surgeon. That is to say, accidents under both Classes A and B of the Act of 1901 (in the amending Bill they are divided into A, B, and C) are to be reported to the inspector only. The inspector shall then in such cases as the Secretary of State directs notify the certifying surgeon. The contention of the Association of Certifying Factory Surgeons is that Clause 4, Section (1) of the amending Bill should be amended by adding words to the effect that accidents coming under the heads of A and C should be reported to the certifying surgeon as well as to the inspector In our opinion it is unfair to lay upon the inspector (even when aided by the Secretary of State), who can obviously know nothing of the circumstances, the duty of deciding whether or not to report the accident to the surgeon. The inspector himself can have only the employer's version before him upon which to form an opinion and already the inspector appears to be much overworked. The report of the Departmental Committee, p. 18, states that, "on an average, he is only able to pay one visit a year to each factory." We invite Members of Parliament and others interested in the subject to consider carefully the objections and suggestions made by the Association of Certifying Factory Surgeons and to examine the sections to which we have referred with the following question in their minds. Will the alterations proposed to be made tend to increase or to diminish the inquiry into all accidents in factories by competent and independent investigators? We do not, as the matter stands, see that the amount of information thus obtained will be augmented by the changes proposed.

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[1] THE LANCET, March 11th, 1905, p. 653.

TODMORDEN'S WATERWORKS.

One of the conditions of modern life is that almost every town in the kingdom is engaged in a struggle for water. For some years Rochdale and Todmorden have been carrying on such a contest but after "a stiff Parliamentary fight" it was decided that Rochdale should take over the Ramsden reservoir and that Todmorden should construct works at Gorpley. The reservoir at the latter place has been constructed to hold 130,000,000 gallons which will give an estimated daily supply of 621,000 gallons exclusive of compensation water. "One feature of the work is the removal of all vegetation from the bottom and sides of the reservoir." As a result of this it is stated that the water, even without filtration, is remarkably free from colour. Notwithstanding this fine sand filters have been constructed of such area that the downward flow at the surface of the sand will only be about four inches per hour when all the water is being used. At this "slow rate of filtration a gelatinous film of mud and microbes forms on the surface and so long as this film is maintained intact the most minute organisms cannot pass it." What is very unusual is that the estimates of cost and also of rainfall were on the safe side. The total cost will probably be just over £90,000. The works were formally opened on March 23rd and the water was turned on by the chairman of the waterworks committee.

THE AERIAL DISSEMINATION OF SMALL-POX.

At a sessional meeting of the Royal Sanitary Institute held at Newcastle-upon-Tyne on March 4th of this year, Dr. Louis C. Parkes being in the chair, Dr. H. E. Armstrong read a short communication on the aerial dissemination of small-pox infection round small-pox hospitals. He drew attention to the issue in November last by Dr. G. S. Buchanan of the report to the Local Government Board on small-pox in Gateshead and Felling in relation to Sheriff Hill Small pox Hospital. Dr. Buchanan there expressed the opinion that the use of this hospital had been responsible, directly or indirectly, for a material portion of the epidemic in Gateshead and Felling and recommended that the hospital should no longer be used for the isolation of small-pox. Dr. Armstrong proceeds to give some interesting details in relation to a sharply defined group of 12 cases of small-pox at St. Peter's, in the east end of Newcastle, notified between June 27th and July 16th in last year. Ten of these cases occurred in one street of tenement dwellings; the remaining two cases were in closely adjoining streets. As careful inquiry failed to trace the origin of any of these 12 cases, attention was drawn to the possibility of infection having been conveyed through the air from Gateshead or Felling. Of the 12 cases of small-pox in question the possible infection period occurred on days when the wind was blowing from the south-east in five cases, from the south-west in one case, and from the south in six cases. In one instance only was the disease likely to have been contracted when the wind was in a northerly direction on days of possible infection. The significance of the foregoing particulars will be understood when it is explained that a south-east wind blows directly from the Felling Small-pox Hospital and a south-by-west wind directly from the Sheriff Hill Hospital across the river to the locality where the above cases of small-pox occurred. The former hospital is a little under a mile and the latter a little under two miles distant from the site of the outbreak of the disease. Dr. Armstrong refers to one possible explanation of the convection of the variolous poison to a great distance which has not yet received the attention which it deserves. House flies are frequently a pest in small-pox wards, settling on the face and other exposed parts of the patient when the eruption is pustular or crusting. With feet and proboscis perhaps laden with the poison they may presently reach the open air and may be carried by the wind to a considerable distance and so convey infection. The attainment of a suitable site for a small-pox hospital often presents the greatest difficulties but from recent experience there is no doubt that it should be as far removed from ordinary houses as is compatible with convenience of working and other practical needs.

In Brisbane for the week ending Feb. 18th there occurred 5 cases of plague but none was fatal. As regards Hong-Kong a telegram from the Governor received at the Colonial Office on March 27th states that for the week ending March 25th there were 1 case of plague and 1 death from the disease. As regards the Cape Colony, the medical officer of health of the Colony states that for the week ending March 11th the condition of the Colony as to plague was as follows. At East London 4 cases of plague were discovered during the week. Plague-infected rodents were found both at Port Elizabeth and at East London and at the latter place was also found 1 plague-infected cat. In other districts there was no plague infection found in man or other animal.

A donation of £4000 from Mr. Alfred Beit and one of £3000 from Messrs. N. M. Rothschild and Sons towards the £100,000 required have been received by the treasurer of Guy's Hospital.

A SANATORIUM ON WHEELS FOR THE TREATMENT OF TUBERCULOSIS.

By Walter H. Haw, B.A., M.R.C.S. Eng.

I should like to bring the following suggestions before the profession with regard to the treatment of phthisis, but before doing so I should preface my remarks with a few observations on the prevailing ideas in connexion with its treatment. The aims of the sanatorium regimen are practically as follows: provision for the plentiful supply of fresh air and sunshine; protection from cold winds, rain, &c.; regulated exercise; regulated rest; proper food and in sufficient quantities; encouragement of appetite; bathing; destruction of bacilli; prevention of dust; food for the mind; amusements; proper clothing; coöperation of the patient in his own treatment; and the whole with a view to increasing body resistance. These aims are carried out at great expense and trouble at sanatoriums and according to published accounts with much benefit to the patients. The advantages claimed are these: (1) constant medical attendance and supervision; (2) absence from disturbing influences; (3) good food and encouragement of appetite; (4) regulated rest and exercise; (5) the improving effect of seeing others improve; (6) the hope of getting well; (7) pure air; and (8) the patient learns how to live.

Although I do not intend to go into any details of the scheme I think that I shall be able to show that most, if not all, of these principles can be carried out in a simple way and in one which personally I have proved of benefit in an illness of my own, not however phthisis. The method is as old as historical South Africa and is simply the adaptation of the bullock wagon to the present-day needs of phthisical patients. My suggestion is, in short, a long journey by bullock wagon to occupy about six months. As my object is merely the suggestion of the plan I shall limit myself to a few details.

Requirements.—A strong bullock wagon which could be fitted up according to the fancy of the traveller, but one with a tent covering half the body of the wagon would be most suitable and it should be rainproof and provided with windows and well-fitting flaps. There should be steps also for mounting. A moveable bedstead and spring mattress for use either in or out of the wagon and all other necessaries of a bedroom could be arranged in the tented part and could be so made as to be easily disinfected. Racks for books, guns, &c., could be fixed around the sides. The flap covering in the front of the tent might have an opening for the head for night sleeping when the weather was not favourable. The luggage might be carried on the front half of the wagon and this might include camera, instruments for entomology, botany, &c., according to the taste of the traveller. A paraffin stove would be essential. Further, a cow in milk could accompany the bullock team and run alongside. As the rate of travel would be only two miles per hour and the outspans would be frequent there would be no fear of overtiring the beast. A fowl coop could also be swung beneath the wagon but should feathered neighbours be objected to they might be dispensed with, for fowls could always be obtained at the farmhouses. If taken the coop should be so constructed as to be easily cleaned and disinfected. A barrel for boiled water should also be provided as well as a bell tent and spittoons for collecting the expectoration if any. The clothing should be carefully chosen for extremes of heat and cold. Lastly, a good cook, a valet for those who could afford one, a driver and leader for the oxen, and, very important, advice from an old transport rider who knows the ropes of veldt travel. In fact, it would not be difficult to get one as driver.

Let us see how far the above principles of treatment can be carried out in what has been called the ship of South Africa.

Fresh air.—The patient would almost be compelled to live in the open air, the only protection, which, however, would be safe and ample, being the half tent on the wagon and the bell tent. As long as the weather was fine the patient would be by preference in the open air. In bad weather the tents would afford efficient protection. In fine weather he could sleep in the open, in less favourable weather he could sleep on the bedstead in the wagon tent, the head being in the open air through the opening in the forward flap of the wagon tent, proper provision being made against sun, wind, and rain for its protection. Details could very simply be arranged. It would be possible, then, for a patient to make a journey in a properly appointed wagon not only in comfort but in comparative luxury and to be breathing fresh and changing air for the whole of the time. The variability of the air I consider to be a matter of great importance and together with the varying nature of the atmospheric temperature it would tend quickly to increase the resistance of the body. As regards sunshine, I need only say that South Africa is the land of sunshine.

Protection from cold winds and rain and in summer from the heat of the sun.—As it has been proved by observers that cold *per se* is not harmful to phthisical patients this question resolves itself into one of clothing. Provision should be made for very cold weather, for it is by no means always warm in South Africa. On windy days a sheltered spot could usually be found for outspanning. Provision should also be made against heat but I may say that the heat in the southern portions of the colony is never unbearable. Rain must be guarded against by attention to the proper details.

Regulated rest.—Rest could be taken either during the time of travelling or during the time of outspanning. The two forms of rest differ, that during travelling being combined with more or less massage according to the nature of the road and [illegible]

Regulated [illegible] e taken either during travelling or outspan hours. As the bullocks travel at the rate of about two miles an hour the rate could be varied; it would be quite easy for a weakly patient to get his exercise at any time of the day most suitable.

Diet.—Diet would be the chief difficulty but it might be overcome with the help of a good cook and a paraffin stove. I am informed by a good housewife that there should be no difficulty, given a good cook and stove, in making any delicacies required within limits, which limits are, I think, salutary. There need be no trouble in getting milk, vegetables, butter, butcher's meat, fowls, or eggs. Personally, I know of no better stimulant to the appetite than a holiday-trip in a bullock wagon. The water for drinking purposes would require to be boiled.

Dust.—In this regard there need be little fear that the dust encountered would be tubercle-laden except in those towns which had become so-called health resorts for consumptives, and such towns could be avoided, so that the only precautions in this respect would be to wear a nasal filter on dusty roads.

Destruction of bacilli.—The infection of the wagon from the patient would have to be guarded against by means of close attention to the expectoration, which should be carefully collected in spittoons and burnt at the next outspan. The whole wagon could be cleaned and thoroughly disinfected with its contents once a week. In fact, every precaution would have to be taken that no expectoration or discharge of any kind was left on any article in the wagon.

Bathing.—A light bath could be taken as part of the luggage but I think that most of the bathing should, after a time, be indulged in in the streams in those districts which are free from bilharzia.

Mental food.—A small library could be arranged in the wagon and there are good libraries in most of the towns. Splendid opportunities are afforded for botany, geology, ornithology, and entomology.

Amusements.—Shooting (birds and antelope), tennis, croquet, golf, boating, &c., could all be obtained at the proper times and places, if sought after.

Society.—Those fond of social functions could make a halt near a town. Acquaintances are soon made in South Africa. But social functions should be avoided during the treatment.

I have not gone into the matter of the cost of this plan of treatment of phthisis but I should roughly estimate the hire of a turn-out to be as follows: wagon, 2*s.* 6*d.* per day; bullocks, 6*d.* per head per day; driver, 5*s.* per day; and leader, 2*s.* 6*d.* per day. This is what I have actually paid for a wagon during a holiday. To wealthy people the best plan would be to purchase a turn-out and to sell it at the conclusion of the tour.

I hope I have said enough to point out the advantages of this method of treatment and I will now conclude with a word or two upon the disadvantages. To one born and bred in South Africa it would be somewhat hard to see the disadvantages, for such a mode of travelling means health pure and simple, but to those brought up in luxury, and especially to those who are phthisical and whose delicacy may seem a contra-indication, it might be thought that the partial "roughing it" would be a grave disadvantage. But this is not so. As in sanatoriums, the cases would have to be properly selected. It would, for instance, be madness to send a patient with advanced lung disease, high fever, and prostration on such a journey (it would be madness in theory but I believe that it has still to be proved so), but in suitable cases of incipient and quiescent lesions I do not think a more effective method of increasing body resistance could well be found, involving as it does fresh air, rest, exercise, wholesome food, mental and bodily change, and, I was almost going to say (so great is my belief in its efficacy from personal experience), the certain improvement in health. Of course, I could enumerate a long list of what would be looked on as disadvantages, but in the end these would be found to be really advantageous to the proper treatment of phthisis, which is the gradual education of the body to increased resistance to the tubercle bacillus. I wish that an abler pen than mine could have advocated this method, but failing this I send the foregoing in the hope that it may revive hope in the breast of some poor victim to the disease, and I think I may tell him with confidence that if his case is a suitable one and he has the means to carry out the treatment he will benefit enormously in health and vigour.

Knysna, Cape Colony.

PRESENTATION.—At Hong-Kong on Feb. 24th Dr. J. M. Atkinson and Mr. J. Bell, the superintendent of the Government Civil Hospital, were presented with a gold cigarette case each. The presentation was made by His Excellency Sir Matthew Nathan, on behalf of the Tsar, who had sent the cigarette cases out to the two recipients for their attention to, and care of, the officers and sailors of the Russian cruiser *Varyag*, while they were in Hong-Kong. The cases bear the Imperial crest set in diamonds.

THE THOMPSON YATES AND JOHNSTON LABORATORIES REPORT.[1]

THIS interesting publication includes the Reports of the Trypanosomiasis Expedition to the Congo, 1903–1904 (Memoir XIII.), of the Liverpool School of Tropical Medicine and Medical Parasitology, by Dr. J. Everett Dutton, Dr. John L. Todd, and Dr. Cuthbert Christy; with a Comparison of the Trypanosomes of Uganda and the Congo Free State by Dr. H. Wolferstan Thomas and Dr. Stanley F. Linton, as well as a Note on Tsetse Flies, by Mr. E. E. Austen. The contents of the volume are largely devoted to subjects appertaining to tropical medicine and to trypanosomiasis and sleeping sickness especially. Some of the papers have already appeared in medical journals but it is convenient to have the important observations made by the members of the various expeditions sent out by the Liverpool School of Tropical Medicine brought together in one volume.

The first articles—No. I., Human Trypanosomiasis on the Congo, No. II., Human Trypanosomiasis and its Relation to Congo Sleeping Sickness, and No. III., the Congo Floor Maggot—have been published in various journals and formed the subjects of papers at the British Medical Association meeting at Oxford in July, 1904. Dr. Dutton, Dr. Todd, and Dr. Christy were engaged in elucidating and investigating the various points of trypanosomiasis as it affected human beings and their careful work is well known.

In article No. IV. Dr. Christy discusses the cerebro-spinal fluid in sleeping sickness (trypanosomiasis) and analyses the results of 104 lumbar punctures. The conclusions at which he arrived were: (*a*) That in many cases of trypanosomiasis the trypanosomes never find their way into the cerebro-spinal fluid and in those in which they do it is during a late stage of the disease; (*b*) that the parasites come and go in the fluid; (*c*) that they may appear in the blood without being present in the fluid and *vice versâ*; and (*d*) that there is no relation between the commencement of fever and other symptoms and the entrance of the parasites into the cerebro-spinal fluid.

Article No. V., by Dr. H. Wolferstan Thomas and Dr. S. F. Linton, is devoted to a Comparison of the Animal Reactions of the Trypanosomes of Uganda and Congo Free State Sleeping Sickness with those of Trypanosoma Gambiense. This article, which was published in THE LANCET of May 14th, 1904, gives a detailed account of the investigations which succeeded in showing that the trypanosomes found in (*a*) the cerebro-spinal fluid of cases of Uganda sleeping sickness, (*b*) the cerebro-spinal fluid of cases of Congo Free State sleeping sickness, (*c*) the blood of cases of Uganda trypanosome fever, and (*d*) the blood of cases of Congo Free State fever are all identical in animal reactions and morphology with the trypanosoma Gambiense. They further determined: (1) that there seems to be no acquired immunity against infection; (2) that there is no transmission of immunity to offspring; and (3) that an animal which seems to have recovered may months later show parasites once more, apparently as the result of lowered vitality.

Article No. VI., by Dr. Dutton, Dr. Todd, and Dr. Christy, gives a detailed account of Two Cases of Trypanosomiasis in Europeans. One case was that of a woman, aged 35 years, who gave the history of being severely bitten by "river flies" in August, 1901. This was succeeded in six days by a severe fever which lasted for 25 days. This attack was succeeded by a weekly fever which continued for three months. Each febrile attack lasted about five days. From January to April, 1902, the temperature ranged between 99° and 100° F. and was never normal. On arriving in England in April, 1902, the temperature gradually fell to normal and twice between the date of arrival and August, 1903, when she returned to the Congo, did febrile attacks occur. Red patches of about the size of a half-crown and lasting for three or four days appeared on the legs whilst in England. She had stiff joints and an "inflamed throat" and the eyes were "inflamed." On returning to the Congo febrile attacks again developed on Oct. 10th and Nov. 9th and 14th, 1903, but there was no more fever until March, 1904. On June 2nd, 1904, the last note on this patient was, "For last few days patient has complained of lack of appetite and loss of energy; the swellings on face and hands persist; a papular eruption has appeared on the chest." The other case recorded is that of a captain of a steamer on the Congo, aged 28 years. The inference gathered from a study of this case is stated as follows: "It therefore seems probable that the incubation period between the time of the infection with trypanosoma Gambiense and the appearance of the symptoms associated with human trypanosomiasis may be so short as four weeks."

Article No. VII., by Mr. Ernest E. Austen, is entitled "Supplementary Notes on the Tsetse Flies (Genus Glossina, Wiedemann)." Since Mr. Austen's publication of a monograph of the tsetse flies in 1903, when seven species of tsetse flies were recognised and described, an eighth species, glossina Decorsei, has been described by Dr. Emile Brumpt from specimens recently obtained by Dr. Decorse on the River Shari and the shores of Lake Chad. This parasite has already been described[2] together with a detailed account of the several species of the tsetse flies.

In articles Nos. VIII., IX., X., and XI., Dr. J. W. W. Stephens contributes four articles to the January series of 1905: (*a*) A New Hæmogregarine in an African Toad; (*b*) Two Cases of Intestinal Myiasis; (*c*) a Note on the Pathology of Tropical "Swellings"; and (*d*) Non-flagellate Typhoid Bacilli. The hæmogregarine was obtained from one of a batch of toads received from Sierra Leone in October, 1903. Although the description of the cyst and its polar masses of this recently observed parasite differs in some respects from previously described hæmogregarines in amphibians and reptiles, Dr. Stephens, owing to the similarities which it bears to others, is inclined to defer proposing a name for the gregarine which he describes. The larvæ of the flies met with in the intestine of two children in Liverpool were found by Dr. Stephens to belong to two species—viz., those of the musca corvina and the homalomyia canicularis. The patient, the subject of tropical swellings, went to Liverpool from Degama, Southern Nigeria. He was the subject of peculiar swellings in the hands, the arms, the face, and the feet which were of a fugitive character and seldom occurred in more than one place at a time. The leucocytic count (600 counted) gave large mononuclears, 1; small mononuclears, 23; polynuclears, 26; and eosinophiles, 50. No filariæ were found. The condition appears to differ from that present in "Calabar swelling."

Article No. XII., by Mr. A. E. Shipley, F.R.S., gives an account of a Human Parasite from Africa, the Cladorchis Watsoni (Conyngham). The patient came from German West Africa and was one of a gang of freed slaves. He had constant diarrhœa; the stools passed contained numerous reddish-yellow, translucent, gelatinous, oval bodies. After death the oval bodies were found in the contents of the upper part of the small intestine and proved to consist of a trematode belonging to the family paramphistomidæ (Fischoeder) and to the sub-family cladorchinæ. Man would appear to be but an occasional host of the parasite, the normal host being in all probability some herbivorous animal.

Article No. XIII., by Dr. Dutton, deals with the filaria of the African swift—Cypelus affinis. In the lice infecting the feathers of this bird the embryo of filaria cypseli was found. In the bird parent filariæ were found and embryos were met with in the lymph passages. The louse serves as an intermediate host and the bird by picking off the lice from amongst its feathers in all probability reinfects itself.

Article No. XIV. by Mr. Benjamin Moore and Mr. Herbert E. Roaf, is an elaborate account of an Experimental Study of the Physical Chemistry of Anæsthesia in Relationship to its Causation. Mr. Moore and Mr. Roaf conclude that chloroform forms an unstable chemical compound or physical aggregation with the proteids experimented with and that it is carried in the blood in such a state of combination. The oxygen-carrying power of hæmoglobin is not interfered with in presence of chloroform.

Article No. XV. by Mr. E. S. Edie, consists of a description of experiments on the Action of Chloroform on the Proteids of Serum and upon Solution of Hæmoglobin.

Article No. XVI. is devoted to an account of a Simple Method for the Preparation and Determination of Lecithin, by Mr. Roaf and Mr. Edie.

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[1] The Thompson Yates and Johnston Laboratories Report, edited by Rubert Boyce and Charles S Sherrington, with H. E. Annett, Benjamin Moore, Ronald Ross, and E W. Hope, assisted by W. B. Warrington, F E. Glynn, J. W. W. Stephens, A. E Shipley, J. E. Dutton, J. L. Todd, H. Wolferstan Thomas, H. E. Roaf, Cuthbert Christy, S. F. Linton, and E. S. Edie. Pp 205. With illustrations and plates. Vol VI. (New Series). Part I, January, 1905. Published for the University Press of Liverpool by Williams and Norgate, 14, Henrietta-street, Covent Garden, London. Price 15*s*. net.

[2] Brit. Med. Jour., August 20th, 1904.

MEDICINE AND THE LAW.

The Determination of Age in the Living.

THERE are numerous practical occasions when the age, usually of a minor, is of forensic interest. The fact may be required for registration purposes (marriage, census returns, or death), for exemption from attendance at school, and under the Employment of Children Act, 1893, for indictments under the Criminal Law Amendment Act, 1885, and the Prevention of Cruelty to Children Act, 1904, for superannuation, and notably in the application of the legal presumptions that a child of less than seven years is incapable of committing an indictable offence and can only be punished if under 14 years of age on proof of actual malice. English statutes usually impose the onus of proof upon the defendant; at the common law in cases of dispute infancy is presumed. Certificates of birth, baptismal registers, and, as with a case in 1806, the receipted entry in an accoucheur's day-book have all been produced and admitted as valid evidence. There are, however, cases where such documentary evidence is not forthcoming; the age of these persons must be presumed; they include persons born abroad, orphans, and homeless wanderers. It is a well-known fact that skilful clinicians may cultivate the instinct of correctly surmising the age of their patients to a remarkable degree of accuracy. The precision is usually greater when the facial inspection occurs with the patient in bed and unadorned by deceptive peculiarities in the mode of dressing the hair or arranging the clothes. Recent Acts have adopted the principle of facial diagnosis: "Where a child is ...... alleged ...... to be under any specified age and the child appears to the court to be under that age, such child shall for the purposes of this Act be deemed to be under that age unless the contrary is proved." Bracton in 1219 relates how the evidence of the mother and other relatives was admitted and also how a jury of 12 "legales homines" was empannelled for the determination of the age of a would-be minor. To-day an affidavit or a statutory declaration before a magistrate may be necessary as a warranty and hence arises the nice legal point as to how far, apart from documentary and hearsay evidence, a person can be said to know his own age—a point which was raised recently in the State of Iowa Courts. To what extent can the physiologist afford real evidence by the "ocular demonstration" of which a scientifically accurate result may be obtained where a living person's exact age is in dispute? The state of dentition may assist and, perhaps, the presence of secondary sexual characteristics may be of service. Stow, the chronicler, tells us that it was the rude application of this latter test by a collector of the poll-tax which culminated the discontent and led to the peasants' insurrection of 1381.

Embalming in its Medico-legal Relations.

In the United States of America the temporary preservation of the dead body from putrefaction is becoming increasingly popular and in England there are nearly 50 towns where embalmers skilled in the art are to be found. Interest is therefore raised by the discussion which the New York Medico-Legal Society has just concluded on a report presented by a select committee of its members appointed to consider a case (The People *v.* Patrick) where a prisoner was sentenced to death for murder (homicide in the first degree) by the New York Criminal Court in 1902. The following were the main facts of the case. A man, aged 84 years, died, the certificate of his regular medical adviser affirming several causes of death which in sum amounted to the diseases to which the aged are heirs. Two hours after death, before rigor mortis had set in, an embalmer injected a solution of formalin into the right brachial artery of the deceased, no blood being abstracted from the body. 41 hours later a necropsy was performed prior to cremation. Among other conditions it was recorded that the lungs were "congested and œdematous"; the lungs were cremated with the corpse. Some time afterwards the valet of the deceased confessed that while the old gentleman was lying on his back asleep he placed a sponge soaked with chloroform and covered by a towel over his aged master's mouth and then left him for half an hour. On his return death, he said, had supervened. He then burned the sponge and the towel which, he stated, blazed as if they were "soaked with oil." Collateral evidence gave no hint that there were any traces, to sight or to smell, of chloroform having been recently used in the room or on the person of the dead man. The valet's confession, together with the report of the condition of the lungs at the time of the necropsy, were held to substantiate the crime and accordingly he was sentenced capitally. It was decided by the society to investigate the purely medico-legal facts in issue, quite apart from the legal questions of motive and intent; hence the nomination of a committee of experts and its report referred to above. The conclusions may be summarised thus: the naked-eye appearances produced in the lungs by the method of embalming employed in this case might be mistaken for ante-mortem congestion and even for asphyxia by chloroform, microscopical examination would be necessary in order to differentiate the alternative conditions; the jury was hardly warranted in giving its verdict on the partial evidence adduced, for there was nothing in the appearance of the lungs *per se* conclusive or even indicative of the cause of death, indeed, the original death certificate was warranted by the facts presented; the embalming process may complicate the true post-mortem appearances of a corpse. Where it is desired by friends to have a dead body embalmed it may be taken as a good rule not to commence the operation until the formal certificate of death has been received.

Neglect to Call a Medical Witness.

It is not easy to understand the attitude taken up by Mr. E. H. Hall, [illegible] holding an inquest upon the bo[illegible]own in the borough who beyond [illegible] when depressed by business wo[illegible] under the explicit direction of the coroner to that effect was that the deceased died from a wound inflicted on himself but that there was not sufficient evidence as to the state of his mind at the time. This would give the impression to anyone hearing of it that the deceased had committed *felo de se* or that at all events no one had noticed any peculiarity of demeanour or otherwise before his death who could speak with any authority upon the matter. As a matter of fact, however, Dr. Arthur Drury, who had been the medical attendant of the deceased for 16 years, had on the evening before his death had a prolonged interview with him and this gentleman within a few hours of the death informed the coroner that he had evidence to give of importance directly bearing upon that subject which, to the survivors at all events, is of the greatest importance upon such occasions. Many coroner's juries return verdicts of "Suicide during temporary insanity" with but scanty evidence to justify them, but the rejection of evidence tendered by a medical man which might be conclusive upon the point is unusual and undesirable.

A Death due to Christian Science.

A letter recently published in the *Westminster Gazette*, and probably in other newspapers, gave particulars of a very sad case of wholly unnecessary death due to the absurd craze or imposture known as Christian Science, which in some respects differs from other reported instances of the same kind in that, to the majority of her relatives, at all events, the deceased was not known as a "Christian Scientist." The writer does not disclose either his own name or that of those directly implicated but there seems to be no reason to doubt the truth of the facts narrated and there are obvious causes for anonymity being preserved. The deceased, a lady and an old friend of the writer, went to stay with her son, a "Christian Scientist," residing in London, from whose peculiar views she had until then been believed to differ. A fortnight later her relatives were informed by the son that she had been taken ill and had "passed on," apparently a "Christian Scientist" euphemism for death. Inquiry showed that she had had a severe attack of influenza and under "Christian Science" treatment had developed acute bronchitis. A medical man had been called in when she was dying; he had not been told anything about "Christian Science" being involved, and when a few hours later the lady died he had given his certificate as to the cause of death which was not in any way obscure. This apparently was the only reason for his intervention being sought at the eleventh hour. The relatives of the lady, acting under natural indignation against the travesty of religion named and having no legal redress against the son or any other of its practitioners, desire to make the case public for the warning of others. It presumably was an occasion upon which, had the medical certificate been withheld, an inquest would have followed, at which some inquiry would have been possible as to the opportunity which the unfortunate lady had for obtaining medical aid and how far she herself acquiesced in the absence of it. Whether at this late period the matter should be reopened is another matter; presumably there is no evidence to justify any action being taken. Had the deceased been a child the matter would, of course, have assumed a different complexion.

THE MEDICAL INSCRIPTIONS OF THE COLUMBARIUM LIVIAE.

THE immense collection of inscriptions dating from the time of the Roman empire that has been gathered together in the great "Corpus Inscriptionum Latinarum" necessarily contains many texts relating to medical men in various parts of Italy and even in the distant provinces of the Roman empire. The volumes, the contents of which are confined to the publication of inscriptions discovered in Rome or its neighbourhood, present more than the average proportion of these medical memorials because they include the series of many physicians and surgeons whose remains were placed in the "columbarium" of Livia, wife of Augustus, which was excavated, near the Appian Way, in A.D. 1726. The texts from this special site, as will appear, throw a vivid light upon the organisation of the various classes of professors of the healing art as permitted to exercise their vocation in the time of Augustus under a system really determined by Cæsar's decree regulating the cultivation of all arts and sciences. For a complete account of the information afforded as to medical matters by Latin inscriptions it will be necessary to quote and to comment upon many texts relating not to practitioners but to the deity Æsculapius, and his hierarchy, because it was within his temple that the medical profession first dispensed the benefits of its knowledge to their fellow men. But the present notes will be confined to a summary of various inscriptions relating to medical men in the time of the Cæsars.

Two texts from the Columbarium Liviae may be quoted as indicating different grades of medical officers at the court. The first reads: M . LIVIVS . LIVIAE . L . ORESTES . SVPRA . MED. This shows that Orestes, perhaps of Egyptian origin, had attained to the position of supra medicus, "superpositus medicorum," an office evidently of superintendent of all those under his command engaged in the treatment of disease. It may be also that he had the rights of inspectorship and supervision over persons indirectly connected with medicine, such as the adiutores valetudinarii and unguentarii and others. The second text preserves the title of a "decurio medicorum"; it reads: M . LIVIVS . BOETHVS DEC . MEDICO.

The following inscription derived from the same place gives the name of a surgeon; it is No. 3986 in the "Corpus," AVG . HILARVS . MEDIC . CHIRVRG. Another which succeeds it would seem to indicate the commencement of specialism, though merely reading MEDIC . OCVLARIVS, the name having unfortunately been broken away. Aural specialists were known to have flourished and classic authors speak of them. A text in the Naples Museum confirms this, it being that of "T. Aelius . Aminias Medicus Auricularius." Another of these known from literature was named Celadianus who practised under Augustus. His memorial epitaph was recovered near the Via Latina and shows that he died whilst quite young. It reads, "Thyrius Ti ...... Cæsaris, Aug ...... Ser ...... Celadianus Medicus Ocularius. Pius parentium suorum. Vixit Annos XXX." The next inscription is that of a freedman, not of Livia but of Drusus, and is given here because it is perfectly legible throughout. It may be found in the sixth volume, Part II. of the "Corpus" under the head of "Monumentum libertorum Drusi."

CHRETE . CONSERVEE
ET . CONIVGI . CELADVS . ANTON
DRVSI . MED . CHIRVRG
B(ene) MERENTI . FECIT
VIXIT . ANNOS XVII.

To be specially appointed physician to the Court was just as much an honour then as now and therefore a high office worthy of record in the sepulchre. Therefore a text discovered in the Via Latina reads: "D. M. RVPILIO . CALPVRNIANO . MEDICO . DOMVS . AVGVSTAE," &c. Sometimes these lapidary memorials relate to personages already familiar to us from classic authors or to members of their family. For instance, Pliny, writing of the famous medical men of his time, mentions five names, saying: "Multos praeterea medicos celeberrimosque ex iis Cassios, Calpitanos, Aruntios, Albutios, Rubrios." The succeeding inscription of the time of Domitian refers to a member of the Aruntii family It was found in the Via Nomentana and is No. 8895 of the "Corpus":—

L . ARRVNTIO . SEMPRONANO
ASCLEPIADI
INP . DOMITIANI . MEDICO
T(estimentum) F(ieri) I(ussit).[1]

For signal service to a member of the Imperial family the attendant might be awarded a decoration. Thus the physician of Faustina obtained insignia ATMETO . MEDICO . ET . PARTENOPAEVS . FAVSTINAE . AVG . SERVI . OB . ORNAMENTIS . AMICO . BENE . MERENTI . FECERVNT. Other names given in inscriptions of the early Cæsars are Claudius Athenodorus, doubtless a Greek, Cyrus, perhaps a Persian, Eros, and Titus Flavius who would, however, date from the period of the Flavian Emperors. A personage named Sterope is another instance of a decurion of medicine.

The next inscription is given because it informs us of the existence of a medical library which there is reason to believe was founded by Augustus, or it may be that he was specially custodian of the medical works in the great library.

AVG . L . HYMENAEVS . MEDICVS . A . BYBLIOTHECIS .
ET . DOMITIA . PANNICHIS . SIBI . ET . SVIS
POSTERISQVE . EORVM.

There was a College of the Archiatri whom we shall presently find mentioned in these lapidary texts and it is apparent that there were medical colleges in all the greater cities as there was one upon the Esquiline Hill at Rome. A text at Beneventum refers to property of the medical college there "in perpetuum ad collegium medicorum pertinet." A college would require a secretary, and from Naples we have the epitaph of such a one. "D. T. Aurelius . M. Telesphorus, Scriba Medicorum." The scribe, or clerk, probably was a copyist of medical works belonging to the college. A cippus of a medical man, Curtianus, at Praeneste, has beside its inscription graven upon it a representation of certain surgical instruments and of books. The Archiatri were a superior order of physicians organised by Nero and were of two orders, the "Archiatri palatini" or court physicians and the "Archiatri populares." Antoninus Pius ordained that a committee of these should be formed in all the great cities, by election by the citizens, but it is thought that before they were eligible for such an election they had to pass an examination conducted by the chief college of the Archiatri. We have at least four inscriptions of Archiatri from Rome, one named Timotheus, another Aratus, whilst in the other two the names are obliterated.

We have seen that persons of provincial parentage, certainly Greeks, practised in Rome and there is a text of one "Rapetiga Medicus civis Hispanus" who died under Augustus. Another inscription reads "Egypto Medico Tertia filio carissimo posuit." An oculist P. L. Philogenes was also a Greek. An inscription of a medical man, Demetrius Trallianus, from the province of Naples, is written in Greek, and may be found in the "Inscriptiones Regni Neapolitani" of Mommsen. There were ladies who adopted the healing art as their profession. From the Quirinal comes a text of "Minucia Medica." In the Vatican Museum is one of "Julia Medica," another honours "Terentia Niceni Terentiae Primae Medica." Veterinary surgeons are also represented. No. 9610 in the Corpus is of one APOLLODORVS ...... MEDICVS . EQVARIVS ......; another reads SECVNDINVS . MVLOMEDICVS., and there are more of these. Inscriptions of surgeons attached to the legions naturally are discovered nearer the frontiers. One found in Rome is of a naval surgeon, T. Flavius Euprepetius, who was attached to what might be termed the "home fleet," stationed at Misenum, the marine station of which was just north of Naples. As physicians of the fair sex have been referred to the record of a midwife deserves mention. Her name is an appropriate one: HYGIA . MARCELLAE . L . OBSTETRIX.

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[1] No. 8897 of the "Corpus" refers to one of the Cassii; and Stertinus Xenophon, the celebrated physician, is mentioned in 8905, a monument in the Vatican Museum.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 7, 1827.

HOSPITAL REPORTS.

HOSPITAL OF SURGERY,

Panton Square, St. James's.

AMPUTATION OF THE LOWER JAW.

A FEMALE, æt 16, had an ovoid tumour about the size of a turkey's egg, situated upon the right side of the lower jaw, its base extending from the angle of that bone, to within a few lines of its symphysis. The skin covering it was of its natural colour, and moveable on the surface of the tumo [illegible] he touch, and a [illegible] to admit of an [illegible] outh, the tumo [illegible] r to the second incisor tooth of the same side, and the internal lamina of the bone was pushed outwards by the swelling.

She states that the disease first began about three years ago in the form of a gumboil, some weeks after having received a severe bruise on the site of the present tumour; after this, the jaw was observed to swell, and very gradually to increase in size, attended, at intervals, with acute pain until May last, when it had acquired almost its present bulk. An attempt was then made to remove the tumour, it being thought practicable to detach it from the bone. However, on cutting down upon it, the disease was discovered to penetrate into the substance of the bone itself, and a portion only of the tumour was accordingly removed. Soon after this operation, the tumour began again to grow, and increased in size, even more rapidly than before.

As the tumour now involved the whole shaft of the bone, and as it was considered probable that the disease would soon extend so far into the mouth as materially to interfere with deglutition, and sooner or later destroy life, the girl was advised to submit to the complete excision of the affected portion of the jaw-bone; this she assented to, and, accordingly, the operation was performed on the 25th ult.

Note of the Operation, by Mr. Wardrop.

"The operation consisted in,

1st, Making an incision along the cervical edge of the tumour, which commenced at the angle of the jaw, and extended to a little beyond the chin.

2dly, An incision was made at right angles with the first, commencing a little anteriorly to the insertion of the masseter muscle, and extending up the cheek near to the molar bone.

3dly, An incision was next made, dividing the under lip and soft parts of the chin, at right angles, with the first incision.

The two flaps thus formed were dissected back, laying open the cavity of the mouth, and completely exposing the whole of the upper part of the tumour. The edge of the masseter muscle, which lay in immediate contact with the edge of the tumour, was carefully dissected back, sufficiently to expose the bone for the application of the saw. The section of the bone was made immediately behind the last of the large grinders, in an oblique direction, from without inwards. In consequence of the thickness of the soft parts covering the bone, the prominence of the tumour, and the closeness of the upper and under jaw at that part limiting the action of the saw, this was rendered by far the most difficult step of the operation, and it was the most hazardous from the contiguity of so many important organs. The next step of the operation, consisted in sawing through the bone between the two central incisor teeth, which was easily accomplished. The portion of the jaw to which the tumour was attached being now liberated it was easily turned outwards, so that it admitted of being readily dissected from the soft parts within the mouth, with which it was connected. Great care was taken, in this part of the dissection, to divide the soft parts close to the bone.

During the operation it was computed that the patient lost not less than two pounds of blood, the vessels which were divided having bled very freely. Several branches of the angular artery were secured with ligatures, as well as the coronary artery of the lip, during the operation, and only two vessels were tied after the removal of the tumour; the dental artery did not bleed; the lingual artery was exposed, but not wounded.

The edges of the wound were readily brought together, one silver pin being put into the lip at its red edge, and the rest was kept in contact by stitches of the interrupted suture, and a few pieces of adhesive plaster. No bandages or dossils of lint were used, and the parts assumed quite a natural look, when compared to their hideous appearance during the performance of the operation. She endured the operation with the greatest fortitude; and notwithstanding the large quantity of blood lost by so feeble a person, and the great state of exhaustion to which she was reduced, she was not allowed to get wine, or any other cordial, fearing the danger of inflammation supervening, which might have prevented the wounds of the integuments being healed by adhesion."[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8860 births and 4711 deaths were registered during the week ending April 1st. The annual rate of mortality, which had been 17·2, 15·8, and 15·9 per 1000 in the three preceding weeks, declined again last week to 15·7 per 1000. In London the death-rate was 15·1 per 1000, while it averaged 16·0 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·8 in Handsworth (Staffs.), 7·4 in Hornsey, 8·0 in East Ham, 9·8 in Bury, 10·5 in Leyton, 10·7 in Grimsby, and 10·9 in Burton-on-Trent; the highest rates were 23·3 in Middlesbrough, 24·3 in Coventry and in Tynemouth, 24·6 in Sunderland, 24·7 in Wigan, 25·8 in Hanley, and 27·5 in Merthyr Tydfil. The 4711 deaths in these towns last week included 483 which were referred to the principal infectious diseases, against 471, 430, and 494 in the three preceding weeks; of these 483 deaths, 214 resulted from measles, 106 from whooping-cough, 51 from diphtheria, 46 from diarrhœa, 33 from scarlet fever, 31 from "fever" (principally enteric), and two from small-pox. No death from any of these diseases was registered last week in Bournemouth, Great Yarmouth, Wallasey, Huddersfield, Rotherham, or York; while they caused the highest death-rates in Southampton, Reading, Hanley, Wigan, Bolton, Middlesbrough, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Portsmouth, Southampton, Reading, West Bromwich, Wigan, Middlesbrough, Stockton-on-Tees, and Merthyr Tydfil; from scarlet fever in Northampton and in Oldham; from diphtheria in Stockport and in Middlesbrough; from whooping-cough in Tottenham, Hanley, Stockport, Preston, and Middlesbrough; and from diarrhœa in Oldham. The mortality from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Burnley and one in Hull, but none in any other of the 76 large towns. The number of small-pox patients in the Metropolitan Asylums Hospitals, which had been 16, 23, and 20 at the end of the three preceding weeks, was again 20 at the end of last week; two new cases were admitted during the week, against three, nine, and three in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, April 1st, was 2032, against 2036, 2042, and 2034 on the three preceding Saturdays; 254 new cases were admitted during the week, against 303, 262, and 274 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respira-

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tory system, which had been 304 in each of the two preceding weeks, declined again last week to 273, and were 97 below the number in the corresponding period of last year. The causes of 58, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Salford, Leeds, Hull, Newcastle-on-Tyne, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Smethwick, Aston Manor, Liverpool, St. Helens, Warrington, Preston, Sheffield, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·6, 18·2, and 18·3 per 1000 in the three preceding weeks, declined again to 16·9 per 1000 during the week ending April 1st, but was 1·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·7 in Perth and 16·5 in Paisley, to 17·9 in Leith and 18·6 in Greenock. The 568 deaths in these towns included 20 from whooping-cough, eight from diarrhœa, five from measles, five from diphtheria, four from "fever," and one from scarlet fever. In all, 43 deaths resulted from these principal infectious diseases last week, against 58, 52, and 59 in the three preceding weeks. These 43 deaths were equal to an annual rate of 1·3 per 1000, which was 0·3 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 31, 17, and 33 in the three preceding weeks, declined again last week to 20, of which 14 were registered in Glasgow, two in Edinburgh, and two in Aberdeen. The deaths from diarrhœa, which had been 17, 13, and eight in the three preceding weeks, were again eight last week and included five in Glasgow and two in Aberdeen. The fatal cases of measles, which had been six, ten, and six in the three preceding weeks, further declined last week to five, all of which were registered in Glasgow. The deaths from diphtheria, which had been two, eight, and ten in the three preceding weeks, declined again to five last week, and included three in Glasgow. The fatal cases of "fever," which had been three and one in the two preceding weeks, rose again last week to four, of which two occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 153, 140, and 133 in the three preceding weeks, further declined last week to 105 and were 52 below the number in the preceding week. The causes of 19, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·2, 23·8, and 22·4 per 1000 in the three preceding weeks, rose again to 24·9 per 1000 during the week ending April 1st. During the past 13 weeks the death-rate has averaged 24·6 per 1000, the rates during the same period being 16·8 in London and 17·8 in Edinburgh. The 181 deaths of persons belonging to Dublin registered during the week under notice were 18 in excess of the number in the preceding week, and included eight which were referred to the principal infectious diseases, against two, eight, and seven in the three preceding weeks; of these, four resulted from measles, two from diarrhœa, one from scarlet fever, and one from diphtheria, but none from small-pox, whooping-cough, or "fever." These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·1 in London and 0·5 in Edinburgh. The four fatal cases of measles corresponded with the number in each of the two preceding weeks. The 181 deaths in Dublin last week included 26 of children under one year of age and 47 of persons aged 60 years and upwards; the deaths of infants showed a slight excess, while those of elderly persons were fewer than those in the preceding week. Three inquest cases and two deaths from violence were registered; and 57, or nearly one-third, of the deaths occurred in public institutions. The causes of 11, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon Horace Elliott has been placed on the Retired List at his own request (dated April 1st, 1905).

The following appointments are notified:—Fleet Surgeons: J. W. O. Underhill to the *President*, for three months' course at West London Hospital; J. Chambers to the *Duncan;* and J. Andrews to the *Blenheim* on commissioning.

ROYAL ARMY MEDICAL CORPS.

Major E. M. Morphew is appointed to the Eastern Command for duty at Colchester; Captain A. M. MacLaughlin is temporarily posted to the Military Hospital, Belfast; and Major F. W. Begbie, from Ceylon, is appointed to the London District. Captain H. W. Vaughan-Williams retires on a gratuity (dated April 5th, 1905).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain C. R. Lawrie to be Surgeon-Major (dated March 25th, 1905).

VOLUNTEER CORPS.

Submarine Miners: The Mersey Division: John Owen to be Surgeon-Lieutenant (dated April 5th, 1905).

Rifle: 7th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel J. L. Crombie resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform (dated April 5th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Sherwood Foresters Bearer Company: Captain R. H. Luce is granted the honorary rank of Major (dated April 5th, 1905).

VOLUNTEER OFFICERS' DECORATION.

The following have received the above decoration:—*Rifle:* 20th Middlesex (Artists') Volunteer Rifle Corps: Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel (Honorary Captain in the Army) Richard Reginald Sleman. *Southern Command: Artillery:* 1st Gloucester Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant-Colonel David Samuel Davies, retired. *Welsh and Midland Command: Rifle:* Sherwood Foresters Bearer Company Royal Army Medical Corps (Volunteers): Captain Richard Harman Luce.

THE ARMY ESTIMATES.

The inconclusive debate on the Army Estimates still continues in the House of Commons and the country should be well informed upon the fundamental principles of army organisation advocated by Mr. Arnold-Forster if frequent insistence of them on his part can carry conviction. But unfortunately while there are a great many people who are quite ready to agree with the War Minister so long as he confines himself to dealing with generalities they want to know a great deal more about the practical working of his scheme than he is in a position to tell them, and in the meantime the state of the army is suffering from the present chaotic condition of things. The supply of officers, dissatisfied with the present state of affairs and full of uncertainty and misgiving as to their future, is falling off. As everyone knows there has hitherto been no lack of army candidates in this respect. It was in regard to the supply of the men that the lack existed and in the present state of public opinion regarding compulsory service it is likely to continue. In such circumstances it would seem desirable that every inducement should be given and every facility furnished for increasing the strength and raising the standard of the volunteer forces of this country. We have no hesitation in saying that no scheme of army reform will prove successful which does not take full account of the prominent part which the sanitary and medical branches of the army are destined to play in modern warfare. We fail to see that the present scheme does this. The question of army reform and reorganisation is no party question; it concerns not only this country but the whole empire and we are glad to notice a proposal that it should be referred to, and considered on that basis by, a body composed of the best men of both political parties with the aid of some naval and army experts.

THE FRENCH ARMY SYSTEM.

It may be interesting at the present time to know that the law authorising the adoption of a two years' service system has been definitely voted by the French Parliament. The new arrangement is that the Frenchman is to serve for two years in the active army, 11 years in its reserve, six years in the territorial army, and six years in the territorial reserve. The service will count from Oct. 1st in the year of entry.

THE WAR IN THE FAR EAST.

Beyond the fact that a part of the Japanese force is reported to have driven the Russians from Mien-hua-chich and to have occupied that village and the heights to the north of it the situation in other directions is unchanged. Although we hear nothing officially of the Japanese movements their armies are nevertheless said to be slowly advancing. There is no medical news. The weather has become warmer and the sufferings of the troops in this respect have been mitigated. The rumours of peace and of a preliminary armistice in consequence, which were so currently and confidently circulated last week, have died a natural death. We did not allude to them because we thought that such rumours were mainly explicable upon the assumption that "the wish was father to the thought," and we discredited the idea that in the then existing state of things Japan could consent to any suspension of hostilities.

Various statements have been made as to the losses suffered by the Russians at Mukden and in the retreat therefrom but they have all lacked official authority. In St. Petersburg the total casualties during the battle and retreat are set down at 105,000, while in Tokio double that number has been mentioned. According to General Trepoff, director of the medical service in Manchuria, the numbers of the sick and wounded sent to the rear of Tieling between Feb. 28th and March 14th were 1739 officers wounded and 433 sick; 56,723 men wounded and 4975 sick. Moreover, 800 wounded had to be left at Mukden, with two field hospitals and two Red Cross hospitals. The revised unofficial estimate of the Japanese casualties at Mukden and Tieling puts the figure at 57,000. The recent publication at Tokio of an Imperial message to General Kawamura and his force puts us in possession of information which clears up any doubt that might have existed regarding that army which is now officially designated as the army of the Yalu. It rendered signal service at the battle of Mukden by drawing off a large portion of the Russian forces to the north-east.

HEROIC SISTERS OF MERCY.

The correspondent of the *Russkoe Slovo* says that the conduct of the medical staff during the disastrous fight at Mukden merits special mention and constitutes a bright page in that sad story. Many medical men besides six Sisters of Mercy were seriously wounded during the engagement. Sister Chomiakoff specially distinguished herself. In front of Fushun she continued almost without help to bandage the wounded up to the last moment and only left the field after they had all been removed. For two days the Sisters, quite forgetful of self, fed the sick and wounded. Many did not sleep for days together, there being no room in the carriages for them to lie down. The young Sister Tatian Mirkovitch and the wife of General Sidorin for a time worked day and night without ceasing.

NON-PIERCING BULLETS INDUCING AGGRAVATED WOUNDS.

On the occasion of the meeting of the Pirogoff Society, St. Petersburg, held on March 15th, Professor N. A. Kaldiana communicated a report on the wounds inflicted in the disturbances on Jan. 22nd in that city. The wounded were taken to the Petropavlovsk Hospital. They consisted of 43 persons, of whom 20 were injured by bullets. The first aid consisted of antiseptic bandaging. The search for bullets and their extraction were delayed until first aid had been given to all the patients admitted. Many of the wounded after being bandaged went home to return on the following day for examination. The complications ensuing on injury by bullets were somewhat serious. Notwithstanding the short distance between the victims and the soldiers, about 200 or 300 paces, most of the bullet wounds showed only a point of entry. Professor Kaldian explained that this curious circumstance is to be attributed to the fact that the soldiers aimed at the lower extremities, so that the wounds were caused by ricochet. Some of the wounds appeared as though inflicted by splinters of bullets. Exact statistics of the numbers treated could not be furnished as the medical men engaged on the work were too busy to keep account. On the whole, most of the wounds followed a favourable course, all the sufferers having recovered.

Correspondence.

"Audi alteram partem."

THE "MICROBE DOYEN."

To the Editors of THE LANCET.

SIRS,—As the question of cancer is of interest at the present time I think it would not be amiss to state in a few words the position according to the researches of Dr. Doyen. Dr. Doyen has now made investigations for many years. In 1900 he obtained a culture of a microbe which he found in various cases of malignant tumour; he called it the micrococcus neoformans and was the more convinced that it was the true cause of cancer in that it differed from all other organisms with which he was acquainted. In 1904 he read before the Congrès de Chirurgie a communication in which he gave an account of 242 cancerous patients treated by means of his serum and claimed that 40 of them were greatly improved. This communication gave rise to much discussion and it was suggested that a committee of members of the Institut Pasteur and French surgeons should be formed to inquire into his microbe and the therapeutic value of his serum. That committee was not formed but Dr. Doyen requested Professor Metchnikoff to verify the bacteriological side of his researches. Professor Metchnikoff found the microbe present in several cases of tumours and that it presented the characters indicated by Dr. Doyen but he could not state that it was the microbe of cancer, his opinion being that many experiments must first be made. Dr. Doyen, however, was convinced that he had obtained experimentally tumours which resemble malignant tumours in man. He brought to Professor Metchnikoff numerous microscopical preparations obtained from animals in which he had inoculated his organism and which he thought gave a new proof that his microbe was the cause of cancer.

Professor Metchnikoff requested one of his assistants, Dr. Weinberg, to examine these preparations. After a very careful examination Dr. Weinberg came to the conclusion that although the lesions obtained were interesting he could not find in them the true character of a malignant tumour and was convinced that they were purely inflammatory. Dr. Doyen then wished to make a communication before the Académie de Médecine but the committee did not see fit to permit him to do so. He then showed his preparations before the Société Anatomique. It was decided that the members of the Société Anatomique should examine his sections in the laboratory of Professor Cornil and discuss the question at the next meeting. That discussion took place on March 17th, 1905, in the presence of Dr. Doyen and was continued on the 24th. It is not possible here to give a description of all his preparations, one can only say that the members of the Société Anatomique, represented by Professor Cornil, M. Brault and M. Letulle, decided after careful discussion of each section that not one of them could be labeled "malignant tumour." Dr. Weinberg reminded Dr. Doyen that he had come to the same conclusion when he examined the specimens at the Institut Pasteur. He had had occasion to make a bacteriological examination of many tumours and had frequently found the microbe Doyen but thought that it played a rôle in certain secondary inflammations of malignant tumours. As to the agglutinating action of the serum of cancer patients on the microbe Doyen he could not accept that as a new proof of the specificity of the microbe, for it was well known that we can obtain different agglutinins on injecting into the same animal at the same time [illegible] microbes, therefore he could understand [illegible] le to agglutinate [illegible] arasitic disease) [illegible] There can be no doubt that Dr. Doyen deserves much praise for the patience and perseverance he has shown in his investigations but unfortunately at present there is no evidence to prove that he has found the microbe of cancer. Professor Metchnikoff, in whose laboratory I have the honour to work, sums up the situation thus: (1) the microbe Doyen exists; (2) it is probably secondary, as streptococci, &c., are found in tuberculous cavities, and is not the cause of cancer; and (3) the serum obtained by its aid does sometimes ameliorate the condition of cancer patients in the same way that amelioration *may sometimes* be obtained by injection of sera obtained from other organisms.

I am, Sirs, yours faithfully,

April 3rd, 1905. R. STENHOUSE WILLIAMS, M.B. Edin., &c.

MEDICINE: ITS PRACTICE AND ITS PUBLIC RELATIONS.

To the Editors of THE LANCET.

SIRS,—Referring to your remarks made in Chapter VI. (p. 879) of "Medicine: its Practice and its Public Relations," with reference to the action of the Pharmaceutical Society against members of the medical profession in Scotland for the infringement of the Pharmacy Acts *by their unqualified assistants in pharmacy*, you do not seem to be aware that we appealed to the Privy Council, complaining of the action of the General Medical Council. That petition was sent by the Privy Council to the General Medical Council who recorded it in their minutes (1903 or 1904). The Pharmaceutical Society has not ceased action, as it has prosecuted a number of unqualified assistants of medical practitioners for the sale of poisons and I think in every case has obtained penalties. The General Medical Council, however, has taken no action in these cases. What is the reason of this I do not know.

I am, Sirs, yours faithfully,

JOHN BROWN, M.D., F.F.P.S. Glasg.

Glasgow, April 3rd, 1905.

To the Editors of THE LANCET.

SIRS,—Referring to the fifth very able article of your correspondent on "Medicine: its Practice and its Public Relations," I should like to point out, as a hospital reformer of some years' standing, that bare justice has been done only in relation to the hospital conference which was held at St. Martin's Hall *in October, 1899*. I was, of course, not responsible in any way for the speeches made on that occasion but I was altogether responsible for the various papers read. And I venture to say without any diffidence that the authors of the various papers were men who had had great experience of the subjects they wrote about; and, moreover, although many years have passed since their views were published, yet nothing fresh in any way has been given to the world with regard to the solutions of the many problems that they dealt with individually. I may be allowed to add that some of the recommendations made by the authors of the papers have been adopted by the authorities of the various metropolitan hospital funds. I may be pardoned for recalling to your memory the names of those gentlemen who so materially assisted at the conference by reading papers: Dr. F. J. Smith, Mr. Douglas Dent, Dr. Arnold W. W. Lea, Mr. G. Hawkins-Ambler, Colonel Montefiore, Mr. G. A. Wright, Dr. Bertram M. H. Rogers, and Mr. C. W. Warren.

I am, Sirs, yours faithfully,

Cardiff, March 29th, 1905. T. GARRETT HORDER.

To the Editors of THE LANCET.

SIRS,—I am obliged to you for allowing me to see these letters. Some of the names which Mr. Horder enumerates belong to gentlemen honourably known for their work and far be it from me to suggest that they or any other speakers did not know their subject *au fond*. All that I intended to convey was that certain of the speeches did not bear out this view.

I knew, of course, of the action of the Privy Council but not of the continued prosecutions to which Dr. Brown alludes. I am, Sirs, yours faithfully,

THE AUTHOR OF THE ARTICLES.

THE RATIONAL TREATMENT OF FRACTURES.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 4th, p. 601, "Dubitans," in the course of commenting on the method of treating fractures, as strapping, rubbing, and movement, asks me two questions. First, as to whether I should use extension in the case of oblique fracture of the bones of the leg—i.e., the femur, the tibia, and the fibula—I would in reply say that in fractures of the femur I like to use, and have up to now found efficient, the double inclined plane or Liston's long splint with perineal band, according to the position of the fracture, but in either case following out the strapping, rubbing, and movement. As regards the fracture of both bones of the leg the case which I described was oblique in nature and did very well with strapping and Cline splints. I certainly am of opinion that strapping helps to hold the bones in position and checks riding to a great extent. In a bad case of oblique fracture of this kind, if I found Cline splints and strapping were insufficient to keep them in position, I should place the limb, after strapping, on a back splint with side splints and sling it in a Salter's cradle. Personally I seldom try to adjust the position of a bad fracture at once accurately, as it is far better to wait until the inflammatory effusion has settled to some extent and is beginning to be absorbed. Rubbing will hasten this greatly. By delaying the "setting" in this manner for some days the spasmodic contraction of the muscles will have subsided to a great degree. It is quite possible that one might see a very oblique fracture that would get out of position directly a splint is removed. If I were to find a fracture do this in spite of the strapping I should not remove the restraining influences until some union had occurred but were this fracture in a position to allow the joints above and below to be used daily while supporting the fracture with short splints I should certainly make use of some form of splint which would permit the joints to be moved and begin rubbing as soon as there was some degree of union.

The second question is as to whether the generalisation of so-called rational treatment from simple cases of fracture is dangerous when applied indiscriminately elsewhere and is there any other rational treatment in the troublesome cases than bone carpentry by cutting down upon, and securing together, the fragments, as in Mr. W. A. Lane's plan? As to the first half of this question, the term rational treatment was not meant to be dogmatic and if taken in the narrower sense might be dangerous. As regards the bone carpentry I admit that there may be some cases of oblique fracture where, in spite of all the care possible, the result will still be unsatisfactory.

I believe that in these cases Mr. Lane's treatment is the right one but I do not think that this method can be of general use in practice. The operations are not so easy in the most happy circumstances and would be practically impossible to carry out and to keep aseptic in many small houses and cottages, even supposing the patients were willing to allow it. In country districts the patients will solve the problem for one. They are not likely easily to submit to "an operation for a broken bone" as they would term it. You would probably find yourself dismissed in favour of a surgeon who has not expressed any desire to use the knife to mend the leg; and from the surgeon's point of view I think this is an operation which should only be undertaken in aseptic surroundings and patients are loth to leave their homes for hospitals on account of broken limbs. Even among the better classes where the surroundings are suitable I think that there would be an almost insuperable objection on their part to operation on simple fractures. In compound fractures this objection would not be so great. Circumstances alter cases and what might be the rational treatment in one case would be quite unsuitable in the other, and fortunate is the surgeon who can adapt himself to the surroundings of each individual case; but I certainly maintain that the rational treatment of any fracture, where it is possible to use it, is by the method of strapping, rubbing, and movement, as early as possible, consistent with a good result.

I am, Sirs, yours faithfully,

March 17th, 1905. J. STAFFORD MELLISH.

IF TUBERCULOSIS SHOULD BE CERTIFIED, WHY NOT SYPHILIS?

To the Editors of THE LANCET.

SIRS,—I never heard of phthisis causing syphilis but I believe that many thousands of cases of phthisis are caused by syphilis. And considering that there are thousands of cases in our lunatic asylums caused by syphilis and that our hospitals have thousands of cases of heart and kidney disease, brain disease, blindness, deafness, skin disease, and disease of almost every organ caused by syphilis, would it not be well if we went to the *fons et origo* and formed a national association for the prevention of venereal disease. By so doing I believe that we should enormously decrease the amount of phthisis. I see that at the sixth general meeting of the National Association for the Prevention of Consumption Sir William Broadbent and others urge that public authorities and public money should be used for establishing sanatoriums for consumptives. But is this a wise use to put public money to? Ought not it to be used equally for the prevention and cure of syphilis? For I believe that the sanatorium cure and open-air cure are just as efficient against syphilis as against phthisis and just as necessary. Every syphilitic is a danger or a burden to the State "even unto the third and fourth generation." And he is, if he is not cured, a fertile soil for the tubercle bacillus and its propagation and distribution. Again, why should medical men certify cases of phthisis and not cases of syphilis? Why should chicken-pox and small-pox be certified and not great pox? It seems to me that taking all the speeches at the meeting referred to you might substitute syphilis or venereal disease (for the ravages of gonorrhœa are staggering also) for consumption or tuberculosis and they would be of equal, if not of greater value—e.g., "If the Metropolitan Asylums Board would undertake to deal with syphilis (or venereal disease) which was to a certain degree a contagious disease, they would leave a very distinct impression upon the amount of that disease which existed in London and not merely save life but promote the public health," &c.

I honestly believe that if we could stamp out syphilis and gonorrhœa we should diminish by one half the amount, not only of phthisis and infantile tuberculosis, but of kidney disease, gynæcological disease, bone, eye, ear, skin, brain, spinal cord and, in fact, most diseases and much diminish the amount of cancer. Then why in the world do we not do it?

France has now given us the lead. France, taught by experience and startled to wakefulness by M. Brieux's play and the efforts of *Le Matin*, has formed a "National Association for the Prevention of Syphilis." It will distribute literature and by education will try to prevent the ravages of syphilis caused by ignorance and neglect. Why does not England do the same? I believe that venereal disease has more to do with the physical deterioration of the race and degeneracy than primary tuberculosis has. The majority of the submerged tenth are, according to my experience gained in hospital out-patient departments, syphilitic, many of them hereditary. They are good for nothing and never will be good for anything. Our workhouses and casual wards are half full of them. The army and the navy are gravely (how gravely it is shocking to think) affected. Our seaport towns are rotten. And what do we do to prevent the spread of it and all its attendant evils? Nothing, almost nothing. And why? Because we say we must certify tuberculosis, or scarlet fever, or chicken-pox, or small-pox, but great pox, more deadly than all, No—we let that go as it pleases. And why? Largely because we do not like to talk of disagreeable things; and also there is a curious pseudo-puritanical spirit which will not allow the innocent to be protected with the guilty and shuts its ears and eyes to the cry of millions of sufferers because its curiously perverted "conscience" seems to teach that "pox populi" is "pox Dei." Will our profession not give the lead towards a better state of things, now and soon? I am, Sirs, yours faithfully,

Cannes. EDWARD H. DOUTY.

"AMAAS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 7th, 1904, p. 1273, appeared a clinical description of a disease called "amaas" occurring in South Africa, said to be allied to, but to differ from, small-pox. The author, Dr. W. E. de Korté, again in your issue of Dec. 24th, 1904, p. 1776, speaks of "amaas" as a distinct disease. He appears to base his differential diagnosis on the possibility of vaccinating persons who have recently suffered from "amaas," that it has a low mortality, that there is no secondary fever, and on the character of the scars and marks which the disease leaves behind it.

I intended last year to criticise Dr. de Korté's paper but pressure of work prevented it. However, I send you a copy of the report of the medical officer of health of the Colony of the Cape of Good Hope for the year 1895 which contains an investigation into the nature of a disease said to be "amaas" which prevailed in and around Graaff Reinet. Dr. de Korté was then practising in Graaff Reinet and it is to be presumed that the disease which he now calls "amaas" is identical with that to which he then gave that name and which proved to be ordinary small-pox.

With regard to the possibility of vaccinating after an attack of small-pox with calf lymph I may state that I myself had small-pox; two or three years after I purposely inoculated myself with small-pox without any effect, yet afterwards while vaccinating calves I accidentally inoculated myself and very typical vaccinia resulted. The existence of "amaas" depends upon a mistaken diagnosis based upon inaccurate clinical observations.

I am, Sirs, yours faithfully,
GEORGE TURNER,
Medical Officer of Health, Transvaal.
Public Health Department, Pretoria, Jan. 30th, 1905.

*** The report for the year 1895, which Dr. Turner sent to us as above mentioned, forms with its appendices a bulky document of 156 printed pages. Dr. Turner was at that time himself the medical officer of health of the Colony of the Cape of Good Hope and the principal or introductory report is naturally signed by him. Under the heading of "Small-pox" he says on p. 14: "This disease, so much dreaded, gave rise to very few deaths during the year 1895. It was, however, prevalent at Kimberley and in some other districts. It was of an exceedingly mild type, attacked the natives chiefly, and was therefore often described as chicken-pox, amaas, &c. The reason why the malady was principally confined to coloured persons was undoubtedly due to the fact that these were much less protected by vaccination than the Europeans. ...... Twice for about a week on each occasion I had an opportunity to see small-pox amongst the natives at Taung and I watched carefully to see if the disease in any respect differed from small-pox as I had seen it in Europe, especially during the great epidemic of 1870-72, but could not discover any essential difference. I had frequently heard the opinion expressed that a disease did prevail amongst natives which closely resembled small-pox but which was not that disorder. I was therefore particularly anxious to meet with cases of this kind and gladly received instructions to proceed to Graaff Reinet, where I was informed that a disease resembling, but not identical with, variola prevailed." The results of Dr. Turner's inquiries at Graaff Reinet are given at length in Appendix II. of the report. It consists of 12 printed pages and, in addition, contains reproductions of photographs of five patients showing the eruption, seven temperature charts, and a plan of a court in Graaff Reinet where some of the patients lived. This appended report is dated "Cape Town, Cape of Good Hope, 19th March, 1896." After eight pages of clinical descriptions of patients Dr. Turner says that the cases designated "amaas" at Graaff Reinet were "unmistakeable discrete small-pox, such as is commonly met with in Europe, Asia, America, and elsewhere." As far as he could discover the diagnosis of "amaas" and its discrimination from small-pox were based upon the following points—namely (1) that the eruption after the scabs have fallen leaves pigmented marks and does not pit; (2) that the eruption appears sooner after the commencement of the prodromata than would be the case in small-pox; (3) that the death-rate has been low; and (4) that "amaas" does not attack Europeans. In discussing these arguments against the identity of "amaas" and small-pox he maintains that they are all untenable.—ED. L.

A QUESTION OF SITE.

To the Editors of THE LANCET.

SIRS,—As the future of the Institute of Medical Sciences becomes more hopeful its practical details acquire an importance which it was formerly unnecessary to give them and to my mind one of the most important things to discuss is whether South Kensington is the fittest place for such an institute. It may be that the authorities are committed to this site; if so it will be well to realise the disadvantages connected with it in order that they may be, as far as possible, counteracted. I am only able to offer an expert opinion as a teacher of anatomy but from that point of view I feel that the distance of the proposed institute from the clinical centres will be a serious handicap. It is only lately that I have realised how largely the dissecting room of a hospital is used by students before their final examinations in surgery and how usual (and often necessary) it is for candidates preparing for the Primary Fellowship to combine a certain amount of clinical work with that preparation. Then it is undoubtedly an advantage to all concerned that the whole of the teaching should not be in the hands of professional anatomists, that some of the demonstrators should be young physicians and surgeons who can give a certain amount of their time to the dissecting room. Again, the nearness of the anatomical department to a post-mortem room is an advantage which is only fully appreciated when anatomy has to be taught in an institution where no post-mortem room is.

Those of us who have many committees to attend at South Kensington know how much time is wasted in the journey there and back from the centre of London and I feel sure that the proposed institute there will be seriously handicapped in competing with others more favourably placed as well as with those hospitals which elect to keep their anatomical and physiological departments as at present. If the University could extend its agreement with the Royal Colleges and use the Embankment premises for teaching as well as for its examinations, it would, from the point of view of anatomy, be much more convenient. Failing this, is it too much to hope that some influential body will come to the help of London medical education and grant a more central site? If the new institute is so remote that the schools cannot concentrate there conveniently the result will be that yet another centre will enter into competition with those already existing (and more favourably placed) and it will need all its proposed endowment in order to survive.

I am, Sirs, yours faithfully,

St. Thomas's Hospital, March 28th, 1905. F. G. Parsons.

TYPHOID FEVER IN LINCOLN.

To the Editors of The Lancet.

Sirs,—In the various papers recently written on attacks of typhoid fever past and present in Lincoln, I have not seen any account of the severe outbreak of typhoid fever that occurred in 1857. In that year I called public attention in the local papers to the sanitary state of Lincoln—there was no main drainage, the sewage ran into cesspools which soaked into the surrounding soil, poisoned the water of the pumps, and caused the most disagreeable smells all over the town. According to the Medical Directory of 1856 the population of Lincoln was 17,536, but the number of cases and the mortality then were proportionately as great as in the present epidemic of typhoid fever of 1904–05. The main drainage was accomplished about 1882; it had an immediate beneficial effect on the health of the inhabitants of the city and the benefit would have been much greater if provision had been made for flushing the sewers. In rainless warm weather, especially if fogs prevail, the sewers become very offensive and the effluvia that escape from the manholes cannot fail to have injurious effects on the inhabitants of the houses situated close by. I think it was an Irish judge who first drew attention to the danger of manholes. He noticed that the people who lived in houses contiguous to a certain manhole in the neighbourhood of his residence were nearly always ill or ailing.

The nose generally gives the warning note of danger, but the mouth is the great open door which admits free trade in all kinds of seeds of epidemics, not always the only one, for sometimes they gain admittance through the back door. I have a sad case of this kind imprinted on my mind. An uncle of a lady who kept a boarding school for young ladies came to pay a visit of a few days to his niece. He was recovering from typhoid fever and in the night was attacked with diarrhœa and the excretions were thrown into the water-closet that was used by the young ladies. In a short time typhoid fever of a most virulent character broke out in the school and five or six of the girls died.

I attributed the outbreak of fever in 1857 to emanations from foul sources, overcrowding of small dwellings, and many other causes. I caught the fever myself and believed it to be the result of a defective water-closet. The Lincoln water did not seem to have been much blamed in the production of the disease at that time, nevertheless I drew attention in one of my letters to the danger of drinking water into which sewage ran and gave as examples that Dr. J. Barry of Cork stated that such of the inhabitants of that city who drink the water of the river Lee, which receives the contents of the sewers, are subject to a most fatal dysentery and fever and that one out of every three affected dies from it and also that the water of the river Seine at Paris often produces fever and dysentery and as a consequence of this suppurative inflammation of the liver. I may mention that the Lincoln water-supply was formerly in the hands of a company. The company took the water that was close at hand, that is, from the Witham and from pools formed by water that ran off the fields. The two made an unhappy "blend" which has not yet been rectified. When the Romans occupied Lincoln doubtless the Witham was here and so were the pools of water but they very wisely did not take their drinking and cooking water from them but went three miles out of the town for it to the springs at Nettleham and conveyed the water to Lindum Colonia through well-made fayence pipes which were laid in beds of strong cement. The great desideratum with Lincoln now is pure water. The corporation is boring for it and it is to be hoped it may get it but I am afraid that in the end it will have to go for good water to the Wolds. In the meantime for drinking water we have to live on the charity of the benevolent of neighbouring towns.—I am, Sirs, yours faithfully,

William O'Neill, M.D. Aberd., M.R.C.P. Lond., &c.

Lincoln, March 14th, 1905.

SCURVY RICKETS.

To the Editors of The Lancet.

Sirs,—The milk-supply of metropolitan public institutions is rarely beyond reproach. Managing boards usually accept the lowest tender and unless there is some glaring deficiency of cream or some unusually apparent staleness the difficulty of rejecting an unsatisfactory delivery is very great. Practically all milk is railway borne and consequently is much contaminated by dust and other filth. As delivered there are always a perceptible scum of light dust on the surface and a variable layer of coarser particles of dirt at the bottom of the churn. In such circumstances sterilisation of the milk before issuing it to the children is imperative. Some time ago, owing to the occurrence of some slight cases of scurvy rickets, I suspended the sterilisation by heat and tried the effect of formic aldehyde in varying proportions. I observed that some infants could tolerate the formic aldehyde for a time, even to the extent of ten parts per 100,000, whilst others showed undigested curds in their stools even when so low a proportion as one in 100,000 was used. This evidence of increased difficulty of digestion of the curd necessitated a return to the heat sterilisation, with the addition of the juice of an orange or of a portion of a banana daily, and if this addition be regularly given I believe scurvy rickets will not arise. All the cases I have met with have occurred in children who have been fed exclusively on boiled milk.

The first symptom noticed is the evident pain which movement causes the child; examination shows the existence of brawny swelling of the thighs, upper arms, shins, and forearms, these parts being affected in the order above given. Occasionally hæmorrhages occur in other places. I have seen a case in which the first noticed symptom was a pronounced black eye accompanied by considerable proptosis and external squint. A subsequent necropsy revealed the presence of a large hæmorrhage under the periosteum of the orbital plate of the frontal bone. Complete separation of the epiphyses from the shafts of the long bones is of frequent occurrence and post mortem the periosteum is found to be separated from the shaft of the bone by a blood clot varying in extent and thickness. The immediate substitution of an unboiled milk may save the child. I remember a little girl who had the lower epiphysis of both humeri separated and yet survived. Still, the mortality is very heavy. The point to which I desire to draw special attention is the possibility, and even likelihood, that manifestations of this disease may be attributed to violence. The appearances are very similar. The swelling, the possible ecchymosis, the signs of the broken bone, would certainly suggest the application of undue force to the lay mind and might even deceive the medical attendant, especially if accompanied by a tale of ill-treatment. In wo of my cases the correct diagnosis of the condition alone prevented a charge of cruelty being brought against perfectly innocent persons, and in these days when members of public bodies apparently possess unlimited and unpunishable powers of irresponsible criticism and accusation, and when societies base their claims for support upon the number of convictions obtained by them, it behoves medical men to bear the symptoms of scurvy rickets well in mind when called upon to examine cases of alleged injury to young children.

I am, Sirs, yours faithfully,
F. S. TOOGOOD, M.D. Lond.,
April 3rd, 1905. Medical Superintendent to Lewisham Infirmary.

PRESSURE STASIS.

To the Editors of THE LANCET.

SIRS,—The interesting case of extreme compression narrated in THE LANCET by Dr. R. Lane Joynt reminds me of a similar case which I treated a few years ago. A party of 30 or 40 excursionists were proceeding in a four-horse break from Manchester to Chester to see the "Chester Cup" run for. A wheel came off, the [illegible] toppled upon somebody e[illegible] women came off especially [illegible] lodgings in Chester (the accident had occurred three or four miles away) and I saw them as soon as they arrived. The one, rather stout, 48 years of age, had a comminuted fracture of the middle of the right humerus and a fracture of the left clavicle; but what struck me most was the extraordinary appearance of her eyes, the whites were bright red, the whole of the conjunctivæ of both eyes being suffused with blood. Her face and forehead, ears, neck, and part of her chest were bright red. There was also a small occipital scalp wound and a little blood had been squeezed out of the right ear. Her friend had a broken leg and some bruises. The subsequent progress of the two patients was (happily) uneventful. The ecchymoses, bruises, &c., passed through the usual colour changes, the fractures united, and the patients were able to go home in a fortnight with their fractures in "plaster." They came to see me at intervals and completely recovered.

I am, Sirs, yours faithfully,
Chester, April 2nd, 1905. HENRY W. KING.

THE TREATMENT OF EMPYEMA.

To the Editors of THE LANCET.

SIRS,—Daily irrigation as a method of treatment of empyema is an anachronism. I should not have thought that anyone employed it at the present day. Certainly I do not, as Mr. Godlee assumes. The pleura may be washed out at the time of operation with advantage if the pus be fœtid or too thick and curdy to be easily evacuated; but if the pleural cavity be once thoroughly cleansed subsequent washing out is *rarely required*. The only object I had in my paper in referring to washing out at all was to try to dissipate the fear which still appears to haunt the minds of some operators that it involves great risk of fatal collapse. For this purpose it was necessary to speak of my own experience, which happened to be considerable on that point, for when a student at St. Bartholomew's Hospital and subsequently when resident at the Chest Hospital, Victoria-park, frequent washing out was a method of treatment of empyema much in vogue with some of the older physicians. I thus had an [illegible] of washing the pleura out and of [illegible] times, probably, as I said, some [illegible], *as Mr. Godlee makes me say*, in some hundreds of cases. I never saw any bad symptoms produced and therefore I consider the risk infinitesimal and one that may be practically disregarded.

To excision of rib my objection is not so much that it adds something to the operation as that it weakens the framework of the chest, especially if a portion of more than one rib be removed. Drainage can often be perfectly provided for without it and therefore I do not consider excision necessary as a routine practice. I quite agree with Mr. Godlee that the drainage-tubes used are often too long, but even a short tube will generally require more shortening [illegible] the incision [illegible] be in the seventh or if a little farther forward in the sixth space, but by no possibility in the fourth, as Mr. Godlee says it might.

The use of the probe in exploring the pleural cavity enables us to ascertain the size, the limits, and the relations of the cavity. In the early days after the operation, if the case is [illegible] at our disposal of ascertaining the exact conditions of things within the thorax and often enables the defect to be remedied without recourse to further operative measures. As careful examination with a probe can do no harm I cannot sympathise with Mr. Godlee's objection to it. I do not think, after all, that Mr. Godlee and I differ seriously in our views of the treatment of empyema and certainly not so gravely as he implies.

I am, Sirs, yours faithfully,
Wimpole-street, W., April 3rd, 1905. SAMUEL WEST.

LEGISLATION FOR FEMALE CLERKS.

To the Editors of THE LANCET.

SIRS,—Will you kindly grant me a short space in your columns to bring again before the notice of the profession the urgent need for legislating for the protection of the health of the large and increasing number of female clerks employed in London and other centres. The Factory Acts safeguard the interests of women engaged in workshops, but there is absolutely no control over the employers of women engaged in clerical work. Three cases have lately come under my care which I would like to call attention to, as they illustrate the disabilities under which this class of workers suffer. A lady recently consulted me and during the interview she told me that she was engaged as a typist to a well-known solicitor. Ten women are employed by the firm and there was no lavatory accommodation whatever for the women. When they wanted to relieve themselves they went out to a railway station near. I suggested that I should write to her employer on the subject, which was agreed to. I received a very polite note from the gentleman stating that he had not given the subject a thought but promised that the omission would be rectified immediately. In another case a young lady was suffering with a foul ulcerated throat. She told me that she was employed in a newspaper office with two other girls. They worked in a room at the end of a passage with no outside window. Just outside the door, which was constantly being opened and shut, was the men's lavatory, which seems to have been always in a most filthy state. The third case is that of a young woman engaged in a similar occupation whose working hours lasted from 9.30 to 8.30 usually but at certain periods of the year, in all amounting to two months, they were kept until 11 P.M.

If three such cases occur in the experience of one practitioner in a short time, what must be the aggregate amount of suffering of a preventable nature the thousands of women must have to endure who go up to the City every day. I could quote other instances of a similar kind but I consider the above sufficient to call attention to three obvious defects.—I am, Sirs, yours faithfully,

T. E. WHITE, M.D. Durh., D.P.H.
Catford, S.E., April 3rd, 1905.

SHOCK AND COLLAPSE.

To the Editors of THE LANCET.

SIRS,—Mr. C. Powell White in his letter in THE LANCET of April 1st, p. 887, draws attention to my statement that "the blood pressure is maintained within a few degrees of the normal range even under extreme variations in outside pressure" and points out that this is incompatible with the treatment of patients suffering from shock by compressed air. The statement referred to is, of course, only meant to apply to a healthy individual whose vaso-motor system is uninjured. Mr. White has not appreciated the distinction which I drew between the normal physiological condition of the circulation in health and the morbid physiological condition which exists in shock. Directly the vaso-motor system has broken down and become incompetent, as is the case in shock, the statement no longer holds good and the blood pressure tends to follow any variations in outside pressure.

When a patient is suffering from shock increasing the atmospheric pressure will raise the blood pressure.

cause of the lowered arterial pressure in shock is the increased capacity of the vascular system resulting from loss of vaso-motor control. Increasing the atmospheric pressure will diminish the capacity of the vascular system and so directly raise the blood pressure in the essential part of the circulation—namely, the heart and great vessels and the brain. I am, Sirs, your faithfully,

April 4th, 1905. P. LOCKHART MUMMERY.

FREE INCISION IN PLEURITIC EFFUSION.

To the Editors of THE LANCET.

SIRS,—In your issue of March 25th I notice that Dr. S. West discourages "free incision" in pleuritic effusion. As I have treated a few cases in this manner with success I would like to express my opinion with a view to encourage this method of treatment. I have employed incision in acute cases, sometimes with a high temperature and pneumonia. The object of the treatment is primarily to relieve the dyspnœa and secondarily to prevent the adhesions which are so frequent after empyema, not to refer to the very large number of cases which go on to tuberculosis. Dr. West says: "The objection to this method of treatment is, of course, that it necessarily leads to empyema." My experience is that it is more probably a preventive of empyema, if the drainage is properly carried out. If done early, within a week or so, there is no fear of adhesions, as Dr. West anticipates. It is supposed to be the relief of tension that cures, as similarly occurs with an obstinate effusion in a joint when incised. Far from being "unjustifiable" as a method of "radical treatment" I think it appeals to anyone on first principles and as the lung expands quickly there is no cavity left to become septic.—I am, Sirs, yours faithfully,

Hampstead, March 28th, 1905. ALBERT WILSON.

ISOLATION HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Allow me to assure Dr. F. Lucas Benham that I sincerely regret having misread his former communication to THE LANCET and that the part of my letter in which I offered him my congratulations on his having "contented himself with a letter to THE LANCET" should have been so badly worded as to have given the impression that I was harbouring an *arrière pensée*. What I intended to convey was that continued association with this movement would have brought him no more satisfaction than it has brought us. As Froude has it, "Men possessed with an idea cannot be reasoned with"—which explains the fact that after 25 years of continuous failure the isolation hospital still exists, but the why and the wherefore of its existence nobody knows.

I am, Sirs, yours faithfully,

Nottingham, April 1st, 1905. EDWD. DEAN MARRIOTT.

IMMIGRATION AND THE DEATH-RATE.

To the Editors of THE LANCET.

SIRS,—In your comments on the Registrar-General's sixty-sixth annual report it is stated that "it is unreasonable to expect that in a country receiving hordes of destitute aliens from all parts of the world the present exceptionally low death-rate will be permanently maintained."[1] It would be interesting to learn what is the writer's conception of a horde. I may say at once that the immigrants do not dwell here in tents, camps, &c. As to numbers, there were in 1902 probably less than 56,000[2] and in 1903 considerably less than in 1902.[3] They are certainly not all destitute. THE LANCET annual returns show that in the districts with the largest number of aliens (Stepney) the death-rate is not the highest in London, neither for all classes nor for children under one year of age.[4] Mr. Charles Booth believes that an influx of foreign Jews, who, as is well known, form the bulk of the immigrants, will be a factor in reducing the death-rate in St George's in the East and Shadwell as it has been in Whitechapel.[5]

I am, Sirs, yours faithfully,

Commercial-road East, April 3rd, 1905. M. D. EDER.

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[1] THE LANCET, April 1st, 1905, p. 850.

[2] Statesman's Year-book for 1904, p 29.

[3] Board of Trade Returns, April, 1904.

[4] THE LANCET, March 12th, 1904, p. 749.

[5] Life and Labours of the People in London, final volume, p. 18.

THE SCAVENGERS OF NEW YORK.

THE OUTBREAK OF CEREBRO-SPINAL MENINGITIS; THE REMARKABLE INCREASE OF CANCER, ORGANIC HEART DISEASE, AND CHRONIC BRIGHT'S DISEASE.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

So many cases of cerebro-spinal meningitis have recently occurred in New York that the disease has assumed an epidemic form. Its presence has created very great alarm and not a few persons have already sought safety in flight. According to Dr. G. B. Fowler, who was recently commissioner of health of New York, this is a filth disease. In times gone by it used to prevail in prisons and also among the insane of filthy habits who were locked up in asylums that were a sort of prison and where no great care was taken to maintain cleanliness. To-day, however, there is a sanitary code issued by the board of health of the department of health of the city of New York. The corporation has a large budget and quite an army of officials and servants. Indeed, some of these are organised on a military basis. Filth, therefore, should not abound in such a city—at least, not to the extent of causing an epidemic similar to those which prevailed within the asylums and prisons in the days when little or no knowledge of sanitation existed. It must be confessed, however, that the scavenging and the paving of the streets are not what they should be. Though I was but a short time in New York still I came upon a few places where the pavement was in a deplorable condition and noticed about the streets a good deal of garbage which should have been removed. Such experience, however, is too limited to form the basis of an opinion. A few cases of neglect could be found in any town and I am not in a position to say whether what I chanced to see at New York was exceptional or general. On the other hand, at the University Settlement in Eldridge-street, which is on the East side and the most densely populated part of New York, I heard a lecture on this very subject. The lecturer described the measures taken by the late Colonel Waring and how he had insisted that he was determined to clean the streets.

For this purpose the colonel, who was the city commissioner for street cleaning, put his men into uniforms. He endeavoured to make them take a pride in their work and proclaimed what has often been said though not often realised—namely, that the scavenger is one of the most useful and indispensable functionaries of the State. He urged that it was not a disgrace to sweep the streets; the real disgrace was to take money for sweeping and then not to sweep. Having organised his scavenger brigade, given them their uniforms, and drilled them a little, he determined to raise their sense of self-esteem by some striking demonstration. It so happened that at that time there was a fashionable horse show. Consequently he had all the horses in the employ of the street cleansing department carefully groomed and decorated with ribbons. The men were told to put on their best and cleanest uniforms. Colonel Waring, himself in a similar uniform and mounted on a fine charger, rode at the head of the scavenger brigade, conducting them and their horses to the horse show. Here the fashionable and wealthy members of New York society, struck by the originality of the proceeding and realising the importance of the object in view, gave the scavengers an enthusiastic ovation. They had been accustomed to parades of firemen, but, after all, is not the scavenger as useful a worker? Does he not also largely contribute to protect the public against the dangers that especially menace the dwellers in large towns? It was certainly an excellent idea to endeavour to raise the standard of life and self-respect among the scavengers and Colonel Waring very ingeniously discovered a method of achieving this end It is essential for the welfare of the community that scavengers should realise how very important is the work with which they are entrusted and how serious the consequences may be if it is not carefully, punctually, and efficiently performed.

If, as it is maintained, cerebro spinal meningitis is a filth disease, can it be that since the death of Colonel Waring there has been some relapse and that the scavenging work is no longer so well done? Or is it, as the present commissioner says, that there is a great increase of street stalls, street markets, and costermongers' carts? In America all these itinerant vendors are known under the graphic and generic term of "push-cart" men, and they not only to a large extent fill up the streets but the refuse of what is sold is thrown on the ground and adds to the dirt and untidiness of the thoroughfares. This is particularly objectionable when the refuse consists of vegetable matter. Dr. Darlington, chief of the health department, has given figures showing that there is a higher death-rate than elsewhere in the "push-cart" streets, that is, the thoroughfares where street markets are held. This is attributed to the greater amount of garbage lying about and to the fact that the children have less space to play in, the street which constitutes their principal playground being more crowded and not so clean. A great improvement, however, was effected when asphalt was employed, particularly as care was taken to lay it down in the poorest streets first. The children, therefore, were able to play on a comparatively dry and non-absorbent ground that could easily be washed and scoured with the fire-hose. But, nevertheless, the costermongers' carts and the garbage thrown out of these carts at least superficially soil the streets in spite of the asphalt.

Formerly only old people were allowed to hawk goods in the streets. Now not only are there broken-down old people offering boot-laces to the passers-by but young vigorous folk bring along hand-carts full of boots and shoes to sell. Others sell hosiery and underlinen—in fact, everything and anything is brought into the street and offered for sale. The tendency seems to be to replace shops by an open-air bazaar. Such a transformation renders it much more difficult to keep the streets clean and has a decidedly injurious effect upon health. Then when the frost comes a certain amount of organic matter is, as it were, imprisoned in the ice that forms in the streets. There it may remain for weeks; but when a thaw comes it decomposes very rapidly. As the thaw affects the entire city and as it is not possible to clean simultaneously every part of the city, some mischief may arise before the appearance of the scavengers. Though nothing is really known as to the cause of the present epidemic, suggestions have been made that the condition of the streets, the difficulty of organising efficient scavenging when so many streets have been converted into markets, is a contributory cause. However this may be, it is undoubtedly a fact that while the diseases—mainly the zymotic diseases, which used to be the principal cause of high death-rates—are being gradually eliminated or very materially reduced in prevalence and fatality other complaints are increasing. This is all the more alarming as no satisfactory explanation is forthcoming. To-day there is the serious epidemic of cerebro-spinal meningitis which is said to have caused at New York alone some 700 deaths. But more serious because it is spread over a large number of years is the fact that New York shares with most other centres of population both in America and Europe in the growing prevalence of cancer. The New York board of health, however, is not particularly concerned with this statistical demonstration because, on the whole, the nominal augmentation in the number of deaths may be due to more accurate diagnosis rather than to a real rise in the number of cases of cancer. What is considered even more serious is the remarkable increase of deaths from organic heart disease and chronic Bright's disease.

To deal with cancer first, there were 2608 deaths ascribed to this cause at New York in 1903 and this is equal to a death-rate of 699 per 1,000,000 of the population. In 1902 the proportion was 674 per 1,000,000. But what is more important is that in 1873 the proportion was only 433 per 1,000,000. The increase from 1873 to 1903 is equal to 77 per cent. But it is pointed out in the official reports of the health department that in the old city of New York in 1873 the percentage of deaths from external cancer was 28 and from internal cancer 72 of all deaths from this disease. In 1902 the figures for the borough of Manhattan show that the proportion of external to internal cancer was 16 to 84. In 1873 the deaths from cancer of the breast were 13 per cent. and from cancer of the stomach, liver, and intestines 40 per cent. of all deaths from that disease. In 1903 the more obvious cancer of the breast caused only 9 per cent. of the deaths, while 53 per cent. of the deaths were attributed to cancer of the stomach, the liver, and the intestines, where the presence of cancer is not so easy to detect. Again, in 1873 28 per cent. of deaths from cancer were due to cancer of the female genital organs and in 1903 the percentage was only 16·4. In 1873 the number of males dying from cancer was 33, as compared with 67 deaths of females from this cause, but in 1903 the deaths of males was 40 per cent. and that of females only 60 per cent. of the total, though the numerical ratio of the sexes varied only 1 per cent. The average age at death of both sexes, based upon five-year periods, was 48 years in 1873 and 51·8 years in 1903. The increase of deaths attributed to cancer amounts to an average of 423 deaths per annum and per 1,000,000 of the population during the ten years 1873–1882. During the period 1883–1892 it was 554; during that of 1893–1902 it was 642. But this apparent aggravation is due to the more accurate detection of internal and inaccessible cancers and occurred among males rather than among [illegible] though it is not as extensive as is generally supposed, the New York department of health seems to be tempted to attribute the cause to the greater consumption of alcohol, tobacco, and meat together with the wider prevalence of syphilis.

In regard to the deaths caused by organic heart disease and by chronic Bright's disease, there are a few more due to the former than to the latter cause. Thus, for instance, there were 615 deaths from the former disease and 534 from the latter disease in 1868, the first year given in the statistics now issued. The important fact is that these figures increased in 1903 to 3129 and 2818 respectively. The augmentation of the population does not suffice to account for this. The death-rate due to both diseases amounted in 1868 to 13·50 per 10,000 inhabitants. The proportion in 1903 was 27·20 per 10,000 inhabitants. There have been some fluctuations in this increase and the last figure given does not represent the maximum. It was in 1870 that the proportion exceeded 15 per 10,000. In 1882 it exceeded 20 per 10,000. In 1891 it went beyond 25 per 10,000 but remained below that figure from 1894 to 1899, varying from 22·38 to 24·53 per 10,000. In 1900 the proportion was 25·32; in 1901 it rose to the maximum of 29·11; in 1902 it began to fall and was 28·11 and, finally, as stated before, there were 27·20 deaths per 10,000 inhabitants attributed to chronic heart disease and chronic Bright's disease in 1903. It will be seen, therefore, that in the course of from 30 to 40 years the deaths due to organic heart disease and chronic Bright's disease have more than doubled. Then we have the apparent, and probably, though to a less extent, real, increase of the prevalence of cancer and finally there is the actual and alarming epidemic of cerebro-spinal meningitis. These are facts and I mention them because they are important facts, not because there is necessarily any co-relation between them.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Hospitals.

A FURTHER series of annual reports from the Birmingham hospitals has been published. It includes those of the Ear and Throat Hospital, the Women's Hospital, and the Skin Hospital. The expenses of each of these hospitals have been considerably increased in consequence of building extension which has been undertaken to relieve the great pressure upon the accommodation. The Women's Hospital is in process of being rebuilt on a new site and is expected to be ready for opening some time during the summer. The extension in connexion with the Skin Hospital had largely for its end the better equipment of the operating theatre and the Roentgen ray and Finsen light departments. Great as the pressure is upon the hospitals it would be still greater were it not for such institutions as the Hockley Provident Dispensary—the annual report of which has just been issued—which is self-supporting, it being founded on the principles of self-help, and where the members can obtain medical attention in times of sickness. A complaint alluded to in all the annual reports—a complaint, moreover, which is rapidly becoming a grievance—is that the Birmingham charities are largely used by patients who live outside the area of Birmingham and its suburbs and that from these outlying districts there is no commensurate contribution. In the report of the Ear and Throat Hospital it was stated that 31·7 per cent of the in-patients and 26·1 per cent. of the out-patients were from beyond Birmingham. The city in the past has not suffered from the lack of charitable bequests nor have the working classes been behind in contributing, since in addition to maintaining their own convalescent homes in North Wales they have for several years handed over an annual sum of £10,000 to the various hospitals. It is extremely rare, on the other hand, for the hospitals to receive any contribution from the outlying districts the poor inhabitants of which benefit so largely by them.

The Housing Committee and the Bordesley Green Site.

Some time ago the housing committee, under Part 3 of the Housing of the Working Classes Act, purchased 17 acres of land at Bordesley Green with the view of building houses for the working classes. The committee later considered it inadvisable to build the houses and determined to let the land to a private builder. An offer has recently been made by a builder who covenants to build upon the site not less than 310 and not more than 340 houses. Each house will consist of a living room, a kitchen, and two bedrooms, one of which can be divided if necessary into two, and there will be a water-closet attached. There will be an area in the centre of the site unbuilt upon for the use and recreation of the residents. Not less than two-thirds of the houses are to be let at 4*s.* 6*d.* a week and the rest at 5*s.* The builder agrees to pay a ground rent of £400 a year and to take the land on a 99 years' lease. The whole scheme will be laid before the council at its next monthly meeting.

Mentally and Physically Defective Children.

Mentally and physically defective children formed the subject of an interesting address given at the University a few days ago by Mrs. Hume Pinsent who is a member of the Royal Commission now sitting to consider the education of these children. She particularly emphasised the fact that they were weak in will power and strongly imitative and that, in consequence, if taken from evil surroundings, placed under supervision, and given manual work there was every reason to hope that they would be self-supporting. To effect this result boarding schools were necessary, for in day schools only during school hours were the children protected from evil communications. It was necessary, further, that provision for the education and protection of such children should be compulsory, otherwise there was the absurdity of one township spending money upon them, only to see them at the end of a year removed to a district where such provision was not operative and where they would speedily lose all the advantages which they were in process of gaining. The final problem was to render them when they were grown up self-supporting and to prevent them from aggravating the evil by becoming the parents of a new generation similarly defective. This it was proposed to solve by the institution of colonies where they could work under constant supervision. The large audience which listened to the address showed the interest which many in Birmingham take in the question and gave reason for hope that some serious endeavour would shortly be made to grapple with the subject.

Worcestershire and the Treatment of Consumption.

The annual meeting of the Worcestershire Association for the Prevention of Consumption was held a week ago. The general committee, reporting upon the work done during the year at the sanatorium for the open-air treatment of the disease at Knightwick, was able to make the gratifying statement that in 87 per cent. of the cases in the early stages of the disease the mischief was arrested. So satisfactory were the results considered that the committee recommended the purchase of a site and buildings at a cost of £6000, of which some £2000 have already been promised although no general appeal has yet been made.

The City Analyst's Report.

From the report by the city analyst to the health committee it is found that the adulteration of food is on the decline. Of the samples analysed last year only 5·3 per cent. were adulterated in other ways than by preservatives. Of the samples of milk examined 4·7 per cent. were adulterated with preservatives only and 6·5 per cent. by the addition of water or the abstraction of fat. These figures are lower than those of any previous year. Preservatives were detected in 37 samples of milk, 12 containing borax or boric acid and 25 containing formic aldehyde. Of the samples of butter 5 per cent. were adulterated in other ways than by preservatives. Perhaps the most interesting information referred to the examination of the water. Samples taken from taps from January to October were of the old supply and contained from 26·6 to 36·8 parts of solid matter per 100,000 parts of water; samples taken in November and December were of the new Welsh supply and contained only 8 parts of solid matter in the same volume of water. The amount of hardness had also decreased from 20 parts to 3·5, and whereas the old supply always contained nitrogen as nitrates the new supply is quite free from such suspicious constituents.

Local Bequests.

By the will of Mr. Richard Cadbury the Birmingham General Hospital and the Eye Hospital have each benefited to the extent of £5000, while the Ear and Throat Hospital and the Orthopædic Hospital have each received £2500.—Sir Edward Dolman Scott has bequeathed to the Staffordshire General Infirmary and to the Queen's Hospital, Birmingham, £5000 each.—The residuary interest in his estate which Mr. Best, after directly benefiting certain charities, left to the general purposes committee of the council to be disposed of as it thought fit amounted to £70,000. This sum has now been allocated and in consequence the University receives £20,000, the Birmingham and Midland Institute £3000, and the General and Queen's Hospitals £5000 each.

The Health of Birmingham.

For the week ending March 18th the death-rate was 15·9 per 1000, the zymotic death-rate being 1·2. During that week two fresh cases of small-pox were notified; there were five cases in the special wards at the end of the week. For the week ending March 25th the death-rate was 14·3 per 1000, the zymotic death-rate being 1·1. There was one fresh case of small-pox notified during the week.

April 4th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University of Liverpool: Graduation Ceremony.

AN interesting ceremony took place at the University on April 1st when the degrees of Bachelor of Medicine and Bachelor of Surgery were conferred by Vice-Chancellor Dale upon Mr. J. A. M. Bligh, Mr. D. Elder, Mr. W. D. Higson, Mr. E. F. Hoare, Mr. L. Hutchinson, Mr. J. S. Rowlands, Mr. J. C. Thorburn, Mr. H. W. L. Waller, and Mr. H. F. Woolfenden. The ceremony was witnessed in the Senate room by a number of the graduates' relatives and friends. The candidates were introduced to the Vice-Chancellor by Professor B Moore, the Dean of the Medical Faculty. In an address to the new graduates the Vice-Chancellor reminded them of the Old Students' Association and of the invaluable services which it had rendered to their corporate life.

Infirmary for Children and the Finance Committee of the City Council.

I understand that a deputation from the committee of the Liverpool Infirmary for Children recently waited upon the finance committee of the city council for the purpose of advising the council to grant a sum of money towards the completion of the new hospital, for which there is urgent need. The finance committee could not see its way to accede to the request of the deputation. The supporters of two other Liverpool hospitals at their recent annual meetings have advocated corporate help but so far as I know there is no precedent for such an expenditure.

The Liverpool Medical Institution.

A special general meeting of the Liverpool Medical Institution was held on March 23rd to consider proposals made by the council of the society for enlarging the accommodation by the absorption of the resident librarian's house adjoining the building and for the provision of greater facilities for members and associates. The structural alterations will involve an estimated expenditure of £1700, only a third of which can be safely met by funds at the treasurer's disposal. The meeting sanctioned the proposals of the council in so far as the necessary alterations were concerned but adjourned the consideration of the financial proposals to a future special general meeting.

The Midwives Act, 1902: Registration in Liverpool.

The Midwives Act, 1902, which came into operation on April 1st, makes the registration of midwives compulsory and to be entitled to registration women must either hold [illegible] been in the discharge of the [illegible] previously to July, 1902. Dr. [illegible] of health of Liverpool, has charge of the registration in Liverpool and of the enforcement of the rules which have been made by the Central Midwives Board and approved by the Privy Council. Already a large number of midwives have registered in Liverpool. The city is well supplied with qualified midwives. 70 per cent. have been trained at the Liverpool Lying-in Hospital, whilst others hold certificates from the Obstetrical Society of London. The supervising authority has power to inspect every midwife's case-book, appliances, &c., and, where thought necessary, her place of residence, the object in view being to prevent the spread of puerperal fever.

The Skeleton of Ambush II.

The skeleton of Ambush II., the famous race-horse which carried His Majesty's colours to victory in the Grand National steeplechase of 1900, recently presented by King Edward to the University of Liverpool, has just been mounted on an ebony base. The skeleton at present occupies a temporary position in the centre of the dissecting room of the veterinary school where every detail can be readily seen.

St. Paul's Eye Hospital: Recognition by the University of Liverpool.

AT the recent annual meeting of the supporters of the above charity it was announced that the hospital is now recognised by the Royal Colleges in London and that it forms an integral part of [illegible] connexion with the [illegible] has not yet been able to procure a site on which to erect a new hospital. The managers have approached the corporation several times with reference to certain plots of land but have been unable so far to arrive at an arrangement.

April 4th

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Leeds.

THE rapid growth of the city of Leeds has necessitated certain developments and extensions in connexion with its water-supply, some of which will be immediately commenced. The subject of the "Leeds Waterworks, Old and New" was dealt with in a most interesting manner by Mr. Councillor Armitage, the chairman of the waterworks committee, in a lecture which he delivered before the Leeds branch of the Society for the National Registration of Plumbers. The earliest mention of waterworks in connexion with Leeds was of the date of 1694, when a company was formed for pumping water from the river Aire at a position close to Leeds Bridge. 60 years afterwards this supply was increased and in 1790 the first Act of Parliament was applied for and this Act, amended by another in 1809, was concerned purely with the water from the Aire. In 1837 another Act was applied for as the water of the Aire had become unfit for use. That Act was to impound the water and springs at Adel, Allwoodley, and Harewood in a reservoir at Woodhouse Moor. In 1847 the company obtained powers to pump 2,500,000 gallons per day out of the Wharfe at Arthington. In 1852 the corporation purchased the undertaking from the company for £225,000. In 1862 the amount allowed to be pumped out of the Wharfe was increased to 6,000,000 gallons per day. In 1867 the great Washburn valley scheme was entered upon. Three reservoirs were constructed at Fewston, Swinsty, and Lindley respectively, the last being used as a compensation reservoir. The scheme was finished in 1869 and it was decided to construct the reservoir at Eccup to take the overflow water. The Washburn area was ten and a half miles long and six miles broad. Mr. Armitage then gave an interesting account of the steps taken by the corporation to open out new areas of supply. Extra ground had been secured in the Washburn area to increase the supply and to insure purity, but it was clear that some large scheme was necessary and the Ure valley scheme had been decided upon. The estimated cost of the Ure valley scheme is £2,200,000, including pipe laying. The plans show four reservoirs—viz., those at Colsterdale, Leighton, Carlesmoor, and Laverton—with a capacity of 4,543,000,000 gallons and a daily yield of 15,500,000 gallons. The Colsterdale reservoir will be the largest of the series; it will cover an area of 170 acres and its capacity will be 1,852,000,000 gallons. The daily yield to Leeds will be 7,296,000 gallons and the compensation water will be 3,648,000 gallons. The structure of the embankment was fully discussed by the lecturer. This will be 110 feet in height and will involve the putting together of some 800,000 cubic yards of earth. During the winter months a great deal of discussion went on in the local press and at numerous meetings as to whether on humanitarian as well as economic grounds the work should be done by the corporation which would thus be able to afford employment to those out of work. The matter was fully considered by the corporation which, very wisely as I think, decided that the work should be done by contract. Among the unemployed there may, indeed, be some with the physical strength required for the work of a navvy but as the result of a natural system of selection it is the least skilled and the weakest physically who swell the ranks of the unemployed and certainly the unemployed of a large city are quite unfit for laborious work of this kind. Subject to the approval of the corporation the waterworks committee has accepted the tender of Messrs. R. McAlpine and Co. of Glasgow for the Colsterdale reservoir, which is £297,000. Some conditions attach, however, to the making of the trench. The nature and the direction of the strata it appears are open to doubt, and should these factors prove unfavourable the cost to the corporation may amount to £500,000. The committee has also recommended the appointment of Mr. Henzell, M.I.C.E., as waterworks engineer to the city at a salary of £1000 with staff and office. Accommodation has been provided for about 1000 navvies in the form of a village of huts, with water-supply and drainage system, isolation hospital, surgical hospital, mission room, canteen, and recreation rooms. The corporation is also going to try the experiment of tree-planting in the Washburn valley and a barrack is being erected for the accommodation of about 50 men who will be recruited mainly from the class of the unemployed.

March 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Direct Representation for Ireland on the General Medical Council.

Dr. Leonard Kidd of Enniskillen has announced that he will be a candidate for the representation of the medical practitioners of Ireland at the election for the General Medical Council in January, 1906, Dr. Kidd holding that the Direct Representative should be a general practitioner. Sir William Thomson has addressed a circular letter to the registered medical practitioners of Ireland referring to the work which he has already done for them on the committees of the Council and to the fact that the Direct Representatives are intended to be the protectors, not of any class in the profession, but of the whole body of the profession as distinguished from the representatives of university and licensing corporations. [illegible] from anything personal towards the candi-[illegible] both in Dublin and in [illegible] me has come when a [illegible] ld get a seat on the Council. In Ireland at present there are 2632 medical practitioners and there are seven representatives on the General Medical Council from that country, one each from the Royal College of Physicians, the Royal College of Surgeons, the Apothecaries' Hall, the University of Dublin, and the Royal University of Ireland, one Crown appointment, and one Direct Representative, every one of whom resides within the four walls of Dublin. England and Wales, with 24,351 practitioners, have 17 representatives on the Council and of these only seven reside in London, while ten come from the provinces; Scotland, with 3733 practitioners, has nine representatives, of whom three come from Edinburgh and six from other parts of that country. Surely, following the analogy of England and Scotland, it is hardly fair that in Ireland every representative on the Council should be a Dublin man and that the provincial districts should be without representation.

Fatality from Burns in Dublin.

It has been stated many times that the high mortality in Dublin is largely due to the death of infants. The President of the Royal College of Physicians recently emphasised the fact. Mr. Louis A. Byrne, the city coroner, has just written to the public health committee on the subject, his letter being addressed to Sir Charles Cameron. It is long and contains some important statements. For instance, the number of deaths from burns in 1903 amounted to 39, in the year 1904 to 32, and for the month of January and February in this year 12. The number of burns and scalds treated at Jervis-street Hospital from July 1st, 1904, to March 1st, 1905, was 83. The coroner remarks that this is but a very small proportion of those who have been received in the city hospitals generally. He concludes his letter by strongly recommending the use of a simple and inexpensive screen which should be placed in front of fires in houses containing infants and young children.

Irish Medical Politics.

If perfect contentment with things as they are and a belief that this is "the best of best worlds" indicate a state of stagnation in any body or society it certainly does not exist in the medical profession in Ireland at the present time, for never were there such free expression of opinion and such diversity of views. The Irish Medical Association is in a state of ferment over the report of Surgeon-General G. J. H. Evatt and the last number of the journal of that society shows how wide a cleavage there is in that body, and it is expected that when the members meet at their annual conference on June 7th in Killarney there will be a lively and animated discussion. Even among those most opposed to Surgeon-General Evatt's report there is a unanimity that a reconstruction of the executive of that association is required. Then the Leinster branch of the British Medical Association is at this juncture moving for the formation of an Irish committee which shall report to the central council on any matters specially concerning Ireland; and finally, as indicated above, we have looming in the future an interesting contest for the direct representation of the profession on the General Medical Council, in which the provincial general practitioners will apparently make an effort for representation. All these facts indicate that a remarkable awakening is setting in among the members of the medical profession in Ireland.

The Royal University of Ireland.

The election of six representatives on the Senate of the Royal University of Ireland will take place next month. There are two medical candidates, Dr. J. Walton Browne and Dr. R. W. Leslie who has been nominated as a candidate in place of Professor T. Sinclair (who does not wish re-election) by the Royal University Graduates' Association.

Ulster Hospital for Women and Children, Belfast.

At the annual meeting of the supporters of this hospital held on March 21st it was reported that 261 cases were admitted into the children's wards during the past year, while there were 2261 out-patients, of whom 488 were ophthalmic cases. 82 cases were admitted into the women's wards and there were 553 extern gynæcological cases. 11 women were admitted into the maternity ward and 161 were attended at their homes. The total number of cases afforded relief by the hospital during the year was 3320, an increase of 23 per cent. over the year 1903. The total income was £705 17*s.* 11*d.* and the total expenditure was £950 14*s.*, showing a deficit of £244 16*s.* 1*d.*, equal to about £25 per month. This deficit was met by drawing upon the balance of the Ulidia bazaar proceeds.

The Mater Infirmorum Hospital, Belfast.

From the twenty-first annual report of this hospital for the year ending Oct. 31st, 1904, it appears that there were 1563 intern patients, 2204 accident cases, 345 surgical operations, and 21,900 cases treated in the dispensary. The expenditure for the past year was £5178 13*s.*, leaving a balance due to the bank of £125 7*s.* 5*d.* Additional funds are urgently needed for the ordinary outlay of the hospital and for the development of the convalescent home.

Belfast Ophthalmic Institution.

At the annual meeting of the supporters of this institution held on March 22nd it was stated in the medical report that 2219 extern and 159 intern cases had been treated during the past year. The operations numbered 100. Financially there is a balance due to the bank of £96 5*s.* 7*d.* It is to be regretted that a sum of £50 appealed for in the last report for the proper furnishing of the operating theatre has not been forthcoming. The honorary secretary has again offered that provided the committee raises £100 during the year he will give £50 for pressing alterations in the hospital. During the last four years £440 have been spent in necessary improvements and changes in the building.

Health of Belfast.

At the monthly meeting of the city corporation held on April 3rd it was reported that for the past six weeks there had been no fresh cases of small-pox and that for the past month the death-rate had been 23·8 per 1000. Scarlet fever and simple continued fever are less prevalent, as well as diphtheria and erysipelas, whilst cases of enteric fever are on the increase. The corporation rescinded a by-law passed by the markets committee that "all meat killed outside the city and brought into the city for sale shall, before being sold or exposed for sale, be brought, together with the head, heart, lungs, pleura, liver, spleen, kidneys, intestines, and peritoneum of the same beast, into the market appointed by the council for inspection by one of their inspectors of provisions between the hours of 8 A.M. and 10 A.M., and shall not be sold or exposed for sale until after same has been inspected and passed by him as fit for human food." The council also decided to complete the works for the drainage of the asylum and infectious diseases hospital at Purdysburn, a plan which necessitates the sewage being brought through the city and which has been much objected to by the inhabitants.

April 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Thyroid Grafting.

AT the meeting of the Academy of Medicine held on March 21st M. Lannelongue read, on behalf of M. Gauthier and M. Kummer, a communication relative to a child, aged three years, on whom they had grafted a fragment of thyroid gland taken from a girl afflicted with goitre. The case was interesting as regards cretinism and its modern treatment. Cretinism is due to functional insufficiency of the thyroid gland and both cretins and myxœdematous patients have been successfully treated by giving them the thyroid gland of animals by the mouth. Other observers have thought it better to graft a piece of thyroid gland under the skin and if the graft "takes" it grows and assumes the functions of the normal gland. In the same way ovarian tissue has been grafted on women whose ovaries had been removed and who suffered from disturbances owing to the absence of these structures. M. Lannelongue tried thyroid grafting for the first time in 1890, the graft being taken from a sheep. Later other observers tried the treatment and Christiani of Geneva showed that a graft from a human being was most likely to meet with success. In the case under the care of M. Gauthier and M. Kummer the graft "took" successfully and ten months after the operation the myxœdematous condition of the patient was much improved.

The Purification of Drinking Waters.

The city of Paris is about to open a competition for the ascertaining of the best method applicable to a town supply of purifying water for drinking purposes. Those desirous of competing must send to the Prefecture of the Seine all documents, such as specifications, memoranda, and the like, which will give a complete explanation of the system in question, the results which may be expected from its adoption, the expense of installing the plant, and its method of working for the supply of a definite quantity. Prizes are to be allotted which will vary in amount between 1000 francs and 3000 francs, the total sum to be given in prizes not to exceed 6000 francs.

Trephining for Fracture of the Skull.

At the meeting of the Surgical Society held on March 22nd M. Demoulin read a paper for M. Lenormand concerning the case of a man, aged 35 years, on whom the latter had operated for the following conditions. The patient received a violent blow from a bar on the right temporo-parietal region. He received a first dressing and was able to walk for a distance of 200 metres. During the night he vomited and the following morning he was taken to the hospital. On being examined 36 hours after the accident he was found to have an enormous hæmatoma of the injured region, with depression of the bone, a raised temperature, some incoördination of the movements of the left arm, and explosive phonation (*bredouillement de la parole*). Operation was decided upon, the blood clot was removed, and the underlying bone was found broken into fragments which were removed. There was no blood within the skull but the dura mater was torn for about four centimetres. This was sutured and the external wound was drained. Next day the facial paralysis had disappeared and a few days later the patient was well. Despite the favourable outcome of this case M. Demoulin considered that in view of possible infection of the tissues underlying the dura mater it would have been preferable to enlarge the opening in that membrane and to examine the arachnoid cavity. The dura mater should then have been partly sutured, a small drain being left in. This course M. Demoulin proposed to follow in a similar case.

Demonstrations by Medical Students.

The medical students of Paris considering themselves aggrieved by the severity of M. Gariel, professor of physics, in his capacity of examiner, organised demonstrations against him, both during his lectures and outside his house. The police were called in and the chief of the municipal police struck a student with a cane. This incident gave rise to great excitement in the Quartier Latin and on, March 20th 1500 students demanded the dismissal of the chief of the municipal police. That official appealed to the prefect of police, M. Lepine, who in the presence of the students blamed the action of the chief of the municipal police and promised to send to the corporate association of the students of medicine a letter putting this opinion on record, which letter was sent directly on M. Lepine's return to the prefecture. The students dispersed but M. Debove, dean of the faculty of medicine, has suspended M Gariel for the time being from lecturing.

April 3rd.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Annual Report of the Montreal General Hospital.

THE eighty-second annual meeting of the corporation and board of governors of the Montreal General Hospital took place during the last week of February, when it was announced that the annual income for 1904 had fallen off to the extent of $7605, which has caused the board of management no little anxiety. The income for 1904 amounted to $83,589 and the expenditure to $95,508.88. The board of management expressed the hope that the citizens of Montreal would come to its aid, so that there would be no necessity to limit the number of patients per month in the institution, as the board of management had to do in 1869, with a deficit of half of the present shortage. During the past year $25,000 have been added to the endowment fund, which brings the total amount of that fund up to $75,000. Dr. F. G. Finley, the secretary, presented the annual medical report, which showed that the total number of patients passed through the wards was 3144 as [illegible] emained in the hospital 201 at [illegible] scharged during the year numb [illegible] deaths. The percentage of mortality was 7·98, or 4·9 exclusive of deaths occurring within three days of admission. The average number per diem in the wards was 189·1 and the average number of days spent in the wards by each patient was 22·05. The aggregate [illegible] patients in the hospital [illegible] patient daily was $1.3[illegible] In the outdoor departments there were 1973 males and 1171 females treated and 38,922 consultations. The ambulance responded to 1511 calls. Dr. Finlay was re-elected secretary. The staff elected for the ensuing year was as follows:—Physicians: Dr. W. A. Molson, Dr. A. D. Blackader, Dr. Finley, and Dr. H. A. Lafleur. Surgeons: Dr. F. J Shepherd, Dr. George E. Armstrong, Dr. J. A. Hutchison, and Dr. J. M. Elder. Assistant physicians: Dr. F. W. Campbell, Dr. G. Gordon Campbell, and Dr. S. Ridley McKenzie. Assistant surgeons: Dr. Kenneth Cameron, Dr. Charles W. Wilson, and Dr. J. Anderson Springle. Specialists: diseases of the eye and ear, Dr. John J. Gardner. Assistant in diseases of the eye and ear, Dr. J. W. Stirling. Gynæcologist: Dr. F. A. L. Lockhart. Assistant gynæcologist: Dr. John D. Cameron. Laryngologist: Dr. D. H. Hamilton. Assistant laryngologist: Dr. George K. Grimmer. Neurologist: Dr. David A. Shirres.

Tuberculosis discussed in the Canadian House of Commons.

A motion was a short time ago presented to the Canadian House of Commons by one of the hon. members thereof, the substance of which was to the effect that the time was opportune when the Canadian Government should materially assist in the work of checking the ravages of the "great white plague." The motion met with the hearty and unanimous sympathy of the entire House and will be sure to do a great deal of good in fighting this disease. One good outcome of the resolution will be that it is not alto- [illegible] will appoint a Royal [illegible] t of tuberculosis in [illegible] bt, also be empowered to make representations as to the best means of combating the spread of the disease. The annual meeting of the Canadian Association for the Prevention of Tuberculosis took place at Ottawa, when Professor J. George Adami of McGill University, Montreal, [illegible] to the Fellowship of the Ro[illegible] ress on Adaptation in Consumption.

Canadian Medical Men and North-West Autonomy.

The Prime Minister, Sir Wilfrid Laurier, has introduced a Bill into the Federal House of Commons to provide for the creation of two provinces out of what have heretofore been denominated the North-West Territories; and as a result some of the medical profession in the other provinces of Canada feel exercised as to whether the matter of registration to practise there is going to be left in the hands of the respective new legislatures. In fact, some of the local medical societies of Canada have had the matter under discussion and in certain quarters there prevails the opinion that the question of registration in the two new provinces should, for a few years at any rate, be left open, so that those practitioners who are registered in the older provinces could have a chance to register there should they so desire. The argument has been advanced that as the Government of Canada purchased this vast country from the Hudson's Bay Company the physicians of Canada, those of the older provinces which then constituted the Dominion of Canada, have a right in it as well as those of the balance of the community. The *Dominion Medical Monthly*, which circulates largely throughout Manitoba, the Territories, and the West, advises that the medical men of the two new provinces have the right to legislate as they see fit until such times as Dominion registration becomes the medical law of Canada.

Amalgamation of McGill Medical Faculty and Bishop's Medical College.

Following the example set by the medical faculty of the University of Toronto and the medical faculty of Trinity University, Toronto, McGill medical faculty and the medical faculty of Bishop's College University of Montreal are talking of amalgamation and there appears to be every likelihood that the amalgamation will take place. Meetings of representatives of the two faculties have been held but nothing has been given out for publication of a tangible character. Consolidation, however, is not far off. McGill University probably feels that it must do something to keep pace with its great rival Toronto. Now, of course, in the matter of students the University of Toronto leads by many and is continuously gathering in students from quarters which a few years ago were looked upon as McGill University's special preserves. The union is a desirable one.

Toronto, March 9th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Council on Pharmacy and Chemistry.

THE American Medical Association has, as I said in my letter a fortnight ago, established a Council of Pharmacy and Chemistry the purpose of which is to examine into the composition and status of the various medicinal preparations which are offered to physicians and which are not included in the United States Pharmacopœia or in other standard text-books or formularies. These preparations will include the synthetic chemical compounds as well as the so-called proprietaries and pharmaceutical compounds put out under trade-mark names. Rules governing the matter have been established and preparations which conform to the standard fixed by the rules will be incorporated in a book entitled "New and Non-official Remedies" and issued by the American Medical Association. The acceptance of an article will be based on a careful and unprejudiced examination of the accessible information from all sources and in compliance with the adopted rules. An acceptance is not to be interpreted as an endorsement, neither is omission from the list to be construed in every case as condemning an article, for it may mean that the necessary information has not been obtained. The council does not pass judgment on the therapeutic value but on the ethical status only; neither does it presume to dictate what preparations shall be prescribed but supplies necessary and desirable information concerning those which it considers unobjectionable. The council believes that there are many articles at present not recognised by the Pharmacopœia which comply with the required standard and do not need any farther investigation. Some of the more important rules adopted by the council are as follows:—

1. No article will be admitted unless its active medicinal ingredients and the amount of such ingredients in a given quantity of the article are furnished for publication.

2. Information must be furnished as to tests for identity, purity, and strength, and if a synthetic compound the rational formula.

3. No article that is advertised to the public will be admitted except [illegible] mineral waters. [illegible] whose label, package, or circular [illegible] he treatment of which the article is indicated.

There are ten rules of this kind. The members comprise the leading pharmacists of the country.

Tent Treatment for Consumption.

The Hudson County (New Jersey) board of freeholders, according to the New York *Sun*, has decided to establish a hospital for pauper tuberculous patients. Large tents will be used and the out-of-door treatment will be followed as closely as possible. The county authorities have had their attention called to the necessity of separating consumptives from the other inmates of the almshouse. It was at first proposed to establish a trolley car colony for those suffering from pulmonary tuberculosis and the president of the public service corporation offered to place a quantity of abandoned trolley cars at the disposal of the almshouse authorities. They, however, concluded that the tents would be cheaper and more serviceable than the old cars.

Sanatorium for Inoperable Cancer.

A sanatorium at Fairhaven, near New York, for the treatment of cases of inoperable cancer will soon be incorporated. The need of such an institution is testified to by all New York physicians and the only obstacle standing in the way is lack of funds for its first year. The Fairhaven sanatorium will be used solely for inoperable cases which are not admitted to the wards of general hospitals. The medical profession is particularly anxious that an institution of this nature should be established, for the reason that it would afford an opportunity for an exhaustive study of the disease. A medical board has been decided upon to aid in the management of the institution, consisting, among others, of Dr. William B. Coley, Dr. B. F. Curtis, Dr. George F. Shrady, Dr. Austin Flint, jun., Dr. A. Blake, and Dr. Edward B. Cragin.

Yellow Fever on the Isthmus of Panama.

Yellow fever is somewhat prevalent on the Isthmus of Panama and in consequence of this fact General Davis, Governor of the Panama Canal zone, has notified the Secretary of War that he can dispense with nearly all the marines on the isthmus. Accordingly the Secretary of the Navy has been called upon to order all the marines north except about 100.

Cerebro-spinal Meningitis in New York and Philadelphia and in other American Towns.

Cerebro-spinal meningitis has been remarkably prevalent in New York during the past few weeks. In Philadelphia, too, there has been a large number of cases of the same disease. The last great epidemic of this malady in New York up to this year took place in 1872. From Jan. 1st to Nov. 1st at that time there were reported to the health department a total of 990 cases, of which 761, or nearly 77 per cent., proved fatal. During February of this year 149 deaths occurred in this city from cerebro-spinal meningitis and the disease shows little signs of abating. Dr. Craig of Philadelphia was recently attacked by the disease and died before he could be isolated. On March 18th cerebro-spinal meningitis was discovered in the Philadelphia Hospital and Almshouse and the greater part of that institution has been placed under strict quarantine. So serious is the situation thought to be in New York that an appropriation has been made by the city board of estimate to allow for the appointment of a commission to investigate and to endeavour to discover a preventive of cerebro-spinal meningitis. Dr. Darlington, president of the New York health department, has appointed the following commission: Dr. William Polk, chairman, dean of Cowell Medical College; Dr. Walter B. James, professor in the New York College of Physicians and Surgeons; Dr. William P. Northrup, professor in children's diseases in Bellevue Hospital and at the University of New York; Dr. Simon Flexner, head of the Rockefeller Institute; Dr. Joshua M. van Cott, pathologist at the Long Island College; Dr. E. K. Dunham, pathologist of Carnegie Laboratory; and Dr. William K. Draper, visiting physician at the Bellevue and Minturn Hospitals. The commission will not undertake any active work but physicians who have cases of cerebro-spinal meningitis will be requested to make experiments and tests and send them to the commission, the members of which will consider them and endeavour to devise means of preventing the disease or of alleviating its spread. As in other epidemics most of the victims are children, especially those from one to five years of age, and the majority of them are drawn from the lower classes. Cerebro-spinal meningitis is supposed by some to follow severe winters but the history of the disease does not altogether bear out this view. In Yonkers, a town situated about 20 miles from New York, 39 deaths from the disease have occurred since the blizzard of Jan. 25th.

March 27th.

Medical News.

VICTORIA UNIVERSITY OF MANCHESTER.—Degrees were conferred upon the following candidates in March:—

Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.).—George Duncan Dawson*, Eric Maurice Wilkins*, Frank Leigh Boag, Archibald Cambell, Catherine Louisa Corbett, Joshua Bower Dalton, Ronald Leslie Ferguson, Henry Edward Tox, Wilson Harold Hey, Richard Woodward Higson, Ernest Hulme, Thomas William Lonsdale, George Gray Parkin, James Smalley, Henry Thorp, David Walker, and John Stirling Young.

* Second-class honours.

UNIVERSITY OF LEEDS.—The following candidates have passed in the several examinations which have just been held:—

Second M.B., Ch.B.—W. L. Dibb and W. D. Hamilton.

Final M.B., Ch.B.—Part I.: E. R. Flint, F. E. Kendall, and W. O. McKane. Part II.: F. Bailey, C. N. Smith, A. B. S. Todd, and M. G. L. Walker.

In conferring the degrees on those who had passed Part II. the Vice-Chancellor remarked on the appropriateness of the first degrees in the University, other than honorary degrees, being conferred in medicine and in the buildings of the medical school, which was the oldest department of the University.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

David Rutherford A[illegible] *P.,* C.*), Andrew Clark Anderson (Z[illegible] (Z., C.), William Anderson (Z., C.) [illegible]nstrong (P., C.), James Currie A[illegible] (Z., C.), Arthur Munby Bayne (Z[illegible] Beard (B., Z.), Charles Stewart [illegible] P., C.), Douglas Morris Borland (Z.), Charles Brash (B., P.), Morris William Broudy (B., Z., P., C.*), Alexander Hogg Brown (B., Z., C.), Carl Joseph Barrett Buchheim (B., Z.), John Adam Gib Burton (Z., P., C.), John Allan Munro Cameron (Z.,* P.*), Andrew Hood Clark (Z., C.), James [illegible] Cook Coalburn (B., Z.), Rutherford [illegible] B., Z.), Charles Duguid (Z.,* C.), Don[illegible] Scoular Fleming (Z.), George Fletcher, M.A. (Z., C.), Robert Dunlop Black Frew (P., C.), James Brunton [illegible] (Z.), William Ernest Gemmell (Z.), Da[illegible]), Robert I[illegible]),

Edward O'Driscoll Graham (Z), Joseph Graham (B, Z, P, C), John Granger (Z, C), Kenneth Charles Gordon Gray (Z, C), Albert William Gregorson (B), George Haddow (Z, P.), John M'Lean Hendry (P., C), Bentley Moore Hunter (Z., C.), James Walker Jones (Z, C), John Parlane Kinloch (Z, P.) Thomas Joseph Kirk (B
), John Lang (C),
Alexander Leis
Lindsay (Z, C.),
George Smith
, M A. (Z,* C.*),
James Macallan
acartney (Z, P),
Frank Crombie
(Z, C), William

Women —Christina Barrowman (P., C). Margaret Baird Sproul Darroch (C.), Mary Cochran Mitchell (C), Margaret Muir (C), Jessie Deans Rankin (P.*), Margaret Pason Robertson (P.,* C), Olive Robertson (P.), and Margaret Elizabeth Rutherfurd (C.)

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M B) and Bachelor of Surgery (Ch B) in the subjects indicated (A., anatomy; P, physiology; and M., materia medica and therapeutics):—

Wallace Wright Adamson (A., P*), Alexander Anderson (A, P), Andrew Hamilton Arnott (A), David Arthur (A, P), Herbert Bertram (A., P, M), Robert Inglis Binning (A., P.), William Brown, M.A. (A., P.), Murdo Buchanan (A.), James Cairncross

William Cooper Gunn (A., P.,* M.), Thomas Harkin (P, M), John Mitchell Henderson (P), Archibald
(A, P,* M),
,* P*), James
P), George
M), Thomas
P), James
M), Robert
(M), Murdo
(M), Allison
David
(P M),
Arthur
John M'Vittie
(A., P
Hogg Martin
(A,* P
ederick Miller
(P, M
t Miller (M.),
Williar
Charles Muir
(P., M
, John Oswald (M), Isaac Papiermeister (A, P., M), Donald Renton (A, P, M), Murdoch Mann Rodger (M), Alexander Scott (A, P, M), George
ohn Smith, M.A. (A, M.), John
Steedman (A., P, M),
am Stevenson (M), John
Weir Stewart (M.), Matt
Struthers (A., P, M.),
Taylor (A, P), Hugh Jo

and Matthew Young (A.,*

The following have passed the third professional
tion for the degrees of Bachelor of Medicine (M
Bachelor of Surgery (Ch.B.) in the subjects

(P., pathology; and M., medical jurisprudence and public health):—

James Montgomery Anderson (P, M), Thomas Barbour, B Sc (P,

guson Mackenzie (P), William
bell M'Neill (P, M), Charles
William Hislop Manson M A
John Miller (P., M), Peter
Moir (P, M), Patrick Joseph
(P., M). Arthur Geoghegan Paxton (P., M.), John Reid (M),
Frederick Gordon
(P, M), John
Charles Donal
William Sme
Stevenson (P
Stewart (P),
Thomson (P
Williams (P., and Moses Youdelevitz (P).

Women —Rose Isobel Hudson (M), Edith Oversby (P., M). Agnes Picken, M A (P, M *), Margaret Baillie Taylor (M), and Christina Gibson Thomlinson (P.)

Robert Stewart M'Kim, M A., has passed the third professional examination (regional anatomy, materia medica and pharmacy, and pathology*) for the degrees of Bachelor of Medicine and Master in Surgery (M B, C M).

* Passed with distinction in the subjects indicated.

TRINITY COLLEGE, DUBLIN.—At examinations for the diploma in public health held in Hilary term the following candidates were successful:—

Part I —Robert J. Fleming and Douglas S B Thomson.

Part II —Thomas P. Griffin and Douglas S. B Thomson

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Professor Rudolf Renvers, Director of the Medical Department of the Moabit Hospital and surgeon-general in the Prussian army, has been ennobled. Dr. Renvers attended the late Empress Frederick for many years. The following *privat-docenten* have been granted the title of Professor: Dr. Ferdinand Blumenthal, assistant to Professor Leyden in the First Medical Clinic, Dr de la Camp, assistant in the Second Medical Clinic; Dr. Adolf Magnus Levy, formerly assistant to Professor Naunyn in the Strasburg Medical Clinic; and Dr Walter Stoeckel, who has charge of the Gynæcological Institute of the Charité under Professor Bumm.—*Brussels:* Dr. Gallemaerts has been appointed Professor of Ophthalmology and Director of the Eye Clinic.—*Budapest:* Dr S. Beck has been recognised as *privat-docent* of the Dermatology of Children.—*Cologne (Academy of Practical Medicine):* The chair of Pathological Anatomy has been offered to, and accepted by, Dr Leonhard Jores of Brunswick.—*Florence:* Dr. A. Perassi of Turin has been recognised as *privat-docent* of Surgery and Operative Medicine.—*Heidelberg:* Dr Peckert has been recognised as *privat-docent* of Odontology.—*Munich:* Dr Erich Meyer has been recognised as *privat-docent* of Internal Medicine.—*Naples:* Dr. Antonio Iovane has been recognised as *privat-docent* of Pædiatry.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the list of prizes awarded for the winter session, 1904-05.—Descriptive Anatomy: Junior. G. C. Sneyd, first
and R. Adams, second prize (£1) and
H. W. White, first prize (£2), and
y, second prize (£1) and certificate.
y: First year. Miss I. M. Clarke, first
edal, and C Greer, second prize (£1) and
nd year: G. S. Levis, first prize (£2) and
ey, second prize (£1) and certificate.
Lucas, first prize (£2) and medal;

and G. M. Loughnan, second
Physiology: A. E. S. Martin, first
G. S Levis, second prize (£1)
R. H. F. Taaffe, first prize (£2)
and Miss I. M. Clarke (equal),
Pathology: G. F.
and C. J. Hare, second
R. Adams, first prize

(£2) and medal; and Miss I. M. Clarke, second prize (£1) and certificate.—The lectures and practical courses of the summer session commenced on Monday, April 3rd.

The congratulatory dinner to Dr. C. Owen Fowler, who was recently acquitted of foul and baseless charges brought against him in the divorce court, will be held on Thursday, May 4th, at 8 o'clock, at the Greyhound Hotel, Croydon. Tickets, exclusive of wine, 5*s.* each, may be obtained from Mr. C. M. Fegen at the Town Hall, Croydon.

Royal Infirmary, Leeds.—The governors of this institution have, on the recommendation of the board, passed rules to prevent any honorary officer appointed under the 1884 rules from holding office beyond the age of 65 years and to prevent any honorary officer to be hereafter made a member of the staff from holding office beyond the age of 60 years, the 20 years' limit of service being also retained. The board also recommended that every honorary assistant physician or surgeon should be obliged to retire after ten years' service and to submit himself for election as honorary physician or surgeon with charge of out-patients and that the succession of the honorary physician or surgeon with charge of out-patients to the post of full physician or surgeon should be by seniority only and that honorary assistant physicians or surgeons should, after five years' service, automatically succeed to the charge of a limited number of beds in the infirmary. It may be pointed out that when a member of the full honorary staff has completed his term of office—that is to say, a term of 20 years—or in the case of anyone who may be elected in the future either a term of 20 years or such term until he attains the age of 60 years, he retains as honorary consulting physician or surgeon the right to the use of six beds.

New Hospital for Skin Diseases, Manchester.—The new building for the Manchester and Salford Hospital for Skin Diseases in Quay-street is now nearly completed. The site is adjoining the old hospital at the corner of Byrom-street and Quay-street. It has only been possible to proceed with about two-thirds of the new hospital at present, i.e., the central administrative block and the right wing, with wards, yards, and large waiting rooms for out-patients. When the new buildings are ready for occupation the old house will be pulled down and on its site the left wing will be built. The new hospital will contain 28 beds and the out-patients' room will seat 200 patients. There will be an operating theatre and mortuary and the usual appliances of a hospital. It is estimated that the total cost will be more than £38,000, of which £32,000 have been raised. Manchester soon followed London in the use of Finsen's treatment. The Queen, when Princess of Wales, presented the first set of Finsen's instruments to the London Hospital and takes, as is well known, much interest in the "light" treatment of skin diseases, and the committee is hoping that she will "lend her presence to the opening of the new hospital." Last year there were more than 57,000 attendances, 34,494 of which were by ordinary patients and 22,665 by "light" patients. They come from a very wide area. Bolton and Oldham each sent over 2300, Bury sent 1100, Stockport nearly 1000, while about 2500 were from Rochdale, Macclesfield, Burnley, Crewe, Warrington, Blackburn, and Northwich. During the year patients came from 250 towns and villages. This is mentioned in order to call attention to the great burden laid on the city charities by an outside population, thoroughly appreciative of the benefits to be derived from them but unfortunately not equally mindful of the fact that privileges involve duties and that the districts receiving benefits from medical charities should help in their support more liberally than many of them do at present. There was a deficiency last year of £270.

Coal Smoke Abatement Society.—At the Haymarket Theatre, London, W., on March 30th the Duke of Fife presided over the annual general meeting of the above society. The report stated that during the year a marked increase of interest in, and sympathy with, the object of the society had been shown. A supplementary report of the Meteorological Council on London fogs had been issued and its recognition of the society's work and its insistence that smoke was the main cause of those fogs which were bad enough to interfere with river traffic had encouraged the society to request the port sanitary authority to receive a deputation on the subject and that authority, which was showing great activity and interest in the matter, had readily consented. The help which the society received from public bodies generally was very satisfactory but the borough of West Ham provided a serious instance of official neglect. Since May, 1901, when the society began its observations there, 911 reports of serious emissions of black smoke within the area had been forwarded to the local authority, yet no effective steps of any kind had been taken to abate the evil. Every resource had been exhausted by the society to induce the Local Government Board to intervene, but notwithstanding the precedent of Brentford it refused to move in the matter. From Jan. 1st to Dec. 31st, 1904, the society's inspector reported 1550 observations of smoke pollution which led to the detection of 988 cases of nuisance, and upon those observations 949 complaints were forwarded to the various local authorities within the metropolitan area. In opening the proceedings the Duke of Fife congratulated the society on the work that it had done but complained that the society did not advertise itself enough. Until a few weeks ago he himself was unaware of its existence. On the motion of Dr. H. A. Des Vœux (the secretary) the report was adopted. The meeting terminated with votes of thanks to Mr. Cyril Maude, Mr. Frederick Harrison, and the chairman.

The Metropolitan Asylums Board and the Treatment of Consumption.—The much-discussed question as to whether the Metropolitan Asylums Board should be the authority for dealing with the consumptive cases in the metropolis has been raised again by the metropolitan branch of the Incorporated Society of Medical Officers of Health, which has asked the Board to receive a deputation on the subject. At a meeting of the Board on April 1st a letter was read from the society, stating that the question of the urgent need that existed at the present time for the provision of sanatoriums for metropolitan consumptives had been under discussion, and in view of the urgency of the matter it was decided to organise an influential deputation to wait upon the Metropolitan Asylums Board for the purpose of representing the desirability of the Board undertaking the duty of sanatorium authority for the metropolis at the earliest possible date. In coming to that decision the society was mainly influenced by the fact that the Metropolitan Asylums Board, by reason of its practical experience in regard to the provision of hospitals and the treatment of the infectious sick, was eminently qualified for the discharge of the important duty of dealing with metropolitan consumptives, a duty the effective performance of which could not fail to be attended with great advantages in the interests of public health. The letter further stated that the deputation would be composed of representatives from various public bodies, including the Royal College of Surgeons of England, the Royal College of Physicians of London, the National Association for the Prevention of Consumption and other Forms of Tuberculosis, the Royal Institute of Public Health, the National Health Society, and the Royal Sanitary Institute. The Board decided to receive the deputation at its meeting on Saturday, April 15th.

Dinner to Dr. F. T. Roberts.—On March 29th Dr. F. T. Roberts was entertained to dinner at the Hôtel Dieudonné by his past and present house physicians at University College Hospital. The chair was taken by Dr. F. W. Mott, F.R S., who was supported by about 30 former residents, including Mr. Charles Stonham, Mr. Percy Flemming, Dr. Walter W. H. Tate, Dr. W. T. Cocking (Sheffield), Dr. W. Mitchell Stevens (Cardiff), Dr. Bertram L. Abrahams, Dr. W. H. B. Stoddart, Dr. Charles Bolton, and Dr. D. N. Nabarro. Letters and telegrams were read from old pupils in India, Italy, and the provinces who had been prevented from attending. Dr. Roberts's health was proposed by the Chairman who referred to the fact that the master whom they were met to honour had been for 35 years, clinically speaking, one of the pillars of University College Hospital, and said that if he had not laid the bricks to the new building which was about to be opened he had at least cemented them with his brains. A time rule was about to sever Dr. Roberts's active connexion with the staff but he was still a young man both mentally and physically, and all who had ever worked under him hoped that he might for many years be spared to help them in consultation. Mr. Stonham also spoke to the toast and attributed much of his progress in surgery to the cultivation of his powers of observation to which he was incited by Dr. Roberts. He referred also with high appreciation to the standard of character which Dr. Roberts upheld and lived up to, so that all who experienced his kindness and straightforwardness were ever after the better for it. Dr. Roberts, who was accorded a *most enthusiastic reception, gave a short history of his* career. He stated that no fewer than 16 of his old house physicians were now on the staffs of general hospitals; to his residents and clinical clerks he owed much of the happiness which he had experienced during his long connexion with University College Hospital. Personally he hoped that he had never said an unkind word or done an unkind deed to anyone. He looked forward to the vacancy which his resignation would cause being filled by one of his former house physicians and he announced that far from giving up work he proposed, in addition to continuing his practice, to devote more time to writing than he had of late years been able to spare. He concluded by toasting the organisers of the dinner. Dr. Mott and Dr Abrahams responded. During the evening songs were contributed by Dr. Roberts himself, Dr. Mott, Dr. Tate, Dr. Banham, and Dr. Stoddart. An album, which it is hoped will contain signed photographs of all his old house physicians, is in preparation and will be presented to Dr. Roberts when complete.

DONATIONS AND BEQUESTS.—By the will of Mr. Henry Allen of Bolney, Sussex, £1000 are bequeathed to St. Mark's Hospital, £500 to the London Fever Hospital, £300 to St. Mary's Hospital, £300 to the Brompton Hospital for Cancer, and £100 to the Dorking Cottage Hospital.—The late Mr. Edward Crossley of Halifax has left £1000 to the Royal Halifax Infirmary and £500 to the Royal Isle of Wight Hospital.—The Goldsmiths' Company has contributed a special grant of £200 towards the debt of £3000 incurrred last year in maintaining the patients at the Royal National Hospital for Consumption at Ventnor.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Wilhelm Schulek, late professor of ophthalmology in the University of Budapest, at the age of 62 years.—Dr. Paul Garnier, chief medical officer of the Police Infirmary, Paris.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Amendment of Infant Life Protection Act

A BILL to amend the Infant Life Protection Act, 1897, has been introduced by Mr SPEAR and has the support of Mr DUKE, Mr SCHWANN, Mr LINDSAY HOGG, Mr MELVILLE, Sir JOHN KENNAWAY, Mr MILDMAY, Mr. ALLEN, Sir JAMES FERGUSSON, and Mr. RUNCIMAN The following memorandum explains its scope. By the Infant Life Protection Act, 1897, a person receiving for hire or reward more than one infant under five years of age for the purpose of nursing or maintaining such infants apart from their parents for longer than 48 hours or receiving an infant under two years of age, to bring up in consideration of a sum of money not exceeding £20 paid down, is obliged to give notice thereof within 48 hours to the local authority, as defined in such Act Such local authority is obliged to appoint inspectors to inspect such infants Failure to give such notice renders the offender liable in the first mentioned case to a fine of not less than £5 or *to imprisonment for not* more than six months, and in the second mentioned case to only forfeiture of the amount received. If any infant, as aforesaid, is kept in any house or premises which are so unfit or overcrowded as to endanger his health, or is retained or received by any person who by reason of negligence, ignorance, or other cause is so unfit as to endanger the child's health, the local authority may order the removal of the infant to the workhouse or a place of safety until he can be restored to his relatives or guardians or otherwise lawfully disposed of The object of this Bill is to extend the provisions of the Act to cases where only one child is taken in to be nursed or maintained and to any child received in consideration of a sum of money paid down, whatever the amount may be; to raise to seven years the age limit of children within the Act, to render any person failing to notify the reception of an infant adopted in consideration of a lump sum payment to fine or imprisonment as above mentioned, as well as to forfeiture of the amount received; to make it clear that the inspection of children within the Act shall extend up to their reaching seven years or earlier removal by the local authority; to enable the local authority to remove an infant kept by a person who is unfit by reason of character or otherwise to have his care and maintenance or who is in a house or premises unsuitable *for the purpose, although* such person or premises are not so unfit as to endanger the child's health, and to require notice to be given of all changes of residence of a person having the care or custody of children within the Act under penalty of imprisonment or fine

Vaccination Bills.

Reference has already been made in THE LANCET to the two Vaccination Bills introduced by Mr. HENRY BROADHURST The texts have now been issued to Members In the first Bill the two operative clauses are as follow "1. From and after the passing of this Act the compulsory vaccination of children shall be abolished throughout the United Kingdom. 2 Henceforth it shall not be lawful to take proceedings for procuring the vaccination of any child or for punishing any parent or other person for not complying with any order for the vaccination of a child or with any statutory requirements for the vaccination of children" The second measure is somewhat more elaborate The second clause provides that "from and after the passing of this Act any parent may, on registering the birth of a child within the period limited by law and on payment of a fee of 1s, declare his or her conscientious objection to having the child vaccinated The registrar of births and deaths shall thereupon make a written memorandum of the said conscientious objection, such memorandum to contain the names and address of the parent and the dates of the birth of the child and of the registration thereof [illegible] registrar the memoran[illegible] necessary details [illegible] *of the* memorandum, one of such copies to be delivered to the parent making the declaration, a second copy to be retained by the registrar subject to any special or general instructions which may be issued by the Registrar General, and a third copy to be transmitted to the vaccination officer along with the list of births, which includes that of the child in respect of whom the declaration is made The local registrar of births and deaths shall be entitled to retain for his own use any fees paid under this section In the third clause it is laid down that after making such a declaration neither the parent who made it nor any person having the custody of the child in respect of whom the declaration has been made shall be liable to any proceedings in respect of the non vaccination of, or for procuring the vaccination of, the child It is not proposed that the measure should apply to either Scotland or Ireland.

The Accounts of Medical Councils

The accounts for 1904 of the General Medical Council and branch councils and of the Dental Registration Fund were laid upon the table of the House of Commons this week This is, of course, an annual formality

The Sale of Butter Bill

The Government Bill to amend the law with regard to the sale of butter has now been presented and read a first time When it will be read a second time is a question which the President of the Board of Agriculture himself might have difficulty in answering In the meantime its progress is blocked by Mr MACDONA, Sir JOHN ROLLESTON, and Mr MOSS

The Registration of Nurses

A select committee has been appointed on the initiative of the Government to consider the expediency of providing for the registration of nurses It consists of Mr ROBERT AMBROSE, Major KENNETH BALFOUR, Mr CHARLES DOUGLAS, Mr. CHARLES HOBHOUSE, Dr O F HUTCHINSON, Mr MOUNT, Lord MORPETH, Mr PIERPOINT, Mr TENNANT, Sir JOHN STIRLING-MAXWELL, and Sir JOHN BATTY TUKE The Bill on the subject which was introduced some weeks ago by a private Member has met an opponent in Mr HARRY LAWSON.

The London Hospitals and Rating

Mr HAYES FISHER has prepared a Bill to provide for the exemption of London hospitals from local rates.

Experiments upon Dogs

Dr HUTCHINSON has given notice of his intention to move the rejection of the *Dogs (Protection)* Bill

Medical Officers of Health and Inspectors

Another direction in which Dr. HUTCHINSON is exerting himself is in connexion with the qualification and tenure of office of medical officers and inspectors He has brought in a Bill on the subject

[illegible] tion to the Pharmacy Bill

[illegible] down blocking [illegible] opposition has been strengthened by the addition of the name of Mr. ALBAN GIBBS

The Sale of Whisky Bill.

Major JAMESON and Mr SAMUEL YOUNG have determined to do all they can to stay the progress of Sir HERBERT MAXWELL'S Sale of Whisky Bill. Both have notified their intention to move the rejection of the measure on second reading.

Amendment of the Lunacy Act.

On April 5th Sir JOHN BATTY TUKE introduced a Bill to authorise the London County Council to provide receiving houses for the reception of persons mentally afflicted or alleged to be of unsound mind and to authorise the detention of such persons in such houses *and for other purposes* connected therewith.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 29TH.

Medical Officer for Long Island.

Mr. WEIR asked the Lord Advocate whether the Secretary for Scotland had yet received a report from the Lewis district committee relative to the appointment of a medical officer of health for the Long Island; and in the event of effect being given to the suggestion whether [illegible] the new officer to be responsible [illegible] and not to the medical officer of [illegible] to the firs [illegible] second part, I have nothing to add to [illegible] Member on March 14th.

The Residence of an Irish Medical Officer.

Mr. HEMPHILL asked the Chief Secretary for Ireland whether his attention had been called to a letter of Mr. John McGlinchy, dated March 6th, sending to the Local Government Board a petition signed by 220 ratepayers in the Castlederg and Killeter No. 2 dispensary district of Castlederg union, North Tyrone, relative to the place of residence of the medical officer, and complaining that his residence was on the bounds of the district, which imposed on many of the destitute poor when requiring medical aid the necessity of travelling up to 12 miles in all weathers for the purpose of obtaining it; and, if so, whether he would take the necessary steps to obviate this and to insure that the medical officer might take up his abode in a central position in his district which would be reasonably accessible to all the poor inhabitants who were entitled to medical aid.—Mr. LONG answered: The petition did not allege that any hardship to the sick poor had resulted from the position of the medical officer's residence. The officer in question has complied with the terms of his appointment by residing within his district and the Board sees no reason for interfering in the matter upon the facts at present before it.

The Prime Minister and Vaccination.

Mr. WEIR asked the First Lord of the Treasury whether, seeing that candidates for the public service were not allowed to take up appointments unless they had been vaccinated and that this regulation penalised candidates who had a conscientious objection to vaccination, he would take such steps as might be necessary to enable such candidates to obtai [illegible] said: I [illegible] the que [illegible] being v [illegible] underst [illegible] object?—Mr. BALFOUR: I can understand an objection to being vaccinated, just as I can understand objection to sleeping in an insanitary room; but the objection is not a conscientious one, it has nothing to do with conscience.—Mr. WEIR added that he would take an opportunity of referring to the subject and showing that it might be a case of conscience.

THURSDAY, MARCH 30TH.

An Admiralty Appointment.

Mr. CONOR O'KELLY asked the Secretary to the Admiralty whether he would state [illegible] the application of Mr. P. J. McHale, medica [illegible] strict, for the appointment of surgeon to the [illegible] was rejected, seeing that for 50 years the position was held by Mr. McHale's predecessors as local medical officer; why, contrary to invariable practice, a medical man living in another part of the country was appointed to the vacancy; and whether he would also state the fees now being paid to this medical man and the fees paid annually for the previous ten years; the number of coastguards to be attended; and whether, before appointing the present surgeon, the Admiralty made any effort to have the work done for less than what it was now paying.—Mr. PRETYMAN replied: The Admiralty did not consider that Mr. McHale was the most suitable gentleman for the post and it has never been the practice to appoint a man simply because his predecessor held the appointment of surgeon and agent. The present holder of the appointment is paid 10*s.* a visit. Previously the ordinary surgeon and agent's fees of 2*s.* 6*d.* per visit were allowed. It is not possible to state the precise amount paid in fees annually during the previous ten years without an elaborate investigation of records which would involve considerable clerical labour and time. The number of coastguards to be attended at the five stations under the surgeon and agent's charge is 30. The reply to the last part of the question is in the negative.

The Plague in India.

Mr. HERBERT ROBERTS asked the Secretary of State for India whether, in connexion with the scientific expedition to be sent out to India to investigate the origin and causes of plague, the coöperation of those in the areas affected possessing a knowledge of the difficulties of [illegible] would be sought; and whether [illegible] said: There seems to be some [illegible] and the scope of the inquir [illegible] plague were exhaustively dealt with by Sir Thomas Fraser's Commission of 1898-99 and the practical difficulties of combating the disease are familiar to the Indian Government and its officers. The present investigation will be confined to purely scientific problems in the hope that if these are solved advance will be made in the practical treatment of the disease. The composition of the expedition has been settled on the advice of the two scientific societies which have undertaken to supervise the inquiry, and I do not propose to add a [illegible] selected. The [illegible] will naturally [illegible] pect of matters [illegible] y.

MONDAY, APRIL 3RD.

The Conscientious Objector Again.

Mr. WEIR asked the President of the Local Government Board whether in view of the fact that mag [illegible] place differen [illegible] defined in the [illegible] which a man [illegible] child had been refused a certificate for another, although he had in each instance raised precisely the same conscientious objection to vaccination, he would consider the expedi [illegible] Act as to remove the difficulty experic [illegible] GERALD BALFOUR said: I believe that [illegible] gency of practice amongst magistrates in [illegible] the honourable Member is aware, the Lor [illegible] on the subject. In order to [illegible] of the magistrates through [illegible] friend the Home Secretary embodied them in a circular which he has issued to clerks of justices and I trust that the result of this action will be to secure greater uniformity in the practice of magistrates under the enactment in question. It does not appear to me to be necessary to amend the law on the subject.

Starving School Children.

Sir JOHN GORST asked the President of the Local Government Board whether it was not the duty of a relieving officer, in case a teacher informed him that a child under such teacher's care was destitute of necessary food, to inquire into the case, and [illegible] found the statement to be correct to give the [illegible] 896, [illegible] by the Board and its predecessors [illegible] ficers; whether such extracts [illegible] what, as to their duties with [illegible] ary food on whose behalf teachers made application for relief; and if they did not contain such information whether he would either cause the circular containing such to be issued or indicate in what book accessible to relieving officers it could be found.—Mr. GERALD BALFOUR answered: The orders provide that it shall be the duty of a relieving officer to receive all applications for relief made to him within his district or relating to any parish within his district and forthwith to examine into the circumstances of every case by visiting the home and making [illegible] report the result of such inquiries to the [illegible] linary meeting. The orders also provide [illegible] very case of sudden or urgent necessity to afford such relief to the destitute person as may be requisite, provided that the same be not given in money. It would be incumbent on a relieving officer to act in accordance with these requirements if application were made to him by a teacher for relief to a child under the teacher's care [illegible] The extracts from the orders is [illegible] tained the provisions to which I [illegible] fer specifically to cases of the kind mentioned in the question. The Secretary of the Board of Education and I have been in communication in regard to such cases and I am now considering whether any further steps should be taken in connexion with them and whether a circular should be issued on the subject.

Dr. MACNAMARA asked the First Lord of the Treasury whether his attention had been called to the Bill introduced [illegible] for the Barnard Castle division designed to [illegible] authorities to make provision out of the func [illegible] feeding of hungry children and to empower them also, where it might seem desirable, to recover the cost from the parents and guardians of children so fed; and whether, having regard to the unanimous recommendations of the Royal Commission on Physical Training (Scotland), 1903, a [illegible] grant [illegible] BALFO [illegible] appointed to examine into the facts of this question and I do not think that pending the report of that committee I can make any statement on the subject.—Sir JOHN GORST: Is it not a fact that the committee appointed by the Board of Education is specially precluded from considering any scheme which would cast a charge on the public funds?—Mr. BALFOUR: The main object of the committee is to inquire into the facts and it is, among other things, a real knowledge of the facts that we require before dealing with a subject which is of itself of a difficult character and touches very [illegible] all sides.—Dr. MACNAMARA: Can the rig [illegible] hold out any prospect that this committee [illegible] of the present session?—Mr. BALFOUR: No, Sir, I cannot make any promise on the subject. It does not rest with me.

An Irish Admiralty Appointment.

Mr. CONOR O'KELLY asked the Secretary to the Admiralty whether he would state the professional qualifications of the surgeon to the Admiralty at Belmullet; what previous experience in the practice of his profession he had, and where, bef [illegible] which caused the Admiralty to cons [illegible] Studdert more suitable than that of [illegible] fees received by Mr. Studdert during [illegible] the total sum in fees received by Mr [illegible] in that position.—Mr. PRETYMAN replied: The professional qualifications of the Admiralty surgeon and agent at Belmullet are Lic. Lic. Midwif. R. Coll. Phys. Ireland; Lic. Lic. Midwif. R. Coll. Surg. Ireland. He had had previous experience at High Wycombe and Sheffield and was recommen [illegible] after careful inquiry, as being the [illegible] l sum in fees received by Mr. Studd [illegible] urgeon and agent was £178 and the total sum in fees received by Mr. Lavan in his last 12 months in that position was £140 2*s.* 6*d.*

The Irish Constabulary and Medical Attendance.

Mr. SLOAN asked the Chief Secretary for Ireland whether he would state how many th [illegible] r the exp [illegible] direct inquiry to [illegible] past three years [illegible] eir own expense. [illegible] The inspector-general's attention has already been called to this matter and he is inquiring into it.

Return of Small-pox Outbreaks.

Sir JOHN TUKE asked [illegible] Board whether he would be [illegible] places in which cases [illegible] months, giving the total number of cases occurring in each place in which that number had reached or exceeded 100.—Mr. GERALD BALFOUR said: I am willing to give a return on this subject and I

Universities of Edinburgh and St. Andrews.

Fever at Malta Naval Hospital.

Sir JOHN COLOMB asked the Secretary to the Admiralty whether patients occupying the old wing of the Naval Hospital at Malta for surgical treatment had,
—Mr. PRETYMAN said:
ment or soon after hav
During 1904 there wer
developed "fever."

floors have been removed and replaced by terazzo paving. The work was commenced in 1899 and completed in 1902.

Vaccination Fees in Ireland.

Mr. SLOAN asked the Chief Secretary for Ireland whether he could say what had been the cost to Ireland and Scotland respectively for vaccination fees since the year 1845.—Mr. LONG replied: The total amounts of fees paid in Ireland to March 31st, 1904, was £351,643. I have no information as to the amount of fees paid in Scotland.

The Analysis of Irish Butter.

counties. Clare, Galway, Kerry, Limerick, Tipperary (N.R.), and

ater. In the remaining samples the proportion of water exceeded 20 per cent. These facts show how small is the number of cases in which the water in the butter exceeds the 16 per cent. limit prescribed by the regulations under Sections 4 and 24 of the Sale of Food and Drugs Act, 1899, which are in force both in Great Britain and Ireland.

TUESDAY, APRIL 4TH.

BOOKS, ETC., RECEIVED.

ARROWSMITH, J. W., Quay-street, Bristol,
Medical Philology Gathered by L. M. Griffiths, M.R.C.S. Eng. Part I. A-El. Price not stated.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.
The Principles and Practice of Asepsis. By Arthur Vallack,
Berrima
El
By F.
v. Dub.,
te Chief
Applied

C

B

Tracheobronchosco

N

CHURCHILL, J. AND A., 7, Great Marlborough street, W.
Abdominal Pain, its Causes
A. Ernest Maylard, M.B.,
Infirmary, Glasgow, late E
of Glasgow and Victoria U
net.
The Blood How to Examine and Diagnose its Diseases. By Alfred C. Coles, M.D., D Sc., F.R.S. Edin. Third edition. Price 10*s.* 6*d.* net.

COLLINGRIDGE, W. H. AND L., 148 and 149, Aldersgate street, E.C.
The Book of the Potato. Illustrated. Edited by T. W. Sanders, F.L.S., F.R.H.S. Price 2*s.* 6*d.* net.

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ite purulente septico-
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a Faculté à l'Hôpital
ygiène et de Medecine
L.
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OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, Calcutta.

Report on Dourine in Different Breeds of Equines, together with an Account of Vesicular Exanthema and Pyroplasmosis which occurred as Complications. By Alfred Lingard, M.B., M.S., D.P.H., Imperial Bacteriologist to the Government of India. Price not stated.

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The Royal University of Ireland. Examination Papers, 1904. A Supplement to the University Calendar for the year 1905. Price not stated.

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A Practical Course of Instruction in Personal Magnetism, Telepathy, and Hypnotism. By George White. Price 3*s*. 6*d*. net.

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The Food Inspector's Handbook. By Francis Vacher, Medical Officer of Health for Cheshire. Fourth edition. Price 3*s*. 6*d*. net.

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Leçons de Clinique Obstétricale. Par le Dr. Queirel, Professeur de Clinique Obstetricale à l'Ecole de Médecine et de Pharmacie de Marseille, Deuxième Série. Avec une Préface du Professeur Pinard. Price Fr. 6.

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Travail du Laboratoire du Dr. Quénu (Hôpital Cochin). Les Dégénérescences des Fibro-myomes de l'Utérus. Par G. Piquand, Ancien Interne Lauréat des Hôpitaux, Prosecteur Provisoire à la Faculté de Médecine. Price not stated.

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UNIVERSITY PRESS OF LIVERPOOL.

Cladorchis Watsoni (Conyngham). A Human Parasite from Africa. By A. E. Shipley. Reprinted from Thomson Yates and Johnston Laboratories Report, Vol. VI., Part I., 1905. Price not stated.

VIGOT FRÈRES, 23, Place de l'Ecole-de-Médecine, Paris.

Les Indications des Interventi [illegible] les Maladies Internes. A l'Usage des Méd [illegible] e Professeur [illegible] Traduction [illegible] J. Sabrazès de Bordeaux.

Précis de Radiographie Dentaire. Suivi de Notes sur l'Endodiascopie. A l'Usage des Chirurgiens-Dentistes et des Etudiants en Chirurgie Dentaire. Par René Darmezin. Préface du Dr. Foveau de Courmelles. Price Fr. 3.

WRIGHT, JOHN, AND CO., Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

Errors of Refraction and their Treatment. A Clinical Pocket-book for Practitioners and Students. By Charles Blair, M.D., Fellow of the Royal College of Surgeons of England, Surgeon to the Western Ophthalmic Hospital, London. Price 2*s*. 6*d*. net.

Poisonous Plants of all Countries. With the Active, Chemical Principles which they contain; and the Toxic Symptoms produced by each Group. By A. Bernhard Smith, late Acting-House Surgeon to Lord Lister, King's College Hospital, London, late Surgeon to the Peninsular and Oriental Steamship Company, Matriculated at Paris University, Faculté de Médecine, Diplomate of the Society of Apothecaries of London. Price 2*s*. 6*d*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, C. A., B.A. Cantab., has been appointed Senior House Physician to St. Bartholomew's Hospital.

BIRKETT, H. J. D., B.A. Cantab., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

BLIGH, E. A. R., M.B. Syd., has been appointed Resident Medical Officer at the Sydney Hospital, Australia.

BOTT, R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

BRODRIBB, A. W., M.A., B.M., B.Ch. Oxon., has been appointed Junior House Physician to St. Bartholomew's Hospital.

BURFIELD, J., M.B., B.S. Lond., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

COLT, G. H., B.A., M.B., B.C. Cantab., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

COVENTON, A. W. D., M.A., B.C. Cantab., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

CRIPPS, W. L., B.A., B.C. Cantab., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

CUMBERLIDGE, W. J., B.A. Cantab., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

ETHERINGTON-SMITH, R. B., M.B., B.C. Cantab., has been appointed Extern Midwifery Assistant at St. Bartholomew's Hospital.

FIELDING, C. H., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician to St. Bartholomew's Hospital.

FINCKH, A. E., M.B. Syd., has been appointed Resident Medical Officer at the Sydney Hospital, Australia.

GIBB, H. P., B.A. Cantab., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

GRÜNBAUM, Professor A. S., M.D. Cantab., F.R.C.P.I., has been appointed Honorary Pathologist to the Royal Infirmary, Leeds.

HADFIELD, C. F., M.A. Cantab., has been appointed Senior House Physician to St. Bartholomew's Hospital.

HEPWORTH, F. A., M.A., M.B., B.C. Cantab., has been appointed Senior House Physician to St. Bartholomew's Hospital.

HINE, T. G., M.A., B.C. Cantab., has been appointed Junior House Physician to St. Bartholomew's Hospital.

HOLMES, GORDON M., M.D. Dub., has been appointed Director of Neuro-pathological Research, National Hospital for the Paralysed and Epileptic.

HUDSON, B., M.A., M.B., B.C. Cantab., has been appointed Senior House Physician to St. Bartholomew's Hospital.

KAY, S., M.B. Syd., has been appointed Resident Medical Officer at the Sydney Hospital, Australia.

KIRBY, SAMUEL J. J., M.R.C.S. Eng., L.R.C.P. Edin., has been re-appo [illegible] Officer of Health to the Oulton Broad [illegible]

MCDOWELL [illegible] ointed Resident Medical Officer at the [illegible] Sydney, Australia.

MCENCROE [illegible] appointed Resident Medical Officer at the Royal Prince Alfred Hospital, Sydney, Australia.

MCKELVEY, J. L., M.B. Syd., has been appointed Resident Medical Officer at the Royal Prince Alfred Hospital, Sydney, Australia.

MILLS, J. A., B.A., M.B., B.Ch., B.A.O. R.U.I., has been appointed Assistant Medical Officer and Pathologist to the Durham County Asylum.

MOORE, R. F., M.B., B.C. Cantab., has been appointed Ophthalmic House Surgeon to St. Bartholomew's Hospital.

NELIGAN, A. R., M.B. Lond., has been appointed Intern Midwifery Assistant at St. Bartholomew's Hospital.

PARKER, HERBERT F., M.D. Cantab., M.R.C.S., L.R.C.P., has been [illegible] Medical Officer to the Royal Surrey [illegible]

PAY [illegible] ng., L.R.C.P., L.M. Edin., has been [illegible] Health for the Coleford (Gloucester- [illegible]

PLO [illegible] B.C. Cantab., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

POWER, J. W., M.B. Syd., has been appointed Resident Medical Officer at the Sydney Hospital, Australia.

PRICE, ERNEST H., L.S.A., has been appointed Assistant House Surgeon to the Northampton General Hospital.

RIVIERE, B. B., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

ROBERTS, A. S. C., M.B. Syd., has been appointed Resident Medical Officer at the Royal Prince Alfred Hospital, Sydney, Australia.

SIMPSON, G. W., M.B. Syd., has been appointed Resident Medical Officer at the Sydney Hospital, Australia.

SLADE, J. G., M.A., M.B., B.C. Cantab., has been appointed Junior House Physician to St. Bartholomew's Hospital.

SMITH, P. E. W., M.B. Syd., has been appointed Resident Medical Officer at the Royal Prince Alfred Hospital, Sydney, Australia.

SPEERS, W. GORDON, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Medical Officer of the Hospital Samaritano, Sao Paulo, Brazil.

VERGE, A., M.B. Syd., has been appointed Resident Medical Officer at the Sydney Hospital, Australia.

VERNON, G. H., M.B. Syd., has been appointed Resident Medical Officer at the Royal Prince Alfred Hospital, Sydney, Australia.

WATKINS, ERNEST M., M.B., C.M. Glasg., has been appointed House Surgeon of Wrexham Infirmary.

WHITE, E. H., B.A., B.M., B.Ch. Oxon., has been appointed Senior House Physician to St. Bartholomew's Hospital.

WILLIS, J. K., B.A. Cantab., has been appointed Junior House Physician to St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and fees.

BIRKENHEAD UNION, INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM CITY ASYLUM, Rubery-hill.—Junior Assistant Medical Officer. Salary £150 *per annum, with board*, lodging, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL DISPENSARY.—Vacancy on Medical Staff.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £60 per annum, with board and lodging.

CHESTER, COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon for six months. Salary £50 per year, with [illegible]

[illegible] Fairmile.—[illegible] Officer of [illegible]

[illegible] Victoria-[illegible]

[illegible] geon and [illegible]

EXMINSTER, DEVON COUNTY ASYLUM.—Junior Assistant Medical Officer [illegible]

GERMAN [illegible]

HOSPITAL [illegible] or six months [illegible]

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50 per annum, with board and lodging.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Two House Surgeons. Salaries—Senior, £100; Junior, £75 per annum, each with residence, board, and washing.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Second House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—Resident Clinical Assistant for three months, eligible for re election. Free board, *residence, and washing.*

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the new [illegible]

MA[illegible]

NA[illegible]

NE[illegible] washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician. Also House Surgeon. Both for six months. Salaries at rate of 50 guineas a year, with board and residence.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House [illegible]

[illegible] with board, lodging, and washing.

[illegible] Medical [illegible] with [illegible] Assistant [illegible]

[illegible] Ryhope.—Assistant Medical Officer, with usual allowances.

[illegible] **AND SOUTHWICK HOSPITAL.**—House [illegible] annum, with board, lodging, and [illegible]

WAKEFIELD, WEST RIDING ASYLUM.—Junior Assistant Medical Officer. Salary £140, rising to £160, with apartments, board, washing, and attendance.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £65 per annum, rising to £75, with board, residence, &c.

Births, Marriages, and Deaths.

BIRTHS.

CAMPBELL.—On March 31st, at the Caterham Asylum, the wife of Patrick E. Campbell, M.B., Medical Superintendent, of a son.

WATKINS.—On 25th March, at Stone-Legh, Newton-le-Willows, the wife of Harold E. Watkins, M.R.C.S. Eng., of a son.

MARRIAGE.

STEVENS—MCINTYRE.—[illegible] by the Rev. Davi[illegible] M.D., youngest s[illegible] Morice, younges[illegible] of the late Archibald McIntyre of Montreal. Canadian and S. African papers please copy.

DEATH.

MATTHEWS.—On March 31st, at Sudbury, Suffolk, Alec Leslie Matthews, F.R.C.S., L.R.C.P., of the London Hospital, late of Norwood, aged 31.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MOSQUITO MALARIA THEORY 1400 YEARS OLD.

IN the course of an address given at the annual meeting of the Ceylon branch of the Royal Asiatic Society, the Governor of the island, Sir H. Arthur Blake, made the following highly interesting remarks:—

> They prided themselves upon the enormous strides that had been made in science of late and especially within the last wonderful century; and among those discoveries there had been none of greater importance than the discoveries made in medicine and hygiene; and among those discoveries he did not know of any that had attracted more attention than the results of the investigations into that fatal and widespread disease that had afflicted humanity perhaps more than any other, by Manson, Ross, Celli, and others—malarial fever caused by the bite of the mosquito. The question to be asked was, Are we not merely recovering the crumbs of knowledge that fell from the table of the long buried East? A short time ago Government instituted an inquiry into the incidence of malarial fever at Mutwal and during the inquiry he was surprised to see a communication from the Secretary of the Ceylon Native Medical Association mentioning that in old books the mosquito was mentioned as one of the means of propagating malarial fever. He was so struck that he made further inquiries and found that in the medical work of Caraka Susruta and other ancient Sinhalese writers it was mentioned that there were 67 kinds of mosquitoes, and further that there were four kinds of malarial fever caused by the bite of those mosquitoes. At present about 36 to 40 species had been named in Ceylon, of which Mr. Green had named 24. So that, as a matter of fact, recent discoveries were only re discoveries. The books he referred to were written in the sixth century; therefore they had only re discovered what was on record 1400 years ago. Those facts were rather interesting and he did not know whether any of those present could read Sanskrit, but the Interpreter Mudahyar was there and the books were there and the passages were there, showing from where they had been derived.

A POSSIBLE DEVELOPMENT OF SERUM THERAPY.

To the Editors of THE LANCET.

SIRS,—Could any of your readers tell me whether there is anything opposed to the suggestion that the serum of a man or an animal, protected (by use and habit) against poisonous doses of morphine, arsenic, &c., would protect a normal individual against similar doses? Also whether any experiments have ever been made on these lines and the results published.

I am, Sirs, yours faithfully,

INQUIRER.

April 4th, 1905.

THE LORD OF THE MANOR'S HERIOT AT AN INQUEST.

To the Editors of THE LANCET.

SIRS,—The letter addressed to you in THE LANCET of April 1st, p. 900, is full of interest. A heriot was the best beast due to the lord of the manor at the death, natural or otherwise, of the copyholder, the second best being frequently bequeathed to the Church as a cors present. This is one thing, but in the inquest reported by your correspondent a totally different state of affairs presents itself, inasmuch as "the Jury brought in the unlucky Beast in Value as low as Three pounds, thinking that sum would be a compencation to his Lordship." The fact that the jury valued the animal points strongly in favour of the stag being a deodand—not a heriot; in other words, as the guilty party causing the death and liable to forfeiture apart from any manor custom. In these circumstances there would appear to be a little confusion between "*one of his own Horses*" and "the stagg." It may be that a horse was suspected, but in evidence given at the inquest the stag was proved guilty. A stag was not usual as a heriot. I have dealt at some length on this topic in my recent book, "The King's Coroner," pp. 6–8 and 204–5.

I am, Sirs, yours faithfully,

R. HENSLOWE WELLINGTON,
Barrister-at Law and Deputy Coroner.

Essex-court, Temple, E.C., April 3rd, 1905.

To the Editors of THE LANCET.

SIRS,—The "stagg" paid to the lord of the manor by Dr. J. J. Udale's ancestor could not have been a heriot. The heriot was the best beast belonging to the tenant, and to this the lord had a right on the death of the tenant, or on the succession of the heir, or both. In the case of Dr. Udale's ancestor, the "stagg" was not taken as of right by the lord, but was awarded to him by the inquest. This was the procedure regulating the transfer, not of heriots, but of deodands. A deodand was the instrument which had caused the death of a human being and which thereupon became forfeit to the king, by whom it, or its value, was to be handed over to the poor. This was clearly interpreted to mean the poor in spirit, for it is certain that the sovereign granted to many lords of manors the right to receive deodands. In the case related, it was a horse which caused the death and yet the deodand awarded by the inquest was a "stagg." We can only conjecture the reason. It may have been that the horse had already been seized by the lord as a heriot; or it may have been that the inquest desired to curry favour with the lord by awarding something more valuable, or to show consideration for the tenant's family by awarding something less valuable. The share of the inquest in awarding the deodand is obvious. The deodand was the instrument which had caused death. The cause of death was not ascertained until the inquest had formally declared it. The deodand was contingent on the verdict.

I am, Sirs, yours faithfully,

Catford, April 2nd, 1905. CHAS. MERCIER.

To the Editors of THE LANCET.

SIRS,—I have read with interest the letter in THE LANCET of April 1st, p. 900, on the subject of "The Lord of the Manor's Heriot at an Inquest" and would like to add something which I have found in some old books in the library attached to the Royal Devon and Exeter Hospital. In the "Medical Jurisprudence," dated 1823, at London, by J. A. Price, M.D., &c., and J. S. M. Fonblamque, Esq., barrister-at-law, on the subject of the coroner's inquest, one reads:—

> "The Coroner, amongst other things, must enquire of the deodand, (the gift to the Gods,) which, on the violent death of anyone, even though purely accidental, has accrued to the King or his grantee. This mulct was in ancient times applied to the purpose of purchasing masses for the repose of the soul of the deceased; it is now converted into an ill-apportioned, arbitrary, or in a few cases, inadequate fine on the individual whose property has been, whether innocently or culpably, the cause of death. It is as absurd, that a ship under sail, from which a man has fallen, and been drowned, should be forfeited to the King, as if ...... where a thing is not in motion, that part which actually caused the death, is alone forfeited, as if a man be climbing on the wheel of a cart, and is killed by falling from it, the wheel alone is a deodand. But whenever the thing is in motion, not only that part which immediately gives the wound, (as the wheel which runs over his body,) but all the things, which move with it, and help to make the wound more dangerous, (as the cart and loading, which increase the pressure of the wheel,) are forfeited ...... it matters not, whether the owner were concerned in the killing or not. But juries have of late, frequently taken on themselves to mitigate these forfeitures, by finding only some trifling thing, or part of an entire thing, to have been the occasion of the death."

Paris does not explain the word "stagg" in his work but in an old book on folk-lore in the museum here one finds that it was in use in Cumberland to signify a horse under three years of age. In the case quoted the horse being under three years was the "stagg," and being the cause of the man's death was forfeited as a deodand to the King or his grantee. I am, Sirs, yours faithfully,

W. HUDSON MARSDEN,
Assistant House Physician at the Royal Devon
Exeter, April 4th, 1904. and Exeter Hospital.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions? Mr. W. C. Griffiths, 10*s.* 6*d.*; Dr. J. Shaw Lyttle, 10*s.* 6*d.*; already acknowledged, £70 14*s.* 6*d.*

I am, Sirs, yours faithfully,

ALEX. P. FIDDIAN, M.B. Lond.,
23, The Walk, Cardiff, April 4th, 1905. Honorary Treasurer.

A CRUSADE AGAINST PHTHISIS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers tell me where I can procure "A Crusade against Phthisis" by Dr. Gerrish (?) I do not know the publisher's name and am uncertain of the author's.

I am Sirs, yours faithfully,

April 3rd, 1905. H. W.

DOVER AS A HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—In reply to "Paddington" I beg to say that if he will refer to Whitaker, fol. 762, he will find a condensed report of Dover as a health resort. In accordance with statutory requirements the medical officer of health issues a yearly statistical report which is printed and circulated amongst those for whom it is specially prepared.

I am, Sirs, yours faithfully,

M. K. ROBINSON, M.D. Erlang.,
Dover, April 3rd, 1905. Medical Officer of Health.

To the Editors of THE LANCET.

SIRS,—In answer to the letter of "Paddington" with respect to Dover as a health resort, I should like to say that the climate of Dover is excellent. The rainfall is small. The water-supply is absolutely pure and comes from the hills in the neighbourhood. The soil is for the greatest part chalk. The death-rate is, and has been for a long while, very low. The medical officer of health presents statistics every year and I expect they are published. I consider Dover a very desirable place residentially.—I am, Sirs, yours faithfully,

J. REGINALD LONG, M.R.C.S. Eng., L.R.C.P. Lond.
Dover, March 31st, 1905.

THE VERAWILL FOOT-ROLLER.

WE have had submitted to us an apparatus under the above name. It consists of two rollers of about the diameter of an ordinary cylindrical ruler. They are made of wood mounted in brass and are fixed to a heavy wooden base. The method of using the apparatus is to place it on the floor and to roll the feet slowly backwards and forwards, using at the same time the hinge-motion at the ankle-joint somewhat after the proper method of pedalling on a bicycle. In this way the soles of the feet are massaged and the muscles of the calf, together with those on the front of the leg, are exercised. From a personal trial we can say that the use of it produces a pleasant warmth in the foot and we should think that it would be of benefit to those who suffer from cold feet, while it would also be a useful adjunct to the usual exercises prescribed for flat-foot. The price is 12*s.* 6*d.* and the apparatus can be obtained at 165, Victoria-street, London, S.W.

MEDICAL WRITINGS BY MARAT.

To the Editors of THE LANCET.

SIRS,—The Royal College of Surgeons of England in 1891 reprinted two pamphlets, originally written by Jean Paul Marat, M.D., in 1775-76. The names of the pamphlets were: "An Essay on Gleets" and "An Inquiry into the Nature, Cause, and Cure of a Singular Disease of the Eyes." The writer was the well-known French revolutionary agitator Marat.

I should be obliged if any of your readers could inform me through your columns whether these are of any value.

I am, Sirs, yours faithfully,

Camden-road, N., April 2nd, 1905. HARRY JONES.

◆

J. C.—The Departmental Committee on Food Preservatives in its report issued in 1901 came to the conclusion that as regards the trade in fresh and cured meat, fish, butter, margarine, &c., there exists no sufficient reason for interfering to prevent the use of boron preservatives. The limit recommended in the case of butter was 0 5 per cent. of boric acid, and cream 0·25 per cent. No limit was mentioned in the case of other foods and although the above limits are practically accepted in proceedings under the Sale of Food and Drugs Act they are not as yet statutory.

Enquirer.—We have no knowledge of the matter except what is stated at p. 403, vol. ii., of "The Life and Letters of Thomas Henry Huxley," Macmillan and Co., 1900, to which our correspondent is referred.

Locus Standi.—The extent to which botany is necessary in the medical curriculum is now under debate. We think too much has been required of the student.

R. J. F.—The lay press constantly make errors in medical titles and when we remember the anomalies connected with these titles we can hardly be surprised.

Mr. W. C. Lewis.—We take no interest in remedies where the alleged discoverer wishes to patent a proprietorship.

Fresh Air.—We think that the suggested recommendation would not be advisable.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), *University* College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.); Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.); Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FR

(10 A.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (10th).—MEDICAL SOCIETY OF LONDON (11, Chandos street, Cavendish square, W

ODONTOLOGICAL SOCI

W.)—6.30 P.M. Cour

Tw

Inc

N.

of Evidence.

GREAT BRITAIN (17, Bloomsbury-

on of Apparatus, Appliances, and

useum Papers:—Mr. E. H. Farr

Alcoholic Extract of Belladonna

The Occurrence and Distribution of a Mydriatic Alkaloid in *Lactuca Muralis*.—Mr. H. C. T. Gardner: The Displacement by Water in the Preparation of Certain Tinctures.

POST GRADUATE C

road, W.)—4 P.M.

TUESDAY (11th).—

(22, Chenies street

(Medical.) 5.15 P

Health and Disease

st London Hospital, Hammersmith-

Williams: X Rays.

GRADUATES' COLLEGE AND POLY-

Chenies street, W.C.).—4 P.M. Mr. T. P. Legg: Clinique (Surgical.) 5.15 P.M. Mr. H. L. Barnard: Gastric Surgery.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—3 P.M. Mr. Bidwell: Intestinal Surgery.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, W.C.)—5 P.M. Demonstration: Dr. W. Wingrave: Ear.

THURSDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. C. O. Hawthorne: The Visual Fields in Health and Disease.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—10.30 A.M. Dr. Candler: Bacteriology.

FRIDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Paton: Clinique. (Eye.)

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.). 3.30 P.M. Mr. C. Williams: X Rays.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 6th, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Mar. 31	30·05	W.	...	97	57	39	41	42	Cloudy
April 1	30·28	S.W.	...	97	59	42	45	47	Overcast
" 2	29·99	W.	..	64	56	46	46	48	Cloudy
" 3	30·10	S.E.	0·	79	53	40	41	42	Foggy
" 4	29·97	S.W.	.	79	55	42	46	48	Overcast
" 5	29·76	WNW	0·01	95	56	47	48	51	Cloudy
" 6	30·03	N.	0·03	94	46	37	34	39	Fine

During the week marked copies of the following newspapers have been received:—*Leeds and Yorkshire Mercury, Stafford- … and Ramsgate Gazette, Liverpool Courier, … Scotsman, Morning Leader, … Chronicle, Mining Journal, … Advertiser, Sussex Daily News, Birmingham Post, Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Manchester Guardian, &c.*

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X.—X. 37.

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The Goulstonian Lectures

ON

SOME CONSIDERATIONS ON THE NATURE OF DIABETES MELLITUS.

Delivered before the Royal College of Physicians of London on March 16th, 21st, and 23rd, 1905,

By W. CECIL BOSANQUET, M.A., M.D. Oxon., F.R.C.P. Lond.,

ASSISTANT PHYSICIAN TO CHARING CROSS HOSPITAL AND TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST; FORMERLY FELLOW OF NEW COLLEGE, OXFORD.

LECTURE II.[1]

Delivered on March 21st.

Mr. President and Gentlemen,—In my former lecture I alluded to the relationship of diabetes to changes in some of the organs of the body which I ventured to think were effects rather than causes of the disease. I have to deal to-day with a more important organ in relation to diabetes—*the pancreas.* Attention was first called to the association of pancreatic disease with a case of diabetes by Cowley in 1788. In this instance the pancreas was found to be atrophied and to contain calculi in its ducts. Claude Bernard discovered that removal of the pancreas in animals was followed by a condition similar to diabetes (1855). The first observer, however, who definitely formulated a theory of diabetes as dependent upon disease of the pancreas was Lancereaux (1877). Subsequently (1889) the experimental side of the question was fully worked out in the classical labours of von Mering and Minkowski; their experiments have been often repeated and their results have been fully confirmed, but little has been added to the sum of our knowledge in this field by the work of their successors. The work of von Mering and Minkowski is so well known that it is unnecessary to do more than to allude briefly to the conclusions that may be drawn from it. They proved that total extirpation of the pancreas in dogs and other animals is invariably followed by a condition exactly resembling diabetes—a condition in which there is not only sugar in the urine, dependent upon excess of sugar in the blood, with the ensuing symptoms of increased appetite and thirst, but also an acid intoxication, with the appearance of acetone and diacetic acid in the urine and a tendency to death in coma. Partial extirpation of the pancreas was not followed by this condition, nor was total ablation of the gland if a fragment of it were grafted into some other part of the body; if, however, as usually takes place, this grafted fragment ultimately disappeared, then diabetes ensued as certainly as if the gland had been removed at one operation. Similarly, if the gland be removed in three separate pieces on different occasions diabetes does not occur till the last piece has been taken away. That this effect is not due to the absence of the digestive juice furnished by the pancreas is sufficiently shown by the phenomena which ensue after ligature of the ducts. In most cases no diabetes or glycosuria is observed; in a few instances there is a transient glycosuria with some increase of appetite and thirst but this passes off within a few days. It was, indeed, objected to these last experiments that the ducts generally re-establish themselves after ligature or section, so that the secretion may once more reach the intestine. To obviate this various experimenters have injected the ducts with substances such as paraffin, soot, and tarry materials (Schiff, Thiroloix, Gley) which produce permanent obliteration of the secretory channels, without causing the appearance of diabetes. Thiroloix, indeed, maintains that by these means it is possible to produce a total atrophy of the pancreas and that yet no diabetes ensues. It is probable, however, that the disappearance of the glandular tissue was not really so complete as he supposed. In some experiments it has been observed that merely separating the pancreas from the duodenum, or handling it, or disturbing it in its relations, may result in the temporary appearance of glycosuria.

It seems to be absolutely proved by these experiments that removal of the pancreas is followed in animals by a condition indistinguishable from diabetes. It is necessary therefore to examine how far clinical and pathological evidence point in the same direction in the case of mankind. Lancereaux in his work on "Diseases of the Liver and Pancreas" described four different conditions of the pancreas which may exist in cases of *diabète maigre* or wasting diabetes—as [illegible] of the disease, or rather, in [illegible] glycosuria, met with in fat perso[illegible] atrophy or aplasia of the gland, in which the cellular elements are diminished in number without any accompanying alteration in the structure of the organ or in the appearance of the cells; (2) atrophy with fibrosis (secondary sclerosis) of the gland and some fatty degeneration of its cells; (3) atrophy with inflammatory fibrosis, the result of infective processes or obliteration of the ducts; and (4) tumours, especially cancer of the head of the pancreas which has led to obstruction of the ducts. This observer, therefore, especially associated *atrophy* of the pancreas with diabetes, though it would seem that he attributed undue importance to disease of the ducts.

Of recent years much attention has been paid to diseases of the pancreas which are now better understood than of old. The chief pathological changes found in it are now recognised to be. atrophy, carcinoma, cystic disease, acute and chronic inflammation, calculi affecting the ducts, and hæmorrhage into its subst[illegible] connective tissue. It may [illegible] and may be the seat of [illegible] It is necessary [illegible]e co-existence of [illegible]d diabetes. The latter is a somewhat rare disease, though not apparently so rare now as in the time of Galen who only saw two cases of the malady.[2] Still, the total mortality from diabetes is somewhere about 7 per 100,000 of the population (Saundby). Among patients admitted to Charing Cross Hospital I find that diabetics, or those who are so classed, amount to about 6 per 1000 of the whole number of admissions It has been argued that as diabetes is a rare disease and lesions of the pancreas are also not frequent, the co-existence of the two in any considerable number of cases *ipso facto* renders the causal connexion between them highly probable. But is it certain that pancreatic disease is uncommon? I thought it worth while at the time when I was making post-mortem examinations at Charing Cross Hospital and elsewhere to investigate the question, and with this object I cut sections for microscopical examination of the pancreas from 100 practically consecutive cases. Most of them were from cases on which I myself made necropsies, but some were kindly sent me from Claybury Asylum by Dr. Bolton, by permission of Dr. F. W. Mott, these cases also being consecutive and not in any way selected. Some of my own cases were from the Victoria Hospital for Children and a few from the Samaritan Hospital for Women, at both of [illegible] the time. The series was thus [illegible] any one hospital but consisted [illegible] for examination of the point in question. Their ages ranged from four days up to over 90 years. I had hoped to be able to supplement this very inadequate number from which to draw conclusions by examining the records of necropsies at other hospitals; but I soon came to the conclusion that unless a microscopical examination of the pancreas were made it was impossible to say in any case whether it was normal or not, since in many instances the external appearance of the gland might be unchanged in the presence of considerable alterations in minute anatomy. I therefore felt that statistics of the number of cases in which this organ was healthy or unhealthy could not be safely collected from the records of other hospitals, as it is practically impossible to make microscopical examinations of all organs in every case, and it would not be likely that such examination of the pancreas would be made unless there were some gross alteration in its appearance to cause attention to be directed to it. I have had, therefore, to be contented with my own 100 cases. Among them I found a certain degree of fibrosis present in 15. Of these ten were over 40 years of age, counting among these two whose ages were not actually known, but who appeared to belong to this period of life. It would seem from this that a certain amount of fibrosis of the pancreas is not very uncommon, occurring in some 15 per cent. of patients dying from all causes in hospital, while among persons over 40 years of age it is much more often met with (ten out of 54) than in those below this age. In 70 cases (not quite consecutive) which I have since examined the proportion in which I found fibrosis of the pancreas present was approximately the same as in the first 100. The youngest patient in the former series in whom I found any increase of fibrous tissue present was aged 29 years and in this case there was a special reason for such a pathological condition in that he was almost certainly a syphilitic subject. That syphilis may be a cause of pancreatic fibrosis is practically certain as a congenital fibrosis of this organ is met with and has been described by Opie. It appears to be a fatal lesion, the infants succumbing within the first few days after birth. No records seem to exist as to the presence of sugar in the urine of such infants. Since the pancreas is thus affected in infancy it is highly probable that in the adult also it, like other organs, will undergo cirrhosis as a result of this disease. Another comparatively young patient in my series who exhibited some fibrosis of the pancreas died from a ruptured aneurysm, which occurrence affords a ground for suspecting the existence in this instance also of a syphilitic taint.

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[1] Lecture I. was published in The Lancet of April 8th, 1905, p. 903.

[2] This would seem to prove that Galen distinguished diabetes from mere polyuria, of which he could not have failed to observe many instances.

If the results suggested by a small number of figures which I have been able to collect are borne out by further investigation, it would seem likely that a certain amount of fibrosis of the pancreas is a usual accompaniment of advancing age. Possibly it is preceded by some atrophy of the glandular elements, the fibrous tissue merely taking the place of higher cells which have disappeared. The condition may thus be correlated with fibrosis of the arterial system and with chronic granular kidney. Atrophy with secondary fibrosis was assigned by Lancereaux as one of the causes of diabetes. It is interesting to remember in this connexion that diabetes is usually a disease of advanced life so that its incidence somewhat corresponds with that of pancreatic fibrosis. It is clear, however, that some fibrosis of the pancreas may exist without diabetes, for only two cases of that malady came into my series of 100 cases. I did not find any traces of fibrotic change in the pancreas in any of the children whom I had the opportunity of examining; but apart from the congenital syphilitic form of pancreatic fibrosis, an acquired form of fibrosis does seem to exist, as was proved to me by a specimen sent me by Dr. A. D. Jollye of Brixton for examination. This was taken from a child, aged seven years, who had suffered from severe tetany during life. At the necropsy the only visible pathological condition was in the pancreas which was much enlarged. On examining it microscopically I found that it was the seat of marked fibrosis. The cause of this was not ascertainable, though it was impossible not to think of syphilis in view of the irregular distribution of the fibrous tissue. Whether the pancreatic condition had any relation to the tetany was also problematical. This disorder is usually attributed to the absorption of some toxic material from the stomach and it is possible that an affection of the stomach and duodenum was followed by secondary cirrhosis of the pancreas by extension of inflammation up the duct of Wirsung. Diabetes in children is not common. When it occurs it is rapidly fatal as a rule, suggesting the existence of some extensive or progressive lesion of the pancreas if this organ be at fault.

Opie has distinguished two varieties of fibrosis of the pancreas: (1) one, a coarsely distributed variety, in which the fibrous bands pass between the lobules of the gland, embracing groups of acini in their meshes; this he calls the "interlobular" variety; and (2) a more finely distributed fibrosis in which the new tissue passes between the individual acini ("interacinar" fibrosis). He considers that diabetes is related to the latter (for reasons which I shall mention later), not to the former. The varieties of pancreatic fibrosis are thus somewhat analogous to the types of cirrhosis of the liver, in which we recognise a multilobular or portal cirrhosis, with coarsely distributed bands of fibrous tissue, and a unilobular or biliary cirrhosis in which the fibrous network penetrates between the single lobules. In the latter the liver is often much enlarged, whereas in the former it is generally shrunken if the cases have lasted long. The same appears to be true of the pancreas. The common form of fibrosis is accompanied by shrinking of the gland and often by atrophy or fatty degeneration of the cells. But the organ may, on the other hand, be considerably enlarged. In one case of diabetes, which I had the opportunity of observing before I began to collect a series, the pancreas was of vast dimensions, weighing just one pound instead of some three or three and a half ounces. It was thus more than four times its usual weight and was tough and hard in consistency. Microscopically it was seen to be penetrated by new bundles of fibrous tissue, both coarsely and finely distributed. I shall refer to the details of the case a little later. It may be remarked that the pancreas is an organ in which it is difficult to be certain of the reality of slight degrees of fibrosis, as the connective tissue in it is normally somewhat irregularly distributed.

With regard to the relation of *atrophy* of the pancreas to diabetes Hansemann distinguishes two varieties of atrophy of the gland: (1) one in which there is simple wasting of the cells, and (2) a second in which this wasting is accompanied by fibrosis. The former occurs in cases of general failure of nutrition and is a secondary change; it may be called "cachectic" atrophy. The pancreas is found to exhibit a rounded, almost cylindrical form and to be of normal consistency. It is sharply marked off from surrounding parts and is easily removed from the body, being free from adhesions to neighbouring structures. The cells and lobules are shrunken but the organ is not pigmented, nor is it fibrous. In the second form of atrophy the pancreas is soft in consistency and dark in colour; it is flattened from before backwards and is closely adherent to surrounding parts. The gland is permeated by an increased amount of fibrous tissue and there may be some cellular infiltration. The condition thus somewhat resembles that of a granular kidney which is fibrous and adherent to the tissues surrounding it and, like granular kidney, it is very probably related to arterio-sclerosis. It is this latter variety of atrophy which is associated with diabetes. In other words, although Hansemann lays stress upon the atrophy it would seem to be fibrosis of the pancreas which is the principal lesion associated with diabetes—a condition apparently analogous to the atrophic form of cirrhosis of the liver. In both organs, however, there seems no means of determining whether the atrophy of the cells leads to increase of fibrous tissue, as in the case of the nervous system, or whether the fibrosis is of an inflammatory nature and contraction of the scar-tissue produces injurious pressure upon the glandular acini.

Fatty degeneration of the pancreas—using the term "degeneration" in a wide sense without determining whether it is an infiltration, so-called, or metamorphosis—is not uncommon. Among my 100 cases I found a recognisable degree of fatty change present in ten instances; in three cases it was combined with some fibrosis. A case of diabetes dying in coma exhibited very advanced fatty change along with fibrous overgrowth, and some degree of fatty degeneration was present in most of the cases of diabetes which I have examined. In fat persons the gland is not infrequently penetrated by columns of fatty connective tissue passing between the lobules, but the cells of the acini appear normal. Hansemann notes that in a few cases of diabetes fatty degeneration of the pancreas has been found after death as the only discoverable lesion.

Calculi in the pancreatic ducts have been associated with a certain proportion of cases of diabetes. Thus, as already mentioned, the original observation of Cowley was of this condition. Hansemann notes that out of 72 cases which he collected from medical literature calculi were the cause found in 14 instances. It is clear that these concretions cannot exert a direct action on the process of sugar-formation, since all that they can do is to block the ducts; and, as has already been mentioned, ligature of these does not seem to be an efficient cause of diabetes or lasting glycosuria. But the continued existence of obstruction to the outflow of secretion is accompanied by injurious pressure in the acini, analogous to the condition present in the kidney in cases of obstruction to the exit of urine. In both organs alike cystic dilatation of the ducts and atrophy of the secreting cells ensue, accompanied by an overgrowth of fibrous tissue. It is to this atrophy of the glandular cells that the diabetes associated with calculi must be attributed. It has, however, been found experimentally that injection of pancreatic juice into the ducts of the organ is followed by the appearance of sugar in the urine, so that a temporary glycosuria might ensue as the result of impaction of a calculus before any destructive changes occurred in the organ; this glycosuria might pass off if the calculus escaped or was removed, or it might become permanent if no such relief was afforded.

Carcinoma of the pancreas is not a very infrequent condition as a primary lesion. Secondary growths of cancer in this organ do not seem very common. I have met with two [illegible] of sarcoma in this position; in [illegible] was in the thyroid gland, but [illegible] coincidence. The relations of carcinoma of the pancreas to glycosuria are somewhat curious. The latter symptom is not constant; it may appear late in the history of the case or it may be noticed early and pass off again. The absence of permanent diabetes in many—indeed, in most—cases of cancer of the pancreas is probably due to the fact that the disease does not destroy the pancreatic cells entirely; in the most extensive cases the new growth rather insinuates itself between the cells so as to obliterate the normal structure of the organ, while in the majority of instances the tumour remains limited to one part of the gland, usually the head, leaving the rest unaltered. The temporary glycosuria observed depends in all likelihood upon interference with the outflow of pancreatic juice which, as has just been mentioned, may produce glycosuria. In many instances of primary cancer there is coexistent fibrosis of the pancreas along with the new growth and it is difficult to ascertain which was the primary condition—whether the cancer produced the fibrosis by obstruction of the ducts of the gland, as a calculus may do, or whether the new growth arose in a fibroid organ, as seems to be the case most frequently in primary cancer of the liver, the tumour originating in all probability in a group of cells isolated by the fibrous overgrowth similar to the groups seen in the so-called multiple adenomata of the cirrhotic liver.

Hæmorrhage into the pancreas may be associated with the appearance of sugar in the urine. The following case may be quoted as an example. A laundress, aged 53 years, was admitted into Charing Cross Hospital under the care of Dr. J. M. Bruce on Jan. 24th, 1893, complaining of abdominal pain, thirst, and dypsnœa. Her previous history had been uneventful; there was no history of syphilis. A week before admission to hospital she was seized with pain in the abdomen which rapidly swelled and became hard to the touch. At the same time she complained of increased thirst and of shortness of breath and had a difficulty in getting about. On examination she appeared to be a well-nourished woman; her face was flushed and her tongue was dry and covered with brown fur. Her temperature was 100° F. and she complained of great thirst. There was pain all over the abdomen, which was uniformly distended, so that the umbilicus was obliterated. Tenderness was general over the abdomen, but there was increased resistance in the epigastrium and hypochondria, especially on the right side. The bladder was distended and the edge of the liver could be felt about one and a half inches below the costal margin. She was delirious at night, trying to get out of bed continually. She passed from 54 to 60 ounces of urine per diem, the total amount of sugar present varying from 1012 to 1125 grains. Her temperature gradually rose, and on the 29th and 30th she had rigors. On the latter day acetone was noted to be present in the urine. She vomited and became very restless. Finally she died in collapse without any appearance of coma. At the necropsy there was found "a good deal of turbid fluid in the peritoneum; some little lymph between the coils of the intestines." The layers of the mesentery were everywhere, separated by a large mass of disintegrated blood clot and blood-stained fluid. The stomach was adherent to the left lobe of the liver and on separating the two several pints of blood-stained grumous fluid escaped. "The fat was everywhere speckled over with opaque dead-white points which appeared to be composed of necrosing fat. ...... In the situation of the pancreas was a breaking-down mass of tissue along with much bloody fluid. Some loose shreds of tissue as big as a fist were floating in this cavity; they appeared to be portions of the pancreas." No other morbid conditions were found.

In this case, therefore, there was destruction of the [illegible] diabetes before the sudden onset of the illness; yet on her admission to hospital she exhibited all the signs of the malady—thirst, glycosuria, and finally acetonuria. Such a case constitutes a natural experiment on removal of the pancreas in a human being and the results exactly correspond with those obtained in animals. Here, at least, the connexion between a lesion of the pancreas and the onset of diabetes appears to be absolutely proved. The death of the patient was apparently due to the peritonitis accompanying the necrosis of the pancreas and not to the diabetes, as the patient did not die in coma but in a state of collapse. The presence of acetone in the urine in such a case appears to show that no distinction, such as that quoted from Professor Tyson in my first lecture, can be drawn between pancreatic diabetes and "severe diabetes accompanied by acid intoxication." Experiments on animals show that the latter phenomenon is characteristic of pancreatic defect.

If we examine the results of observations as to the coexistence of gross lesions of the pancreas with diabetes, we find very different figures given by different writers. Hansemann, who carefully studied the question and formed the opinion already alluded to that a special form of atrophy with fibrosis was characteristic of the disease, found alterations of the pancreas present in 40 out of 59 cases. Windle found 74 cases of pancreatic disease out of 139 cases; Frerichs, 12 out of 40; Seegen, 17 out of 92; and Naunyn, 1 out of 40 (I quote the figures from Professor Tyson). It seems almost impossible to reconcile the figures given by Naunyn with those found by others. I have not myself had the opportunity of examining many cases of diabetes post mortem since undertaking this inquiry; but of seven cases in which I have examined the pancreas I found distinct alterations present in five, consisting in fibrosis of varying degrees with some fatty change. In a sixth case, that of an old man with advanced arterio-sclerosis and gangrene of the leg, the vessels in the pancreas were markedly sclerosed; the glycosuria had been intermittent. It might be suggested that this was due to intermittent pancreatic failure, analogous to the "intermittent claudication" sometimes met with in arterio-sclerosis. In the remaining case I was unable to discover any noteworthy pathological condition except sclerosis of the vessels Looking through our post-mortem registers I find in the last ten years 12 necropsies on patients dead from diabetes. In seven of these the pancreas was noted to be small, in four it was distinctly fibrous to the naked eye; in only one case did it appear even macroscopically to be absolutely normal. The microscopical appearances are unfortunately not recorded in the notes.

The difficulty of which I am most conscious in endeavouring to establish a connexion between the pancreas and diabetes is not that of finding pancreatic lesions in cases of diabetes but rather the fact that quite as severe lesions may occur in cases in which there has been no diabetes; for the pancreatic cirrhosis in two at least of my seven cases was only moderately extensive, while I have found very advanced fibrosis apart from diabetes. At the same time diabetes is the condition with which pancreatic disease would appear to be most frequently associated, for whereas five out of seven diabetics[3] exhibited lesions the figures for other diseases are:—

Arterio-sclerosis,	6	cases of pancreatic disease out of	11	cases examined.
Carcinoma,	4	„ „ „ „	16	„ „
Tuberculosis,	3	„ „ „ „	14	„ „
Aneurysm of the aorta,	1	„ „ „ „	3	„ „
Heart-disease	2	„ „ „ „	9	„ „

All authorities appear to be agreed that there are a certain number of cases of diabetes mellitus in which no alterations are discoverable in the pancreas. They differ as to the proportion of such cases. On the other hand, many cases exist in which the pancreas is the only organ in the body which exhibits any sign of disease. The attempt to reconcile these facts presents a difficult problem. Several answers may, however, be given. In the first place, the suggestion has been made that it is not the glandular cells lining the acini of the pancreas and forming the main bulk of the organ by which the sugar-regulating function is carried on

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[illegible] recorded in the post-mortem notes. Moderate degrees of this condition would probably escape record.

but certain special cells of different formation which are scattered throughout it in small distinct masses. These are the "cell islands" named after Langerhans who first described them. They appear to be formed from the same rudiment as the rest of the pancreas and are epithelial in nature. According to the accepted view they are at first connected with the ducts of the gland and this condition seems to persist for some little time after birth, as Opie has depicted a small duct entering an island of Langerhans in a case of congenital syphilitic pancreatitis. In adult life, apparently, this connexion with the ducts becomes obliterated and the islands remain as small groups of polygonal cells surrounded by a fine capsule which separates them from the surrounding acini. This separation does not appear, however, to be absolute, as it is possible to see islands here and there in which the cells are apparently continuous with the cells of the acini without any intervening fibrous tissue. These groups of cells are richly supplied with blood and are penetrated by a network of capillaries. They are scattered throughout the pancreas, but are considerably more numerous towards the tail of the gland. In stained specimens of pancreas the protoplasm of the cells forming these islands seems usually to take on a slightly different colour or a different depth of tint from that of the acinar cells, suggesting a slightly different chemical composition and therefore a different function, but the staining of the glandular cells is not constant and not much weight can be attached to such an observation. The general appearance of the islands of Langerhans thus somewhat resembles that of the glomeruli of the kidney, and they have been called by Kühne and Lea "pancreatic glomeruli." They differ, however, from the renal glomeruli not only in their irregularity of size and shape but also in that they have no connexion with the ducts of the organ, and hence their condition resembles rather that of a ductless gland, such as the thyroid or the suprarenal body, especially in view of their rich vascular supply. It has therefore been suggested that these cells are the source of the internal secretion of the pancreas. The idea was first mooted by Laguesse in 1895 and was adopted by Schaefer. It has since been supported by Opie and many others who have brought forward cases apparently pointing to a connexion between disease of the islands of Langerhans and diabetes. It may be of interest to mention that attempts have recently been made to connect the hypothetical internal secretion of the testis with certain special cells found in the organ, lying separate from the spermogenic cells of the tubules. If this hypothesis be proved true it will afford some support to the similar suggestion in the case of the pancreas; but the reality of this source of internal secretion is equally far from actual demonstration in the case of both organs.

It has been found that in diseases and injuries to the pancreas the islands of Langerhans often escape while the glandular cells are destroyed. Thus in experimental ligature of the ducts the pancreas appears to be converted into a mass of fibrous tissue, but the islands can often be discovered lying among the new tissue uninjured. This is probably owing to their lack of connexion with the duct-system of the organ; and it is possible to explain in this way the failure to produce diabetes which has been observed after ligature of the ducts or injection of them with tarry materials. Similarly, in some cases of inflammation of the pancreas the islands are said to escape the destruction which affects the acinar cells. In addition to this negative evidence tending to show the persistence of the islands of Langerhans in cases of apparent destruction of the pancreas in which diabetes does not occur, there are brought forward cases in which lesions of these structures have coincided with the existence of diabetes. A peculiar hyaline degeneration of the islands of Langerhans was described by Professor R. Saundby in his Bradshaw Lectures in 1890 and Opie has brought forward cases definitely connecting the condition with diabetes. In his first case, it is true, the degeneration was not confined to the islands but invaded some of the other portions of the gland; but in a later communication he recorded an instance in which this affection was the only visible lesion in a case of diabetes, the islands being apparently picked out by the degeneration and the rest of the pancreas remaining normal. Ssobolew found that in 18 cases of ordinary pancreatic atrophy in which there was no diabetes the islands of Langerhans were quite unaltered, whereas among 15 cases of diabetes there was recognisable alteration in these structures in
13 instances. Opie points out that in cases of coars
of the pancreas the islands are not generally
whereas in the fine variety of fibrosis of the
the new tissue tends to invade the islands and so
diabetes. Schmidt has seen a case of diabetes i
there was acute inflammation of the islands of Lan
with only a few similar foci in the rest of the panc
points out, however, that in this case—a child, a
years, who was passing 6·8 per cent. of sugar in the
the diabetes must have lasted longer than the infla
of the islands. Yet it is difficult to imagine a
inflammation which could pick out these structu
spare the rest of the pancreas. Seeing that the isl
shut off from the ducts of the gland no irritant cou
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permissible to question whether there was not in th
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ceptible to some irritant which was not capable of
the glandular cells or whether the existence of dege
in these structures may have given rise to irritating
which caused accumulation of inflammatory cell
their capsules. Schmidt quotes two cases of
associated with pancreatic calculi in which the
appeared normal. In eight cases out of 23 of dia
could find no pathological change at all in the p
Weichselbaum and Stangl describe four possible c
of the islands which may be met with in diabe
diminution in size or number; (2) vacuolisation; (3)
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changes in the islands in four; in six there was at
the pancreas as a whole, similar to that descri
Hansemann; in two cases no changes at all could
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of Langerhans appeared to be greatly reduced in
It seems possible that they undergo fatty degenera
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in such pancreases corresponds somewhat with tha
islands in normal glands. In three of my cas
appeared quite normal. In the arterio-sclerotic c
viously mentioned they appeared to be atrophic, the
themselves being vacuolated owing to disappearance
of the cells.

The most remarkable statistics on disease
structures in diabetes are those given by Lancerea
states that out of 167 collected cases no less than 130
alterations in the islands. Such results are very
and if confirmed by others will go far to prove the c
between these structures and diabetes. Experiment
islands alone is almost impossible. Lewaschew sta
by carbohydrate feeding and the injection of pil
many of the acini of the pancreas may be conver
islands, but Opie repeated the experiments and wa
to confirm these results. Herter and Richards st
injection of suprarenal extract causes granular dege
of the cells of the islands. It has been suggested
islands are immature acini waiting to be conver
mature glandular cells, but there appears to be no
in the islands in a fragment of the pancreas left behi
the rest is removed, so that they do not seem ca
giving rise to new acini. On the other hand, Schmi
that in some cases of fibrosis the islands are incr
number and size and he believes that they may be fo
of secretory tissue. He speaks of cases in which wh
of the pancreas are converted into cells resembling
the islands. I have myself noticed that in many ins
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portions of pancreas in which the islands were so
as to form a large proportion of the tissue presen

the view of Schmidt that the islands are formed from the glandular acini I am inclined to agree, in view of the appearances presented in many cases. Not only are the islands quite irregular in shape and size but one sees islands in which the typical cells are surrounded by a ring of secreting cells; others, again, in which masses of these latter are inclosed within the insular cells, and others in which cells staining like ordinary glandular elements appear to form part of the island and to merge into its structure. Increase of the islands has been described in some cases of infective disease, but the number and size of these bodies vary so greatly in different specimens of pancreas without any ascertainable cause and also in different parts of the same pancreas that it is practically impossible to fix upon an average number or size which is to be considered normal and which shall serve as a standard of comparison.

Ssobolew found in one case of diabetes enormous enlargement of the islands ("struma of the islands"), so that some of them measured as much as 1·5 millimetres in diameter. He suggests that this represented either a compensatory hypertrophy to make up for the loss of others which had disappeared or a process of tumour-formation. [illegible] ent in some of the islands in [illegible] in the capillaries, not in the [illegible] of the degeneration would thus seem very similar to that of amyloid change which starts in the vessels and only injures the cells secondarily by pressure. In a specimen kindly given me by Dr. Salusbury Trevor, of St. George's Hospital, the hyaline portion of the islands also seemed in most cases to be formed of degenerated capillaries, but here and there hyaline areas seemed to be formed of degenerated cells. Hence it seems doubtful whether there are not several conditions included in this so-called hyaline degeneration. On the whole, it is impossible at present to say that the relation between the islands of Langerhans and diabetes has been established. Hansemann, who has made a careful study of the pancreas in diabetes, denies that there is any connexion. Opie's case does, indeed, at first sight appear to afford an *experimentum crucis*, but it is so far lacking in sufficient corroborative evidence to establish a general rule. I could not be certain of any special alteration of these structures in any of my cases—certainly quite as marked changes were present in non-diabetic subjects. On the other hand, Lancereaux's statistics are very striking. Further, it seems to be admitted that hyaline degeneration of the islands has scarcely ever been observed in any other disease than diabetes,[5] so that there appears to be some connexion between them. The possibility is not, however, excluded that in diabetes the degeneration of the islands may be a secondary phenomenon. Still, the suggestion of these structures as the source of the internal secretion of the pancreas is a tempting hypothesis and explains some facts hitherto difficult to understand. More investigation is necessary before the question can be regarded as settled.

Even granting the connexion of the islands of Langerhans rather than of the secretory cells of the pancreas with diabetes there remain some cases to be explained in which no alteration of any part of the pancreas can be discovered. With regard to these we have to remember that, as has already been mentioned, we are dependent for our diagnosis of diabetes [illegible] presence of sugar in the urine [illegible] criterion is liable to be fallaci[illegible]d that we at present include under the term diabetes cases of very different natures. Every clinician must be familiar with cases in which sugar is found in the urine of a patient who comes for treatment for some entirely different condition—cases in which the patient appears to suffer no inconvenience from his glycosuria and goes about his work as usual until diabetes is diagnosed on account of the discovery of sugar. It seems almost certain that many of these persons are the subjects of an entirely distinct condition from those acute cases in which thirst, increased appetite, and rapid wasting are such distressing features. It is with the latter type of case—*diabète maigre*—that Lancereaux would associate pancreatic affections. They seem, indeed, to constitute a class by themselves, worthy of recognition as a separate disease, to which we should limit the name of diabetes, classifying the others as various forms of glycosuria, in which the appearance of sugar in the urine is indeed often a prominent feature, but in which there does not exist that internal breaking down of the tissues into sugar characteristic of the graver disease.

But a second possible explanation has to be considered and that is the fact that we are not yet in a position to exclude the existence of disease in any organ because our present methods of examination do not reveal definite structural alteration. Although true functional disease as opposed to organic cannot exist, yet there are only too many conditions in which the perversion of function is all that we are able to recognise. Minute alterations in the molecular composition of the pancreas may be present in some instances which we cannot discover with the microscope.

Thirdly, we have to take into consideration the influence of the nervous supply of the pancreas. It is conceivable that although the cells themselves may be normal in structure, yet if they be acted upon by abnormal nervous stimulus they will give rise to different products or fail to produce any secretion at all. Of the effect of nervous influence upon the origin and [illegible] many proofs. In many cases [illegible] act upon the liver in a mar[illegible] puncture, thus causing the [illegible] into the blood. But in som[illegible] it may be that the internal secretion of the pancreas is affected. If there can occur, as is well known, a sudden *drying up of the salivary secretion as a result of fright* we can equally suppose a sudden cessation of the formation of an internal secretion. If a total alopecia may result from shock and persist subsequently—and cases of such an occurrence have been met with—the defect of pancreatic secretion may equally persist as a permanent lesion.

In connexion with the question of the relation of pancreatic disease to diabetes it may be of interest to consider how far the known causes of the former correspond with those responsible for the latter condition. I have already alluded to the fact that both diseases tend to occur towards the latter part of life, diabetes being usually first complained of after 40 years of age and pancreatic fibrosis also occurring with greater frequency after this period. The connexion of arterio-sclerosis with fibrosis of the pancreas is also recognised, and this degenerative state has been frequently noted in diabetics, in whom it is probably responsible for most of the cases of gangrene of the extremities which occur, as well as being one of the assigned causes of the onset of the disease. The association of gout with diabetes is not improbably due to this accompaniment of both conditions. Another cause of pancreatic fibrosis, *as already pointed out*, is syphilis, and this infection almost certainly plays an important part in the production of a certain proportion of cases of diabetes; in my series, as previously stated, it was a likely factor in 12½ per cent. *The most important* cause of pancreatic fibrosis is probably the entry of micro-organisms by the ducts from the duodenum. This has been proved experimentally to cause inflammation of the gland and subsequent scarring. A history of digestive disturbance is not uncommon in diabetic cases and a certain number seem to date from a definite attack of vomiting and diarrhœa. Such instances may perhaps be associated with pancreatitis from intestinal catarrh. It might also be suggested that the abdominal, and specially epigastric pain, to which I have alluded as so often complained of by these patients, may be connected with inflammation of the pancreas. The apparently infective cases of diabetes, such as those collected by Hutinet, may [illegible]aps be attributed to this method of causation, although [illegible] observer *suggests* that the infective agent in such [illegible]nces acts by *producing* a condition of arterio sclerosis. [illegible]ally, the frequency of a history of alcoholism in [illegible]tic cases fits in well with th[illegible] [illegible]ausation. As cirrhosis of t[illegible] [illegible] so fibrosis of the pancreas [illegible] many instances to its action. A[illegible] influences—and some "family" cases are attributed by Hutinet to infection—there is a considerable degree of correspondence between the causes of acquired diabetes, if it may so be called, and those of pancreatic affections.

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[5] I have found [illegible] dia[illegible] ope[illegible] pan[illegible] gla[illegible] It [illegible] arte[illegible] [illegible]sults in other cases, but it [illegible]xistence of some degree of [illegible] is not very uncommon. I [illegible] the last 70, in which I paid

In view of the difficulty which at present exists in explaining all cases of diabetes on the basis of pancreatic defect various suggestions have been made in the direction of a joint action of this organ with some other in the regulation of sugar metabolism. In looking round for some organ to which to assign the complementary rôle attention naturally fell first upon the liver. As indicating a connexion between the two it is pointed out that removal of the pancreas causes disappearance, or, at all events, diminution, of the glycogen in the liver, only traces being left a few days after the operation, even when the animals receive a rich carbohydrate diet. On the other hand, injection of pancreatic extract into animals has an exactly similar effect, the diminution in the glycogen being proportional to the amount of material injected (Tyson). Again, if blood is caused to pass through the liver it is found that a certain proportion of the glycogen contained in the latter is removed in the process. If, however, the blood is first caused to pass through the pancreas less sugar is extracted in its subsequent journey through the liver (Lépine). On the other hand, Hirsch found that an emulsion of hepatic tissue destroyed more sugar if an extract of pancreas was added to it. These results appear contradictory and at present inexplicable. Ohlmacher states that the islands of Langerhans show hypertrophy in cases of hepatic disease and regards this as a compensatory hypertrophy to make up for hepatic defect. An elaborate hypothesis as to the interaction of the liver and pancreas in the process of sugar-regulation was formulated by Chauveau and Kauffmann. According to these authors there exists in the medulla a special centre which restrains the formation of sugar in the body and this centre is stimulated by the pancreas. On the other hand, there is a centre in the cervical cord which stimulates the formation of sugar and the pancreas depresses the activity of this latter. These centres together regulate the sugar-forming process which is actually effected by the liver. This hypothesis cannot be said to have proved fruitful or helpful in investigating the problems of diabetes.

In connexion with the question of a possible interaction between the liver and the pancreas allusion may be made to the curious condition known as hæmochromatosis or bronzed diabetes. This affection was first described by Hanot and Chauffard in 1862 and since then a fair number of cases have been recorded, though it remains a very rare disease. The following case which I had the opportunity of observing was apparently an instance of this affection. A man, aged 60 years, was admitted to Charing Cross Hospital under the care of Dr. Bruce, on June 7th, 1898, complaining of severe pain across the abdomen. He was almost certainly of alcoholic habits but denied that he had suffered from any serious illness in his previous life. He had been losing weight for about a year previously to admission. For the last fortnight he had suffered from loss of appetite and a feeling of depression and he had noticed some swelling of his legs and scrotum. Finally, he had been seized with excruciating abdominal pain, of sudden onset, which had "doubled him up" and caused him to come to the hospital. When seen he was still in great pain and was sweating profusely. He was slightly jaundiced. His abdomen was full and there was tenderness over the right hypochondriac region. The liver was felt to be enlarged. His temperature on admission was 102° F. It fell in the course of the next few days and the pain diminished, but the general condition remained the same for some time. On June 14th sugar was noticed to be present in his urine and by the 20th it had reached a large amount. Then it diminished and on the 22nd and 23rd was entirely absent. On the 24th there was 8 per cent. present and on the 25th there was none at all. Subsequently the sugar reappeared and remained constantly present till his death. He improved greatly in his general condition for the first four weeks of his stay in hospital and was on the point of being discharged (July 5th) relieved when he developed erysipelas of the face which proved fatal on July 13th. At the necropsy the pancreas was found to be of the enormous size already recorded (weighing one pound); the liver was greatly enlarged, weighing four pounds two ounces, and was the seat of a finely-distributed cirrhosis. There was a considerable deposit of dark pigment in the fibrous tissue of the organ and in the peripheral zone of the lobules. There was no other discoverable disease nor were other organs visibly pigmented. The pancreas [illegible] free from pigment.

The three classical features of hæmochromatosis are glycosuria, hypertrophic cirrhosis of the liver, and pigmentation of the skin and internal organs. Of the viscera the liver presents the greatest degree of pigmentation, but the cells of the pancreas and of the salivary glands and those lining their ducts are also affected; and according to Rabé the lungs are also the seat of pigmentation. The pigment is supposed to arise by a breaking-up of the blood-corpuscles and the pigmentation of the organs takes place in the process of eliminating the products of the broken-down hæmoglobin. Two separate pigments have been isolated, a brown substance containing iron, said by Auscher and Lapicque to be a hydrate of iron; and a black one free from iron. Neither cirrhosis of the liver nor glycosuria is, apparently, invariably present in this disease, nor is a condition of fibrosis of the pancreas always found. The relation of the condition to glycosuria presents, therefore, a very interesting problem. Since glycæmia (as evidenced by glycosuria) is not invariably present it cannot be, as suggested by Hanot and Chauffard, that the existence of sugar in the blood is the cause of the breaking up of the blood corpuscles—an idea improbable in itself, since in most grave cases of diabetes, in which there is a large quantity of sugar in the blood, there is no evidence of pigmentation. The glycosuria of bronzed diabetes seems, indeed, to be a late occurrence in many cases. The peculiar condition of intermittent glycosuria which was found in the case above recorded has not, so far as I know, been previously noticed in association with this condition; but it seems that the disease is susceptible of cure, as in a case recorded by Murri; in this, curiously enough, there were no signs of cirrhosis of the liver; the pigmentation of the skin and the glycosuria disappeared under treatment. It is tempting to suggest that the presence of sugar in the urine in those cases—at all events, in the early stages—is due to disturbance of the liver and is a glycosuria not a diabetes. More probably, perhaps, we are in the presence of a functional disturbance of the pancreas. In some cases, as in the one which I have recorded, the pancreas undergoes serious organic changes towards the end of the illness; and if the affection of this organ is sufficiently grave, true diabetes ensues. The cells of the pancreas did not appear to have suffered any structural change from the fibrosis in Dr. Bruce's case; this may, perhaps, account for the glycosuria being intermittent and not continuous, but it might be anticipated that if the fibrous tissue subsequently contracted, or the cirrhosis became more pronounced, permanent interference with the functions of the organ would ensue and lasting diabetes—if this be really connected with pancreatic insufficiency—follow. What may be the source of the poison which causes the destruction of the blood-corpuscles there are apparently no data to help us to determine. The existence of a biliary cirrhosis of the liver and the pigmentation of the abdominal organs to a greater degree than those elsewhere seem to point to a source in the alimentary canal, and the cirrhosis of the pancreas would seem to confirm this conjecture, since, as has been previously mentioned, infection passing along its duct appears to be the usual cause of fibrosis of this gland.

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ABSTRACT OF

The Hunterian Lectures

ON

THE DISSEMINATION OF MAMMARY CARCINOMA.

Delivered before the Royal College of Surgeons of England on [illegible] March 13th, 15th, and 17th, 1905,

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LECTURE II.[1]

Delivered on March 15th.

MR. PRESIDENT AND GENTLEMEN,—In my first lecture I laid before you the clinical and statistical evidence for my belief that cancer of the breast spreads in the parietes centrifugally and by continuity and that it probably spreads primarily in the plane of the deep fascia where the principal parietal lymphatic plexus is situated by actually growing along (permeating) the vessels of this plexus. The object of this lecture is to place before you the histological proofs for the theory thus provisionally outlined. To obtain these proofs it was necessary to examine the parietal tissues over a wide area, preferably by means of long radial sections extending in one or more directions from the primary neoplasm. This has been done with some completeness in three cases and partially in two others. I would like in passing to express the opinion that there is much yet to be done in morbid histology by the application of microscopic methods on a macroscopic scale. Each of the strips examined, which varied in length from two to about 18 inches and included skin, fat, fascia, and a layer of the underlying muscle, was divided by transverse cuts into a series of blocks of tissue and the proximal end of each block was carefully marked. The blocks were transferred in order to numbered bottles and sectioned by the paraffin method. The corresponding longitudinal series of sections gave a view of the whole length of the original strip. In order to examine the strip in its breadth as well a series of sections was in one of the cases mounted from each block. From this case about 500 sections were prepared and examined. I propose first to describe somewhat fully a case in which the various processes were most easily traceable, next to give a general description of those processes, and lastly, by a recital of the other cases, to show how, under widely divergent appearances, the working of these processes may be traced.

CASE 1.—The patient was aged 66 years. On the thorax in the region of the right breast was an ulcerated tumour as large as an orange. It was surrounded by isolated hard nodules which extended to the right axilla, where there was a mass of growth causing œdema of the arm. Similar nodules were present in the left breast and there were a few small ones on the skin between the breasts. Elsewhere the skin was free from nodules. There were no enlarged glands in the right axilla. The right supraclavicular glands were palpable. The sternum and three of the right ribs were infiltrated and the growth had penetrated to the right pleura which showed numerous nodules, especially on its parietal portion. The right lung presented a few nodules; the left one also but to a less extent. The liver presented several superficial nodules on its surface near the round ligament. The other abdominal organs were normal. The parietal strip examined was a median ventral one, extending from 25 millimetres below the suprasternal notch to a point 60 millimetres above the umbilicus. A slice of this strip three millimetres thick was stained and rendered translucent by a method which I have elsewhere described.[2] At the level of the breast the subcutaneous tissues showed dense nodular infiltration with growth and there only could invasion of the skin be seen. The underlying pectoralis was partially infiltrated by growth. As the strip was traced downwards, a line of about four nodules was seen lying upon the upper two inches of the anterior layer of the rectus sheath. The skin over these nodules appeared normal. In its upper part the strip was defective, and owing to the absence from it of fascia and muscle the upward course of the growth could not be traced. Examination with the naked eye thus showed that the growth was spreading along the plane of the deep fascia, not along the skin, and that the growth had spread downwards beyond the lower limit of the pectoral fascia and over the abdominal wall. In order to determine the nature and extent of the fascial spread a parallel strip was microscopically examined along its whole length.

Appearances seen in a radial section extending upwards from just above the umbilicus to the level of the primary growth.—The microscopic growing edge of the cancer reached to a point about one and a half inches below the ensiform cartilage. Below this point the tissues were proved to be entirely free from growth down to the lower end of the strip, while above it they showed foci of growth at short and fairly regular intervals, varying from one millimetre or less up to five millimetres. The lower limit of the pectoral fascia had not in any way checked the downward extension of the growth. At one point the cancer had penetrated the anterior layer of the rectus sheath nearly to its deep surface. Had the section passed through the linea alba at the same level cancer cells would doubtless have been seen in ominous proximity to the subperitoneal fat and the peritoneum (see Lecture III.). For a breadth of over 30 millimetres the microscopic margin of the carcinoma lay exclusively in the plane where the deep fascia joined the overlying fat. Clearly, therefore, it was extending primarily along this layer. At the extreme growing margin the cancerous foci took the form of cross sections of lymphatic vessels belonging to the deep fascial lymphatic plexus filled but not distended by the growth of cancer along them. The cancer cells were in an active condition. There was no sign of inflammatory reaction to the cancerous invasion. Higher up—i.e., nearer to the primary growth—the lymphatics showed increasing distension by the growing cancer cells, which themselves were undergoing degeneration as the result of the increased pressure produced by their proliferation. Around the invaded lymphatics were seen collections of round cells. Still higher up were seen spaces containing cancer cells and a few red blood corpuscles. It will be shown later that these spaces were formed by the rupture of the distended lymphatics. Still higher cancer seemed to have almost disappeared from the deep fascia, but on close examination permeated and ruptured lymphatics were seen in process of obliteration by an inflammatory reaction which ended in the formation of fibrous tissue. The slender cylinders of cancer cells were finally strangled by the contracting fibrous tissue. Here also for the first time the adjoining layers, the skin and muscle, showed commencing nodular invasion. As the primary growth was approached the deposits became more massive and numerous. In this region the macroscopic nodules appeared isolated one from the other and the process of permeation could not clearly be made out.

Before describing the other cases I have examined I propose to anticipate some of the evidence and to give a general description of the pathological processes seen in the parietal spread of cancer of the breast.

PERMEATION AND ITS SEQUELS.

The growth of cancer along lymphatic vessels is, no doubt, simply the result of that same tendency to take the direction of least resistance, which on the surface of the body manifests itself in fungation. By preference the process seems to traverse vessels of not less than 40 or 50 μ in diameter, avoiding for a time those of smaller calibre and therefore of higher resistance. The trunk lymphatics also, as Stiles's researches have shown, remain free from growth until a late period, but for a different reason. In them the lymph stream is strong enough to sweep away as emboli any cancer cells which gain an entrance until, in a late stage, their outlet is dammed by growth in the glands or by external pressure. This, no doubt, is the reason why cancer of the thoracic duct is so rare. Nevertheless, when cancer of the thoracic duct does occur, the duct and its tributaries are so obviously converted into solid cords of growth[3] that the process of permeation can be followed by the naked eye. When the tissues are transparent, as is the case with the thin pleura and peritoneum, permeation can be seen without the aid of the microscope even in very minute lymphatics. In less favourable situations—as, for instance, in the parietal tissues—permeation cannot be directly observed and has to be inferred from sections. A permeated lymphatic plexus in vertical section would appear as a series of dots at intervals corresponding to the diameter of its meshes, each dot being a section of a cancer-filled lymphatic. The appearances in the radial section just described must, therefore, indicate permeation of the fascial lymphatic plexus.

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[1] An abstract of Lecture I. was published in THE LANCET of April 8th, 1905, p. 909.

[2] Archives of the Middlesex Hospital, vol. iii., 1904.

One of the main difficulties in the acceptance of the permeation theory of dissemination is that microscopic evidence of it is so often wanting. But the reason of this is not far to seek. I find that a lymphatic along which cancer has grown does not persist indefinitely in that condition until the death of the patient affords an opportunity for its examination. A series of changes occurs in the permeated lymphatic which usually ends in its destruction. I shall refer to this process as perilymphatic fibrosis.

[The lecturer here showed a number of photo-micrographs illustrating the various stages of permeation and perilymphatic fibrosis, which will appear in the forthcoming volume of the "Archives of the Middlesex Hospital."]

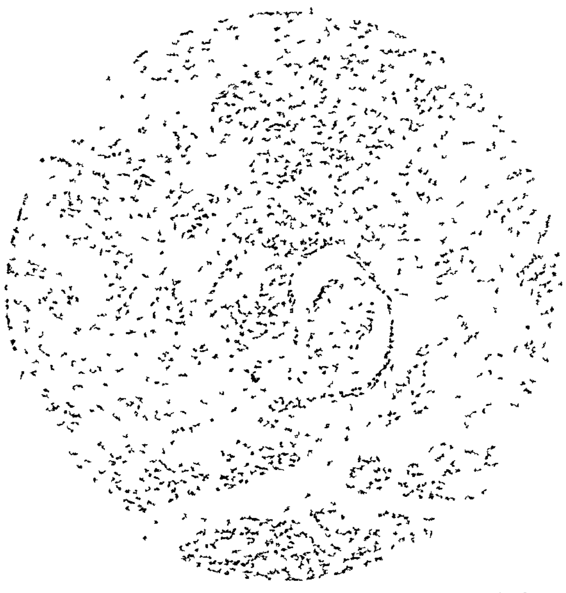
PERILYMPHATIC FIBROSIS.

It has already been stated that while cancer cells in blood cause clotting, cancer cells in lymph excite no such thrombotic reaction. Nor in the tissues round a permeated lymphatic is there at first any sign of reaction. Instead of being filled by lymph the lymphatic is filled by a cylinder of cancer cells but no other changes are visible. Soon, however, owing to the elasticity of the lymphatic and to the continued proliferation of the cancer cells within it the vessel is distended to several times its normal diameter. This distension is followed by a process of inflammatory fibrosis around the invaded lymphatic, analogous to that which on a large scale follows the prolonged distension of a hollow viscus, such, for instance, as the gall-bladder or the Fallopian tube. The commencement of this process is heralded by the appearance of round cells, apparently emigrated leucocytes, in the perilymphatic tissues. By this time the cancer cells themselves have undergone certain changes due to the harmful pressure resulting from their own proliferation. These changes are most marked in the centre of the mass of cells. Often a single layer of well-preserved cells forms a gland-like lining within the lymphatic endothelium, while all the central cancer cells are swollen, hyaline, refractile, and have lost their tinctorial affinity. Although, owing to the elasticity of its wall, a lymphatic vessel is for a time simply stretched and distended by the mass of cancer cells its powers of resistance are not unlimited. Sooner or later the permeated lymphatic ruptures (see Figure) and the cancer cells within it are set free to invade the surrounding tissues. The rupture frequently causes slight traumatic hæmorrhage into the space inclosing the cancer cells, which are now contained on one side by the endothelium of the ruptured lymphatic, and on the other side by a false capsule formed by the perilymphatic tissues.

At first sight it would appear that all obstacles to the interstitial spread of cancer in the perilymphatic tissues are now removed. But for two reasons this is not the case. In the first place, the cancer cells thus set free are frequently degenerate and unviable as the result of the pressure to which they have been subjected. In the second place, the rupture of a permeated lymphatic greatly intensifies the inflammatory reaction which was already present in the perilymphatic tissues. Round cells collect in large numbers around the liberated group of cancer cells and infiltrate its periphery. Round-celled infiltration is followed by the formation of granulation tissue and by the appearance of newly formed capillaries. A definite capsule of young fibrous tissue is soon seen inclosing the mass of cancer cells, and although the latter may for a time increase and multiply within their fibrous capsule, they are ultimately strangled by its contraction or destroyed by phagocytosis. Finally the permeated lymphatic is replaced by a slender thread of fibrous tissue not clearly distinguishable from a nerve except by special methods of staining. Perilymphatic fibrosis is obviously a curative process, but unfortunately, from this point of view, it has certain defects.

THE FORMATION OF NODULES.

It has been stated that at first permeation spreads only along the lymphatics of medium size. But in its later stages, owing to hyper-distension by cancer cells and to contraction of the perilymphatic fibrous capsule, the pressure within the permeated lymphatic is increased to such an extent that cancer cells are by this pressure and by their own proliferative power forced in a continuous line alor the smaller branch lymphatics. Each of these bran lymphatics takes origin from a bundle of lymphat capillaries which are in their turn invaded. In favourab



The illustration shows the rupture of a permeated and distended intramuscular lymphatic. Slight hæmorrhage has in consequence occurred and there is much round-celled infiltration around the rupture Near to the lymphatic are a normal artery and vein. The extension of permeation along the small tributaries of the ruptured lymphatic can be seen.

circumstances cancer cells still viable may in this way rea the extreme periphery of the lymphatic system. The wa of the lymphatic capillaries consists simply of a layer endothelium and can offer no effective resistance to intern pressure. Consequently, before inflammatory reaction ca occur there is interstitial invasion of the tissues and a loca ised nodule is formed, the limits of which correspond first, according to my observations, with those of tl capillary area into which permeation has extended. Pe meation of the smallest lymphatics is best seen in muscl At first lines of cancer cells are seen running betwe normal muscle fibres. Later the muscle fibres themselv may be seen occupied by cancer cells, while the permeat lymphatics have been replaced by fibrous bands. Of cours this is not the only way in which nodules may be forme Along the course of a medium-sized lymphatic, for instanc fibrosis may fail, if only at isolated points, and macroscop nodules may in consequence be formed. Not infrequentl such nodules are seen upon the deep fascia.

THE LATENT PERIOD OF THE REACTION TO PERMEATIO

Since a curative process of perilymphatic fibrosis is o of the results of permeation, the latter process might co ceivably thereby be arrested. And perhaps this does som times happen when the reproductive power of the canc cells is relatively small or when they cohere strong together. But since perilymphatic fibrosis only occurs in the late stage of permeation, it is usually absent at the microscopic growing edge of the carcinoma, which continues to advance. [illegible] keep always just [illegible] action. Dr. W. S. [illegible] process of stroma formation fails in a similar way to check the interstitial advance of a primary carcinoma, because it is absent at the actual infiltrating edge.

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[3] Cf. W. T. Hillier: Carcinoma of the Thoracic Duct, Transactions of the Pathological Society, 1903, p. 153.

CONTINUITY OF THE SECONDARY DEPOSITS WITH THE PRIMARY GROWTH.

It appears that the parietal metastases of cancer of the breast, however remotely [illegible] with the primary growth. [illegible] continuity is destroyed [illegible] fibrosis, which obliterates the permeated lymphatics that originally formed the lines of communication. Probably metastases in the lymphatic glands are the only parietal metastases which originate from lymphatic embolism.

THE ZONAL ARRANGEMENT OF MAMMARY CARCINOMA IN THE PARIETES.

Although all the parietal secondary nodules may be regarded as outlying portions of the primary growth it is convenient to retain the term "primary growth" for the region of interstitial infiltration around the original focus. Beyond the boundary of this region three distinct zones may more or less clearly be recognised. In absolute and relative extent they vary enormously in different cases, and of course in different stages of the same case. Those zones are as follows.

(*a*) *Zone of isolated nodules.*—This zone immediately surrounds the primary growth. In it isolated or confluent nodules are present in the various layers of the parietes. The intervening permeated lymphatics have partially or completely been destroyed by perilymphatic fibrosis.

(*b*) *Zone of active perilymphatic fibrosis.*—In this zone permeated lymphatics are recognisable in the deep fascia undergoing the [illegible] lules are commencing [illegible] this zone the proces[illegible] least resistance, is usually found only in the deep fascia, where the main lymphatic plexus is situated.

(*c*) *Zone of fascial permeation.*—This is subdivisible into a proximal and a peripheral zone. In the proximal portion of this zone the permeated and distended lymphatics of the deep fascia are surrounded by perivascular collections of leucocytes. Permeation has not to any extent invaded the small tributaries of the fascial plexus and cancer is found only in the deep fascia and in the immediately overlying subcutaneous fat. In the peripheral portion of the zone which forms the microscopic growing edge the permeated fascial lymphatics have not yet been distended by the cancer cells within them and no excess of leucocytes is present either around the permeated lymphatics or in the blood-vessels near them. Inflammatory reaction to the cancerous invasion is thus entirely absent at the growing margin.

Case 1 was an especially favourable one for the microscopic study of dissemination in the parietes. Permeation was proceeding fairly rapidly and hence the zone in which it occurred was a wide and well-marked one. Visceral metastases had killed the patient before the area of extension had become unmanageably large. In the next case I shall place before you the process of permeation was slow and the zone of permeation consequently very narrow. The survival of the patient for a long period allowed the zones of isolated nodules and of perilymphatic fibrosis to reach a considerable width. The later stages of fibrosis were consequently better seen than in Case 1.

CASE 2.—The patient was aged 73 years. The right side of the chest presented a cancerous ulcer as large as a man's hand, extending from the second to the sixth rib, to the anterior fold of the axilla, and to the margin of the sternum. There were metastases in the right and the left axillary and in the right supraclavicular glands, and in the left breast. Beneath the primary growth the ribs and the right pleura were infiltrated. Posteriorly there were some small scattered growths on the parietal pleura, especially in its lower part. In the abdominal cavity there was a malignant deposit on the anterior border of the right lobe of the liver and one portal gland was cancerous. Two radial strips were examined running in different directions from the edge of the ulcerated growth. To the naked eye the proximal portion of the strips presented a line of confluent nodules along the junction of the dermis with the subcutaneous fat. Further on the nodules became smaller, with [illegible] al skin. At the distal [illegible] Along the whole len[illegible] esent in the plane of the deep fascia. So far the evidence was strongly in favour of the accepted view that cancer of the breast frequently spreads along the skin in the plane of the (hypothetical) deep cutaneous plexus. Histological examination of the strips showed the following points:—

Strip A, extending for 90 millimetres from the ulcerated edge down the right arm.—The strip was divided into six blocks, four of which were cut in series. About 250 sections from the strip were examined.

Skin.—Nodular and interstitial invasion was present more or less continuously but with diminishing intensity along the proximal 76 millimetres of the strip. Beyond this point there were two minute isolated nodules at the deep aspect of the dermis. The more remote of these two nodules was situated 84 millimetres along the strip one millimetre beyond the furthest point of invasion of the deep fascia. An oblique fibrous septum containing permeated lymphatics connected this nodule with a point on the deep fascia *proximal* to the narrow zone of fascial permeation now to be described.

Deep fascia.—In the proximal 45 millimetres of its length the deep fascia was entirely free from cancer. Several fibrous areas (fibrosed lymphatics) were seen lying near blood-vessels. At 45·5 millimetres from the proximal end of the strip was an oval area of concentrically arranged fibrous tissue inclosing a few degenerate cancer cells. Beyond this point the strip was again free from cancer as far as 63·5 millimetres. Here was seen a lymphatic about 100μ in diameter, filled by cancer cells which had ruptured its walls at one point. In another section of the series the lymphatic was replaced by two smaller ones and had evidently bifurcated. We now come into the zone of permeation and cancerous lymphatics are seen at short intervals. At 72·5, 76, 77, 78, 79, 81, and 83 millimetres permeated lymphatics of gradually diminishing size were present upon the deep fascia. From 83 millimetres to the end of the strip the fascia was free from cancerous invasion. Thus the zone of fascial permeation was here about 11 millimetres wide.

Muscle.—Along the whole length of the strip the muscle had escaped invasion.

On the centrifugal hypothesis the appearances in any two radial sections of the parietal tissues around the primary growth should be approximately alike. Strip B will show us whether this is in fact the case.

Strip B, extending for 83 millimetres from the ulcerated edge downwards and backwards into the loin across the lower ribs and lumbar fascia.—The strip was divided into seven blocks, most of which were cut serially. Over 200 sections from the strip were examined.

Skin.—The appearances in the skin were similar to those found in Strip A. Cancerous invasion was present as far as a point 49 millimetres from the proximal end—i.e., for the same distance as in the deep fascia. From 0 to 36 millimetres the skin showed nodular or interstitial growth more or less continuously. From 36 to 49 millimetres only two minute skin nodules were seen and these were not present in all the sections taken from this particular block.

Deep fascia.—In Strip B two strong layers of fascia, separated by a thin layer of fat, were present over the muscles. Cancer foci were found chiefly on the more superficial of these layers. Cancer was first met with nine millimetres along the strip where a circular mass of nucleated fibrous tissue, inclosing in its meshes a few degenerate cancer cells, was found. It was about 300μ in diameter and lay at the point of junction of a fibrous septum with the deep fascia. Above this fibrous septum ran into the "tail" of a skin nodule. One millimetre further along the strip was a similar fibrous area, 600μ in diameter, containing a large number of degenerate cancer cells. Fibrosis was less advanced than at the preceding focus and a large number of round cells were still present in the organising fibrous tissue. At the other end of the series of sections derived from this particular block the same lymphatic was seen as a solid cord of fibrous tissue, only 300μ in diameter, containing newly-formed capillaries and including only a few ghosts of cancer

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[4] Lazarus-Barlow: Text-book on General or Experimental Pathology, second edition, p. 515.

cells in the last stages of degeneration. Thus certain stages of perilymphatic fibrosis were traced *at different points along the length of the same lymphatic.* The two fascial foci of cancer just described were the only ones present along the proximal 25 millimetres of the strip. Beyond this point we leave the zone of perilymphatic fibrosis and enter that of permeation. Permeated lymphatics are now found at short intervals. They are present at 28, 29, 31, 35, 35·5, 38, 39, 43·5 millimetres, and inconstantly (in the series of sections from this block) at 49 millimetres. The zone of permeation at this point was thus about 21 millimetres wide. Distension and rupture of the permeated lymphatics are visible towards the proximal border of the zone, while towards its distal border the lymphatics become smaller, since they are filled but not yet distended by the cancer cells. From 49 millimetres to its termination 83 millimetres from the edge of the ulcerated growth all the layers of the parietes were entirely free from growth. In particular a series of sections taken from the block immediately beyond the microscopically determined growing edge was entirely free from cancer.

Muscle.—The muscle has escaped invasion except at one point 38 millimetres from the proximal end of the strip. Here a small permeated lymphatic can be traced in longitudinal section for a long way down into the muscle. Since the parietes here are quite thin cancer might thus invade the perirenal fat and reach the lumbar glands (*cf.* Lecture III.).

The outstanding fact which emerged from the comparison of those two radial sections of the parietes was that in their proximal portion permeated lymphatics had disappeared from the deep fascia and that further from the growth an advancing edge of fascial permeation was present. These two radii were taken in random directions from the primary neoplasm and there is no reason to doubt that radial sections in any other directions would have given similar results. If this be admitted the existence of an annular area of permeation surrounding the growth at some distance from its macroscopic edge must be taken as proved. Permeation was absent over a wide zone, intervening between the zone of permeation and the primary growth. But that permeation had been present in this region, and passing beyond it had given place to perilymphatic fibrosis, was conclusively shown at a few points where all the stages of the metamorphosis could be traced. In Case 2 the three zones so clearly seen in Case 1 are foreshortened and confused but still recognisable. Owing to the absence of nodule formation in the layers adjoining the deep fascia, the zone of active perilymphatic fibrosis is better seen than in Case 1. But the most important new link in the chain of evidence was that the various stages of perilymphatic fibrosis were shown not in different lymphatics but at successive points along the length of the same lymphatic.

One difficulty has still to be met. In some sections invasion of the skin had extended slightly beyond fascial invasion and it may be said that cancer was extending along the skin and only secondarily extending from the skin to the deep fascia. The explanation is simple. Some of the fibrous septa along which permeation extended to the skin from the zone of perilymphatic fibrosis ran obliquely in a distal direction to a point on the skin beyond the narrow advancing edge of fascial permeation which formed the true growing edge of the cancer.

[The lecturer next described the histological results derived from Cases 3 and 4. These cases, though less completely examined, confirmed in general outline and in some respects extended the conclusions reached from Cases 1 and 2. He continued:—]

We have now studied cases in which parietal extension was moderately rapid and cases in which it was slow. In the case now to be described parietal dissemination was very rapid and had reached an extreme degree.

CASE 5.—Six months before death the patient first noticed a lump in the left breast. Subcutaneous nodules soon appeared, at first near the breast. A fortnight before death they were scattered universally, though irregularly, over the whole body except upon the distal portions of the arms and upon the lower extremities. At death nodules were present on both thighs as far as six inches below the anterior superior spine of the ilium. In this case, therefore, the clinical evidence for centrifugal spread appeared conclusive and an increase in the size of the invasion circle was directly observed during the last fortnight of life. The histological characters of the growth were peculiar. Its cells were of moderate and uniform size with round and vesicular nuclei and displayed a marked tendency to vacuolation and degeneration. The growth was classified as an endothelioma. The following parietal strips were removed and examined histologically along their whole length: (1) from the right acromion down the right arm to a point six inches above the wrist; (2) a coronal strip of the scalp from the vertex to the ear; and (3) a median ventral strip from the chin to the pubes. In these strips numerous isolated nodules were found, on the one hand in the subcutaneous fat and on the other hand in the muscle. The deep fascia was nowhere found permeated but it presented at some points fibrous areas which were probably fibrosed lymphatics but which possibly represented nerves. The skin had almost everywhere escaped invasion. No sign of invasion of the blood-vessels was seen. It could be made out with some probability that the muscles were first invaded on their superficial aspect, for the two youngest muscular foci were situated just beneath the deep fascia. Even the negative results of this case, which cannot in any case outweigh the positive evidence of Cases 1 to 4, are best explained by the theory of permeation. I am not aware of any theory but that of permeation which will explain the centrifugal extension so clearly manifested in this case by the clinical evidence. And as regards the microscopical evidence, it is at least possible that the strips examined, long though they were, failed to pass beyond the zone of isolated nodules into the outlying zones of active fibrosis and of permeation.

Parietal Dissemination a Serpiginous Process.

The general resemblance between the mode of spread of cancer of the breast in the parietes and the mode of spread of certain annular and serpiginous forms of skin disease cannot escape notice. But the spreading ring of cancerous permeation usually leaves in its track here and there isolated nodular foci which give rise to macroscopic nodules. It is probable, however, that this is by no means invariably the case,—that perilymphatic fibrosis, while unable to overtake the spreading ring of fascial permeation, may be successful in preventing nodular invasion of the adjoining layers. Possibly, too, the ring of permeation might die out at some portion of its circumference and continue to advance only as the arc of a circle. In such cases years of apparent health might in the end be followed by recrudescence at some remote vulnerable point, towards which in the meantime the process of permeation had steadily been creeping in a latent and microscopic form. It appears to me that permeation thus affords a rational explanation of the unsolved mystery of late recurrence.

THE "CURE" OF CANCER.

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IS a surgeon ever justified in claiming that he has *cured* a patient of cancer?

A surgeon may truly say that he has cured a person of a broken thigh-bone, or of an abscess in the hand, for by treatment he has relieved him of his trouble once and for all. But with cancer it is different. For a patient with cancer the surgeon may promise that he will "do" his "best"; but more than this he must not, cannot promise. And to "do his best" he makes a wide sweep of the growth with his knife, getting so far beyond it, indeed, that he may well hope and believe that, together with the tumour, he has taken in every cancer-germ. But, notwithstanding his wide sweep, he can never be sure that none of these germs had passed beyond it. And a cancer-germ adrift in the lymphatic stream is like a message thrown out to sea in a bottle: it may be found years afterwards—goodness only knows when or where.

In an almost pardonable wish to show forth the results of his operative-work in an attractive form, the surgeon is sometimes tempted to set up for himself a "time-limit," and then to say, "If after operation there is no sign of return of cancer in any part of the body within this period, I shall count the case as *cured.*" After all, this time-limit of his is but arbitrary. One surgeon may fix for himself a ten-years' limit; whilst another who is, perhaps, more sanguine, or who is possessed by a greater natural anxiety to show pleasant results, makes his a three-years' limit.

And if *three years*, why not *three months?* But could a surgeon who looks at facts, rather than at figures and fancies, regard the three-year group of operations-cases or even the ten-year group as *cures?* I think not. It may be much more than ten years before that little mass of drifting cancer-cells is, by chance, found cast up in an ovary or in the uterus. And if when the unwelcome discovery was made the *Table of Results* which counted that particular case amongst the *Cures* had not been already published, an important change in its appearance would have reluctantly to be made.

Far be it from me to write as one without hope with regard to the cure of cancer; but neither aspirations nor statistics can alter plain pathological facts. And it seems to me that just now Surgery (with, perhaps, a becoming wish to remove attention from her red-stained apron, and to show herself less unpleasing to the public eye) is growing a little too free in the use of the word *cure* in connexion with the treatment of cancer. Surgery should remain cold and unemotional, and, though full of hope, should not go in advance of facts. And one fact is this, that at present it is beyond her power to undertake to *cure* cancer—neither can *x*-rays nor Finsen's light, nor can any drug or nostrum taken internally or applied locally, do this. Treatment is, unfortunately, not the same thing as cure, and the most effectual treatment for cancer is still removal by the knife. Certainly for anything more serious than a small surface-growth, no measure is so trustworthy. And the great advantage which this method has over all others is that it enables the surgeon to take away also the neighbouring lymphatics, and the outlying lymphatic glands. It is by the greater freedom and thoroughness of modern methods of operating, that Surgery has of late made such great advances in the treatment of the disease. That she has advanced, and is still advancing, is beyond dispute.

And though Surgery is still unable to lay claim to curing cancer, operation, if done early and freely, and repeated again and again if need be, can, in certain cases, bring lasting relief. The following report serves as a good example of this ability:—

In May, 1876, Sir William (then Dr.) Broadbent sent to me a domestic servant with cancer of the right breast. And in doing so he asked me, if I thought fit, to try the effect upon the growth of injections of acetic acid—a method of treatment in which he had formerly been much interested. The patient, Mrs. ——, was 55 years old, a widow, who had never borne a child. She said that she had noticed the lump in the breast for about three months, and that for a long time before this she had been much troubled by feelings of pin-pricking there. The lump was very hard: there could be no mistake as to its nature. I very willingly carried out Dr. Broadbent's suggestion, making injections at six different times. But finding that the tumour was steadily getting larger, I freely removed the breast with the knife in the following July. After the operation I cut the tumour across: it was as if one were drawing the knife through an unripe pear.

Fifteen months later, namely, in October, 1877, she came up again because a hard lump of the size of a large walnut had grown upon the scar. This was freely removed by the knife, but very soon afterwards another growth appeared, which I dealt with in the same way in February, 1878 In December, 1879, she was again in trouble with the scar, so I once more operated by a clean sweep; and as at this time there were some enlarged glands in the arm-pit, I did a more thorough operation, clearing away all the axillary lymphatics. This was the last operation done upon her, and soon afterwards she asked me to fill up a schedule so that she might become a pensioner at the Royal Hospital for Incurables. This was rather more than a quarter of a century ago, and she has ever since been happily drawing her pension.

In answer to a letter from me, she wrote on March 24th, 1905, as follows: "You will be pleased to hear that I am wonderfully well and active, in my 84th year. Just now I am busy knitting night-socks for a kind lady."

If I kept statistics of operative work—a dangerous thing for some of us—I think that I should be almost tempted to claim this particular case as a cure of cancer by operation. And no one, I believe, would accuse me of undue haste in reporting the case or of arrogance in making the claim. I have other cheering cases which, were I a surgical statistician with a time-limit, I might be inclined to place with it But, as it is, I shall let Mrs. ——'s case stand by itself, and shall content myself with saying that in the other cases there is at present "no sign of return"—and this, in my opinion, is as much as a surgeon is ever justified in claiming as the best result of his treatment of cancer. For, unfortunately, the "cure" of cancer seems still to be as far off as ever.

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CYLLIN INHALANT.

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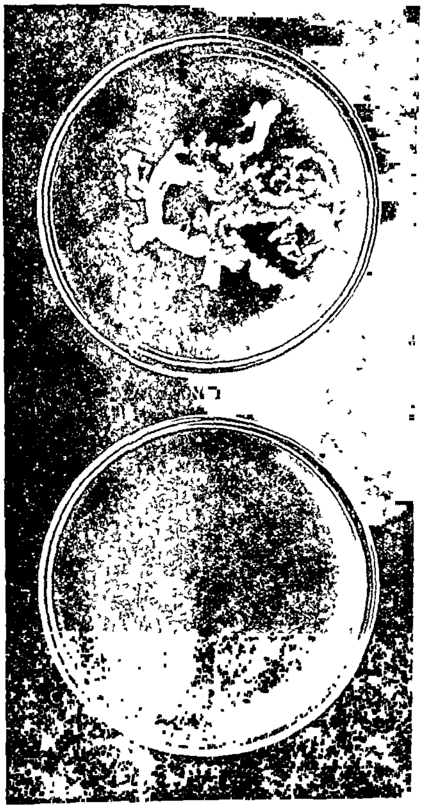
CONSIDERING the importance attaching to the presence of micro-organisms such as the staphylococcus pyogenes aureus and the streptococcus pyogenes in the purulent contents of the bronchial branches in pulmonary tuberculosis it was interesting to ascertain whether the new drug termed "cyllin inhalant" (which is not to be confused with the ordinary cyllin) has any germicidal influence on the above microbes. Experiments were therefore made with the staphylococcus pyogenes aureus in the following manner. Two surface agar plates were infected in the same manner and at the same time from the same active culture. One of the plates was kept as a control, while the other was operated upon in a Bulloch chamber with the "cyllin inhalant" for ten minutes, after which period of time it was left in the closed chamber exposed to the residual cyllinised air for one hour. The plate was then taken out and placed with the control



The upper lip was much swollen. The child was feverish and fretful. The mother stated that the previous week "he could not see out of his right eye." On lifting the lip the upper incisors were seen to be necrotic, over the right lateral and central pus oozed freely into the mouth. Ethyl chloride was administered and these teeth were removed. The roots of these teeth were as dark as their crowns; each had at its apex a small abscess sac. Half the crowns of each tooth were gone. *No milk* had been given.

CASE 6.—The patient was a boy of dark complexion, aged one year and 11 months. He was thin and fretful. He was very restless and kept the mother awake at night. On examination the four upper incisors were carious to the gum line, also the first upper molar on each side was deeply carious. All these were removed. The child had been fed on bread-and-butter and tea, sometimes a little meat, but *no milk.*

Such cases are by no means rare. The early age of the patient, with the absence of proper nourishment, are the chief characteristics, with perhaps a voluntary statement on the mother's part that "the teeth came through decayed."

CASE 7. *Sinus in the mandible from a temporary tooth.*—The patient, a fair-haired child, aged three years and nine months, was admitted on Jan. 21st. She was very anæmic and had a discharge from the lower jaw. On examination the upper teeth were found to be all in good condition and free from caries. On the left side of the mandible were two carious molars; in connexion with the first was a small sinus on the gum from which pus was oozing. On the right side of the mandible there were no molar teeth; these had been removed two months before. There was considerable thickening of the bone and beneath the site of the second temporary molar outside the mandible was a sinus with a free discharge of pus. Inside there was also a small sinus on the gum from which pus was oozing. Chloroform was administered and the carious teeth on the left side were removed; on the right side a probe was passed through the jaw into the mouth; no necrosed bone or the remains of a tooth were felt. The mother stated that at 12 months the child had "large" glands beneath the jaw which were lanced. The child's ears were pierced at three years "to save her eyes." The father had been out of work since Christmas. The child's food consisted of condensed milk and water, tea, and bread-and-butter, but no *fresh milk* or *meat*. The external sinus was treated with boric lotion on lint. Mistura ferri perchloridi was prescribed. One pint of milk was ordered each day. The child was thus treated for four weeks. She was much better and had gained four pounds in weight. The mandible was almost normal, the swelling was gone, and there was very little discharge. On March 4th the face was much swollen. There was a free discharge of pus from the sinus externally and internally. The father was out of work and the child had no milk. A month later the child was quite well. The father had work, the child was having good food and plenty of milk. Both sinuses were healed and only an external scar remained. This case is an object lesson in *malnutrition.*

CASE 8. *Chorea.*—The patient, a girl of dark complexion, was admitted on March 19th, 1901. She had been ailing for four or five months. She had well-marked chorea. There were movements in the face, the hands, and the feet, chiefly on the right side; she could not sit still. She was very anæmic. The mother stated that the child had been under medical treatment since the commencement of the illness. She had never had rheumatism or bronchitis, but had complained of pains in her legs. For the past month she had been under the treatment of Dr. Soltau Fenwick, my colleague. The appetite was bad. On examination the patient had foul breath and several necrotic roots of temporary molars in the maxilla and the mandible. These were removed. On May 14th, though better, the patient would not sit still; the appetite was better. She had had toothache for two days. On examination the upper six-year molar was carious and the nerve was exposed. This was removed. On the 21st the patient was rather worse. The mouth was still in an unhealthy condition; the mucous membrane round the necks of the teeth was deeply congested; there was no ulceration. One teaspoonful of lime juice three times a day was ordered. On June 4th she was much better; the mouth was clean and healthy; there was little or no movement in the limbs now.

Chorea is generally associated with rheumatism. It is well known that the symptoms are more likely to arise in children of a neurotic type. The symptoms appear to lie dormant for a time and then to be set up by very trivial causes. Given a neurotic subject, any source of irritation may be cited as a contributory cause or as a means of keeping up the movements so typical of the disease. Though closely associated in its pathology with rheumatism this disorder appears to be the expression of a nervous system goaded to desperation by accumulated ills. Removal of one evil alone does not effect a cure. It is only as each one is sought out and removed that the symptoms disappear. That a fruitful source of irritation may be found in carious teeth is well illustrated by this case, one only of many.[2]

CASE 9. *Nervous affection of the mouth and the eyes.*—On April 16th, 1901, a fair-haired girl, nine years of age, was sent on to me by my colleague Dr. Fenwick, who had treated her with belladonna and bismuth. There were twitching of the eyes and mouth and a general restlessness of the body. The complaint was not chorea. The girl attended school regularly and was in the second standard. On examination the four upper temporary molars were found to be deeply carious. These were removed as she could not eat without pain. On the 23rd she was much better. A lower six-year molar was filled. The gums were deeply congested and purple round the necks of the upper and the lower incisors. The breath was foul. She was ordered oatmeal porridge for breakfast. A teaspoonful of lemon juice in water sweetened with a little sugar was given three times a day. On May 1st the patient was quite well. She had no nervous tremors; the gums were quite healthy and the breath was sweet.

CASE 10. *General malaise; nervous tremors.*—The patient was a boy, aged ten years and six months, and was very anæmic. He had been ailing for the past three months. He would wake up in the night in a fright, with nervous tremors. There was much discharge on the pillow. His diet was good—vegetables, bread and milk, and meat. On examination the boy had a clean tongue but foul breath. He had six carious temporary teeth and six carious permanent teeth. The four lower temporary molars were necrotic; in connexion with those on the left side were sinuses from which pus was oozing freely. These four teeth were removed and the permanent teeth were filled. Mistura ferri [illegible]. In a fort[illegible] ous tremo[illegible] is a

CA[illegible] gan fair-h[illegible] to swell three months previously. These were inflamed and suppurating three weeks since; they were opened and were still discharging. On examination there was a suppurating submaxillary gland on the right side. There were a necrotic second temporary molar and the necrotic roots of a six-year molar on the right side of the mandible. No other source of irritation could be found. The tonsils and the pharynx were normal. The tooth and the roots were removed. A fortnight later the wound in the neck had ceased to discharge and only a scar remained.

In this case there was no evidence to prove that this patient was the subject of tuberculosis but I may remind you that one of the commonest sites for tubercle to develop in such glands is about the neck and beneath the lower jaw in those lymphatics which drain the surfaces of the head and face, and in fact those parts most liable to irritation. Mr. Edmund Owen, in a paper he read before this society,[3] directed attention to the fact that septic infection of the glands beneath the jaw frequently takes place in children through carious teeth. In reading over that paper and the discussion which followed I was struck with the fact that his opinions were received with a considerable amount of scepticism; but I have seen so much of it among the children of the poor that in private as well as hospital practice I never hesitate to sacrifice a tooth where the evidence of glandular irritation is present. It may be transitory, disappearing, as in this case, when the site of infection has been removed, but it may be tuberculous and spreading to other glands infect the whole body.

I have not attempted to divide these cases into local and constitutional because at best it is an arbitrary selection depending upon the severity of the symptoms. Two factors in the production of systemic disease stand out with considerable prominence in these cases, factors which, if I may say so, "play into each other's hands"—*defective dentition* and *malnutrition.*

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[2] Diseases of Children's Teeth, p. 156 et seq.

[3] Transactions of the Odontological Society, June, 1894.

The inability to masticate food in order to prepare it properly for gastric digestion, the constant nervous irritation caused by the exposure of one pulp chamber after another, the accumulation of putrid and decomposing material in cavities already the home of innumerable bacteria with the vitiated secretions, are in themselves sufficient to produce in the growing child a lowered vitality which renders him a ready prey to other disorders of the body. Add to all this a weakened bodily tissue in which heredity has played an important part, injudicious feeding in which ignorance of what is best and how to prepare it is always evident, with lack of cleanliness and much which tends to make life worth living even among the poorest, and you have some explanation of how dental disease may be related to other diseases. In the first few years of my attendance at the Evelina Hospital I was in the habit of trying the effect of constitutional methods alone where there were no immediate signs of dental pain—that is, by prescribing some medicine (nothing satisfied the mothers of these patients better) and lecturing the mothers on food and the way to prepare it—but it was a slow and wearying process and it had to be abandoned. Many of my colleagues do the same thing but a glance inside the children's mouths is sufficient to make them send the patients on.

In some of these cases mentioned this treatment has been tried and abandoned. *Active dental treatment is absolutely essential* and by the satisfactory results obtained you have a proof of how readily the young respond to treatment which goes to the source of trouble. There is another point which I must not fail to notice, though it has been incidentally referred to—viz., the accumulation of the products of putrefaction within the mouth. This is not only occasioned by teeth in varying stages of disintegration with the decomposing food around them but by marginal inflammation and ulceration of mucous membrane and gum tissue encircling the teeth—stomatitis in various forms. They may vary and there may be different forms according to the bacteria found in the discharges or vary according to the degree of severity; that, however, does not concern me now: it is the fact of stomatitis being present, and as a consequence of lowered vitality it is typical. There is a wound in the mouth, a foul discharge, with an extra recruiting ground for bacteria. Some of these may find their way into the blood directly; most are passed on to the stomach. In one case they produce all the symptoms of acute toxæmic poisoning, or should the gastric juice of the stomach fail to destroy them there is a slow toxæmia by absorption through the alimentary canal. In 1895 I referred to this subject and published two cases on the clinical side. Here is a typical one[4]:—

> A girl, aged 11. Admitted as a case of tubercular meningitis. Emaciation extreme, marked anæmia, constant vomiting. Breath most offensive. The child seemed almost moribund. The mouth was cleansed with pot. permang. for three days, then seven carious teeth were removed. She was given full diet. In eight weeks her weight increased from *39* pounds to *64* pounds. Seven months later she weighed *81* pounds.

This systemic poisoning from bacteria within the oral cavity Dr. W. Hunter describes as oral sepsis and at Oxford he reported a series of remarkable cases which were published with a full discussion[5] and papers were read by members of this society on the same subject. It is not my intention to enter into details but simply in passing to note the facts that in adult life one is constantly receiving evidence of modified forms of systemic poisoning due to neglected teeth and to utter a word of thankfulness that a subject so long neglected by our medical *confrères* is at last receiving some attention. Apart from the special susceptibility which some men show to the inroads of bacteria or the special malignancy of some bacteria upon apparently healthy individuals, as when typhoid fever or tubercle destroys the life of the finest soldier or athlete, it is evident that a body whose vitality is lowered forms the most prolific ground for their development. With children this is so evident that you may see the effects of dental disease upon their bodies in a hospital the like of which is not to be found in private practice, unless that practice is among the poorest. I believe that defective dentition needs oftentimes the association with other diseases in order to show those defects in the clearest light. The following will serve as an illustration.

In THE LANCET of Oct. 29th, 1904, p. 1204, five cases of actinomycosis are recorded. The first three, entitled "A Clinical Study of Actinomycosis," are recorded by Dr. R. Knox. The patients were a girl, aged 18 years; a boy, aged 15 years, a brother of the girl; and another brother, aged 17 years. All these patients were suffering more or less in their general health. They were all sent to a farm in Perthshire where cattle had died from anthrax or some other disease. All had carious teeth with alveolar abscesses and glandular infection. In the first case throughout its course alveolar abscesses appeared in the mouth; pus from one of these was examined and contained the organism. Apparently the teeth were not treated by a dentist. This patient sank and died. In the second case the boy had some trouble with defective teeth with alveolar abscesses before his illness and these were treated by a dentist. This boy recovered. In the third case the boy was suffering from an abscess in the neck and he had adenoids. "His teeth were faulty; he had pyorrhœa alveolaris. A lower molar was extracted and had a saccular abscess at its roots." Pus from the tooth abscess and the one in the neck was examined; the mycelium with spores was found in pus from the tooth. The other faulty teeth were attended to, the adenoids were removed, and the patient made a good recovery.

The two cases reported from the Victoria Hospital were that of a girl, aged nine years, and that of a boy, aged ten years. The girl developed this disease in the skin of the chest and the boy in the skin of the abdomen. No site of infection was found but no mention whatever had been made of the condition of the children's mouths or their teeth. They were both improving in general health.

In conclusion, I have endeavoured to prove that the relationship between dental and other diseases is a very close and intimate one, as might have been expected. The defective dentition which we meet with in daily practice and among the poor as seen in hospital practice has the effect, broadly speaking, of lowering the nutrition of the body and by so doing opening wide channels by which other diseases are only too ready to find their way. We are face to face with the facts that dental disease is of all diseases the most prevalent among civilised communities; that we are as far from touching the cause of this defect as we ever were. We have in our own hands not only the means of alleviating much suffering but by systematic treatment improving the general health, especially of the young, who are in a sense the most important portion of the community.

Railway Approach, S.E.

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[4] Diseases of Children's Teeth, p. 163.

[5] Brit. Med. Jour., Nov. 19th, 1904.

A CASE OF

TETANUS SUCCESSFULLY TREATED WITH ANTITETANIC SERUM AND CURARE.

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MY excuse for reporting this case is that one similar to mine was published in THE LANCET of Sept. 17th, 1904, p. 831, which recovered under the same method of treatment as that adopted by me. The case that I refer to received notice in an excellent editorial article on the Treatment of Tetanus which appeared in THE LANCET of Oct. 15th, 1904, which every medical man should read, and to which I beg to pay tribute. Therefore I trust that the following notes may not be without interest.

A healthy youth, aged 17 years, while at his work, brick-making, on Sept. 1st, 1904, trod on a rusty nail which perforated his boot and punctured the sole of his foot. His mother informed me that the wound "gathered" and that she poulticed it. The foot was well in a few days and the boy did not give up his work. On the 9th he felt some stiffness of his neck and jaw and could not masticate his food properly. I saw the patient for the first time on the morning of the 12th. He was then in bed sweating profusely and was unable to move. His teeth were firmly clenched, the muscles of his neck and back were in a state of tonic contraction, and the abdominal muscles were hard and rigid. The wound in the sole of the foot had quite healed and looked healthy, there being no tenderness In fact, all that could be seen was a black spot in the skin where the nail had entered The same evening, with the assistance of my partner, Dr F R B Hinde who in the meantime had seen the case with me and verified my diagnosis I freely excised the seat of puncture and swabbed out the wound with pure carbolic acid and packed and dressed it with sal alembroth gauze and wool We then injected ten cubic centimetres of antitetanic serum subcutaneously into the abdominal walls and ordered 20 grains each of chloral hydrate and potassium bromide every four hours

On Sept 13th, at 10 A M, the patient's condition was practically the same, he had no difficulty in swallowing and was taking liquid food well The pulse was 100 and the temperature was normal At 6 P M 30 cubic centimetres of serum were injected On the 14th, at 10 A M, he had had frequent attacks of tetanic convulsions during the night The teeth were firmly clenched, there was marked opisthotonos, the muscles of the thighs and the calf muscles were in a state of tonic contraction, the feet were extended, and the toes were flexed The abdominal walls were hard and the muscles were rigid There was slight risus sardonicus He was sweating very profusely Touching at once brought on tetanic spasms The pulse was 100 and the temperature was 99 4° F At 6 P M his condition was the same 30 cubic centimetres of serum were injected No serum was administered after this date On the 15th and 16th there was no improvement in his condition He still had frequent attacks of mild tetanic convulsions, but was taking liquid nourishment well On the 17th, at 10 A M he was about the same, he complained of great pain when "the cramp comes on" The pulse was 100 and the temperature was 98 8° One twelfth of a grain of curare was injected hypodermically into the forearm At 6 P M his condition was the same as in the morning One sixth of a grain of curare was given On the 18th, at 10 A M, he had passed a more comfortable night Muscular spasms were not so frequent or painful The pulse was 100 and the temperature was normal One sixth of a grain of curare was administered At 6 P M he had had very little pain One third of a grain of curare was injected

From Sept 19th to 21st the patient had been able to open his mouth slightly—about a quarter of an inch There had been no tetanic convulsions and he could move his head very slightly from side to side One third of a grain of curare had been administered each morning and evening On the 22nd and 23rd no curare was given On the 24th, at 10 A M, he had had a bad night There had been several severe convulsions His teeth were again clenched He was resting on the back of his head and heels There was slight rigidity of the muscles of the arms He asked to have his arm pricked again Half a grain of curare was injected At 6 P M another half a grain of curare was given On the 25t 10 A M one third of a grain of curare was administered 6 P M he was much better and was able to open his mc half an inch There were no convulsions One third grain of curare was given On the 26th at 10 A M he able to open his mouth and to move his head from side to side The muscles of the back the abdomen, the thighs and the legs were still in a state of tonic contraction There was no clonic spasm One third of a grain of curare was injected From Sept 27th to Oct 4th the muscular rigidity was gradually passing off and the patient was able to take solid food Half a grain of curare was given every evening After Oct 4th no curare was administered On the 5th, 6th, and 7th he was better and sat up in bed each day On the 8th and 9th he was out of bed and sitting in a chair On the 11th he was able to walk round the bedroom On the 13th he went down stairs and was feeling very well, his back was still a little stiff On the 15th he walked about the garden on the 16th he was able to walk well, and on the 18th he had recovered

From Sept 13th to 17th the patient was taking 20 grains each of chloral hydrate and potassium bromide every four hours On the 18th I decreased the dose to ten grains of each drug every four hours This dose he took until the 23rd, when I again increased the dose to 20 grains which he took every four hours till the 26th after which no more was taken The wound in the sole of the foot caused by the very free excision which I made was washed daily with carbolic lotion 1 in 40 and packed with sal alembroth gauze It healed without suppuration and never once caused the slightest pain

The pathology of tetanus suggests the rational treatment of the disease and before offering any remarks on the treatment I should like to point out the advisability of dropping the word "idiopathic" in connexion with tetanus as misleading There is no such thing as *idiopathic* tetanus Tetanus is an inoculable disease There must be a broken surface of skin or mucous membrane through which the tetanus bacillus is introduced or finds its way In the so called idiopathic cases the local injury—a mere prick or a scratch—has been so slight that the point of entry of the bacillus has been overlooked

In the treatment of tetanus prophylaxis plays an unimportant part Tetanus is so rare that it would be unjustifiable to employ such heroic treatment as would be necessary to destroy the bacillus even if we considered the possibility of its presence in every wound, or even in those wounds in which from their nature and causation, there is a greater possibility of its having been introduced Of course, every wound ought to be treated on strict antiseptic lines but this treatment is not sufficient to destroy the bacillus of tetanus which possesses great resisting power to the ordinary methods of destruction We know that the bacilli live multiply, and generate their specific poison in the wound itself and its immediate locality Therefore our duty is on the first manifestation of symptoms freely to remove the site of inoculation, when possible by the knife, otherwise by the actual cautery or scraping and in every case swabbing out the wound with pure carbolic acid

The question of amputation of a limb might arise on account of tetanus supervening upon some severe injury to the limb such as a compound fracture, a severe crushing, or a gunshot wound The question is a difficult one If the injury is very severe and symptoms of tetanus show themselves within five days after the accident the case is more than likely to be an acute one and the chances to be altogether against the patient's recovery In these circumstances I should advise amputation On the other hand, if symptoms do not appear until after the fifth day I would employ the best means at my disposal of destroying the bacilli and endeavour to save the limb

After removing the site of inoculation antitetanic serum should be injected under the skin of the abdomen in large doses (from 20 to 30 cubic centimetres) and repeated daily for a week or ten days Theoretically this should neutralise the poison already absorbed into the system, anyhow, it is the only means which we have of achieving that object and large doses cause no ill effects I cannot conceive that curare has a direct action on the specific poison but that it has some influence in diminishing the severity of the clonic tetanic spasms I feel sure it is said by paralysing the nerve endings It should be injected hypodermically morning and evening, commencing with one sixth of a grain and gradually increasing the dose, according to the severity of the spasms, Chloral hydrate and potassium bromide (20 or hours) appear to me to be ficial results in producing of the motor nerve cells Other details in the treatment of tetanus, such as absolute quiet in a darkened room, the administration of chloroform for relieving severe tetanic convulsions or for passing the feeding tube or catheter, and the choice of suitable aperients, need no comment

Sawbridgeworth

NOTES ON SOME INTERESTING SURGICAL CASES IN AFRICAN NATIVES

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CASES recently published in THE LANCET by the Bishop of Zanzibar[1] and Mr P H Ward[2] of Lomagundi, Southern Rhodesia, show that African natives possess a great recuperative power which enables them to recover from some very serious obstetric accidents and surgical injuries The first of the three cases now described supplies a further instance of the same kind and moreover, in several respects resembles the one recorded by Mr Ward proved. The remaining seven cases in which bacteria were found in the uterus come, however, under a somewhat different category, inasmuch as it might be questioned whether the organisms found in the uterus were the actual cause of the illness. These seven cases comprise Cases 34 and 35, in which a "diphtheroid" bacillus was found in the uterus; Case 43, in which we obtained a pure culture of the staphylococcus pyogenes albus from the contents of the uterus; Cases 41 and 42, in which we found the staphylococcus pyogenes albus in the uterus in association with the bacillus coli communis; and Cases 14 and 44, in which we obtained from the contents of the uterus a pure culture of a diplococcus which did not stain by Gram's method and which grew freely on ordinary nutrient gelatin at a temperature of 20° C., and without liquefying the medium.

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[1] THE LANCET May 7th (p 1278) and July 30th (p 301), 1904

[2] THE LANCET, Oct 15th (p 1060), 1904

Some account of the characteristics of the "diphtheroid" bacillus which we isolated from Cases 34 and 35 has already been published in Vol. LIV. of the Transactions of the Pathological Society, and we need only say now that morphologically the bacillus was indistinguishable from the bacillus diphtheriæ, but that it otherwise presented the following points of distinction: (1) it did not produce any acid in glucose peptone broth after six days' incubation at a temperature of 37° C.; and (2) it was non-pathogenic for the guinea-pig. We have found a similar "diphtheroid" bacillus in the cervical secretion of non-pregnant women, but it appears to us to be probable that in the two cases of puerperal fever in which we found it the organism was present in a pathogenic capacity. The bacillus which we have described is possibly the same species as that found by Halle in the vagina and believed by him to be the pseudo-diphtheria bacillus of Weeks. It is on record that the bacillus diphtheriæ has been found several times in the uterus or in the vaginal lochia but so far as we can ascertain the description of the bacillus found in these cases would apply to our "diphtheroid" bacillus equally as well as to the true bacillus diphtheriæ.

Cases 41, 42, and 43 can be dismissed in very few words; in the first two we found the staphylococcus pyogenes albus and the bacillus coli communis in the uterus; in the last we found the staphylococcus pyogenes albus in pure culture. In all these cases the symptoms were of what may be termed a "slight" character, but we are not prepared to suggest whether or not they were due solely to the bacteria which we found. It may be pointed out that, at any rate, the bacteriological examination of the vaginal lochia in these three cases showed the presence in each case of the same bacteria as we found in the uterus.

The last two cases of those in which we found bacteria in the uterus are Nos. 14 and 44 in Table I. In both these cases we found in the uterus in pure culture a diplococcus which presented certain distinctive characters. The organism was a largish coccus which had a marked tendency to a diplococcal arrangement; it grew freely on all the ordinary media, including nutrient gelatin, which was not liquefied; the organism did not stain by Gram's method. We found a precisely similar diplococcus in one of the cases in which we examined the cervical secretion of non-pregnant women and once in the vaginal lochia when the puerperium was normal and the uterus was sterile and we are unable to suggest anything as to its pathogenic importance in the two cases of puerperal fever in which we found it in the uterus. The cases were clinically very different; Case 14 was one of severe puerperal fever which died within eight days of the onset of unfavourable symptoms, but we did not make any examination of the vaginal lochia, nor was there any examination after death; whilst Case 44 was a very mild case of puerperal fever in which symptoms disappeared within three days and without any treatment, except intrauterine douching. We have been unable to identify this diplococcus with any of those which have been previously described as occurring in the genital passage of women. It is distinguished from the diplococcus which Bumm found in several cases of cystitis after labour by the fact that the growth on nutrient agar is of whitish colour and not yellowish as in the case of Bumm's diplococcus; and Bockhart's diplococcus which was found in cases of vaginitis, and which resembled this one in some respects, apparently was not decolourised when stained by Gram's method.

The frequency of occurrence of certain bacteria in puerperal infections.—Whilst our results correspond with those of the majority of workers at the pathology of puerperal infections with regard to what is perhaps the point of most practical importance—that is to say, the predominating importance of streptococci—there are certain other points as to which difference is noticeable. Our results have differed from those of some other writers with regard to the following points: (1) the relatively large number of cases in which we found the micrococcus pneumoniæ, certainly in four cases, and probably in two cases more; (2) the absence of the micrococcus gonorrhœæ in our series of puerperal infections; and (3) the absence of anaerobic bacteria, except for a single case in which a bacillus of this class was present apparently as a secondarily infecting organism. In illustration of these differences we may quote results obtained by Krönig, by Whitridge Williams, and by Vogel in their examination of the cavity of the uterus in cases of puerperal fever.

Krönig's results from the examination of 179 cases of puerperal endometritis were as follows: streptococci were found in 75 cases; staphylococci were found in four cases; the micrococcus gonorrhœæ was found in 50 cases. The remaining 50 cases were classified as "sapræmic"; in 43 of them no growth of bacteria could be obtained on ordinary media under aerobic conditions, but strictly anaerobic bacteria were found in 32, and therefore, presumably, in pure culture. It will be remembered that Krönig has also found the micrococcus gonorrhœæ and anaerobic bacteria in a certain proportion of the cases in which he has examined the lochia of normal puerperia.

Whitridge Williams gives the following results as obtained in the examination of the uterine lochia in 151 cases of puerperal fever: streptococci were found in pure culture in 31 cases; streptococci were found together with other bacteria (other than the micrococcus gonorrhœæ) in 13 cases; staphylococci were found in four cases; the micrococcus gonorrhœæ was found in eight cases; the bacillus coli communis was found in 11 cases; the bacillus diphtheriæ was found in one case; the bacillus typhosus was found in one case; unidentified aerobic bacteria were found in four cases; unidentified anaerobic bacteria were found in eight cases; bacteria were seen in coverslip preparations, but no growth was obtained, in 45 cases; absolutely sterile in 25 cases. With reference to two of the cases in Whitridge Williams's list, those in which the bacillus diphtheriæ and the bacillus typhosus are said to have occurred, it should be pointed out that in the first case full bacteriological proof of the identity of the organism present with the bacillus diphtheriæ was apparently not obtained, and with regard to the second case it is not clear whether the fever was due to a primary puerperal infection by the bacillus typhosus or whether the case was one of ordinary typhoid fever in the course of which labour supervened.

Vogel obtained the following results in a series of 24 febrile cases but did not use any special anaerobic methods of culture; streptococci were found in pure culture in two cases; streptococci were found with the micrococcus gonorrhœæ in two cases; streptococci with bacteria other than the micrococcus gonorrhœæ were found in three cases; the micrococcus gonorrhœæ was found in pure culture in two cases; the staphylococcus pyogenes aureus was found in one case; other aerobic bacteria were found in six cases; sterile, eight cases. Vogel remarks that the proportion of cases in which he found the micrococcus gonorrhœæ may, perhaps, be exceptional.

Whilst somewhat different results as to the precise causation of cases of puerperal infection may be expected in the examination of different series of cases, varying with the class of patient and the circumstances in which labour has occurred and in which treatment has been carried out, we confess that we are unable to offer any satisfactory explanation of the wide discrepancy between the results of the bacteriological examination in our series of 54 cases, and in the series of 179 which Krönig's statistics deal with. Even allowing for accidental failure of culture experiments it is difficult to understand how it was that in 54 cases we never found the micrococcus gonorrhœæ in the contents of the uterus and found an anaerobic organism only once, and as a secondary infection, when in his larger series Krönig found the micrococcus gonorrhœæ in nearly 28 per cent. of the cases, and anaerobic bacteria in pure culture in nearly 18 per cent. Whitridge Williams's results as regards anaerobic bacteria are probably not quite accurate as no cultures were obtained in a considerable number of cases in which bacteria were seen in stained specimens; but bacteria of this class were positively identified in about 5 per cent. of the series, whilst the micrococcus gonorrhœæ was found in exactly the same frequency. In Vogel's much smaller series the micrococcus gonorrhœæ was found in about 16·6 per cent. of the cases, whilst no deductions as to the relative frequency of anaerobic bacteria can be made in the absence of any attempt to isolate them.

Taking all the facts into consideration and allowing for the possibility that in one or two cases our methods may have failed to detect the micrococ[illegible]ia of the strictly anaerobic class [illegible] it is impossible to accept Kröni[illegible] the average frequency of occurr[illegible] puerperal infections. Kröuig's results also are remarkable for more than the mere frequency of finding of anaerobic bacteria; they are remarkable in that such bacteria were found in pure culture in as many as 32 out of 179 cases of puerperal endometritis examined. For, from what we know generally of infection by strictly anaerobic bacteria, there is reason to believe that in a very large majority of such cases the infection by the anaerobic organism is a secondary one; the conditions favourable to the growth of such bacteria are not found in a healthy wound such as the previously uncontaminated placental site presents. We realise that the peculiar conditions resulting from the retention in the uterus of what is practically dead tissue, retained placental fragments, or pieces of membrane would often permit a primary invasion by strictly anaerobic bacteria; but even so, we consider that Krönig's results with regard to the finding of anaerobic bacteria in cases of puerperal infection cannot be accepted as representing the average frequency of occurrence of this class of bacteria without further confirmation.

With regard to the frequency of occurrence of the micrococcus gonorrhœæ as a cause of puerperal fever there is a considerable difference between Whitridge Williams's 5 per cent. and Krönig's 28 per cent., the former not contrasting strongly with our own negative results in a smaller series. And here, again, we think that Krönig's results must be accepted with caution until confirmed by the work of others. We believe that undue importance has been attached to the micrococcus gonorrhœæ as a cause of puerperal fever by many writers; the bacteriological evidence of the frequency of gonorrhœal puerperal fever is open to question and the clinical evidence of its occurrence is often extremely doubtful.

We may next refer specially to those cases of puerperal fever in which the cavity of the uterus was found to be sterile of bacteria. Excluding cases of fever after miscarriage there were 48 cases of fever after labour at full term and in 33 of these we found bacteria in the cavity of the uterus. In 27 of these 33 cases the bacteria isolated were of definite pathogenic species and their presence in the uterus was sufficient to account for the symptoms of the respective cases; in the other six cases we found various bacteria of uncertain pathogenic action, but such that their presence afforded a reasonable explanation of the fever and no other more satisfactory explanation could be found. With regard to the remaining 15 cases in which no bacteria were found in the cavity of the uterus the following facts have to be noted:—

Severe cases (Series B).—Case 36: first pregnancy; laceration of the perineum; streptococci present in the vaginal lochia. Case 37: first pregnancy; laceration of the cervix and the perineum; streptococci present in the vaginal lochia. Case 38: first pregnancy; laceration of the cervix and the perineum. Case 39: second pregnancy; laceration of the cervix. Case 40: sixth pregnancy; no obvious laceration.

Slight cases (Series C).—Case 45: Second pregnancy; no obvious laceration. Case 46: first pregnancy; laceration of the cervix and the perineum. Case 47: first pregnancy; very extensive laceration of the perineum. Case 48: first pregnancy; laceration of the cervix and the perineum. Case 49: first pregnancy; laceration of the cervix and the perineum. Case 50: eighth pregnancy; no obvious laceration. Case 51: first pregnancy; laceration of the perineum. Case 52: first pregnancy; laceration of the perineum. Case 53: ninth pregnancy; laceration of the perineum. Case 54: first pregnancy; laceration of the perineum.

Amongst these 15 cases in which the contents of the uterus were sterile there were ten in which the patients were primiparæ, with, in every case, considerable laceration of the cervix or the perineum and in two of the cases streptococci were found in the vaginal lochia; in the remaining five cases the patients were multiparæ, and in two of these there was laceration of the cervix or perineum. Out of our 48 cases of fever after labour at full term, therefore, there were only three cases in which the occurrence of fever could not be explained with probability either by the presence of bacteria in the uterus or by the happening of laceration of the lower passage. These facts suggest that the probability of error arising from failure to detect the micrococcus gonorrhœæ or anaerobic bacteria in the course of our experiments may be regarded as comparatively small.

The influence of secondary infections on the course of puerperal fevers.—The relative importance of secondarily infecting bacteria is a question which must necessarily be considered in an investigation that deals with a class of disease in which there is every opportunity for secondary infection to occur. The results of our examinations with regard to this aspect of the pathology of puerperal fevers, and fevers occurring after miscarriage, may be stated as follows.

Series A.—Bacteria were found in the uterus in 14 severe cases which ended in death. A single species (streptococci twice) was found in four cases; streptococci and bacillus coli communis were found in five cases; streptococci, bacillus coli communis, and staphylococcus pyogenes albus were found in three cases; streptococci, bacillus coli communis, and an anaerobic bacillus were found in one case; micrococcus pneumoniæ, bacillus coli communis, and staphylococcus pyogenes albus were found in one case.

Series B.—Bacteria were found in the uterus in 21 severe cases which ended in recovery. A single species (streptococci seven times) was found in nine cases; streptococci and bacillus coli communis were found in one case; streptococci, bacillus coli communis, and bacillus pyocyaneus were found in one case; streptococci and staphylococcus pyogenes albus were found in four cases; streptococci, staphylococcus pyogenes albus, and an aerobic bacillus were found in one case; staphylococcus pyogenes aureus and bacillus coli communis were found in one case; micrococcus pneumoniæ and bacillus coli communis were found in one case; (?) micrococcus pneumoniæ and bacillus coli communis were found in one case; micrococcus pneumoniæ, bacillus coli communis, and staphylococcus pyogenes albus were found in one case; a "diphtheroid" bacillus and (?) another aerobic bacillus were found in one case.

Series C.—Bacteria were found in the uterus in four cases of slight fever which ended in recovery. A single species (staphylococcus pyogenes albus once) was found in two cases; staphylococcus pyogenes albus and bacillus coli communis were found in two cases.

Thus, out of 39 cases in which bacteria were found in the cavity of the uterus, in 26 more than a single species was present, and in a considerable majority of these cases of mixed infection either the bacillus coli communis or the staphylococcus pyogenes albus was present in association with the more virulent streptococci or micrococci pneumoniæ, which were, presumably, the primary infecting organisms.

Several writers on puerperal infection have held that the virulence of a primary streptococcic infection is greatly increased by a consecutive invasion of the uterus by the bacillus coli communis, and a reference to our results will suggest that there is a frequent association of these two species in severe cases of puerperal fever. But whether, as a rule, a subsequent invasion by the bacillus coli communis increases materially the severity of a streptococcic infection, under the given conditions, or whether it is the primary severity of the streptococcic infection which predisposes to a comparatively harmless secondary invasion of the cavity of the uterus by the bacillus coli communis, is not quite clear at present. In a considerable proportion of the cases in which we found a mixed infection by streptococci and either the bacillus coli communis or the staphylococcus pyogenes albus, the streptococci were present apparently in enormously preponderating numbers.

Taking a broad view, however, of the question in connexion with our particular series of cases it would appear that the finding of the bacillus coli communis in the uterine lochia in association [illegible] in relation [illegible] influence w[illegible] the case.

Sources of infection.—The source of infection in a case of puerperal fever may be found in the person of the patient herself or infection may be conveyed by those who attend her in her confinement. In the former case puerperal fever may arise from a spontaneous invasion of the uterus by bacteria present in the cervical canal or in the upper part of the vagina before the commencement of labour, or it may be caused by the conveyance of bacteria from the lower part of the passage to the cavity of the uterus by the manipulations of those who are attending on the patient. The conveyance of infection from outside sources by those who are responsible for the care of the patient during her confinement is a matter which has no special claim on our attention here; we may, however, mention that in our comparatively small series there were three cases of streptococcic infection which occurred within a short time of each other in the work of one practitioner, that a couple of cases of streptococcic and a couple of cases of pneumococcic infection occurred under similar conditions amongst the patients of two other practitioners. There has, however, been much difference of opinion as to the relative importance of auto-infection—that is to say, of infection from sources within the patient herself—in the causation of puerperal fever, and in this relation much work of investigation into the bacteriological condition of the cervical canal and upper part of the vagina in pregnant women has been carried out. And the general trend of teaching at the present time is that such source of infection may in a general sense be disregarded, and that the obstetrician has only to guard against infection from without.

Believing, as we do, that the most frequent cause of severe puerperal fever, and the most important factor in the causation of mortality from puerperal fevers, is one or other form of streptococcic infection, and there being also reason for believing that in a very large majority of cases of streptococcic infection the conveyance is from without, it is impossible to question the soundness of this teaching generally and for practical purposes. But if we consider all cases of puerperal fever, slight and severe, it is also impossible to doubt that a certain not altogether inconsiderable proportion do arise from auto-infection. So many investigations into the bacteriological constituents of the vaginal secretion of pregnant women have already been made that we did not think it necessary to re-investigate this subject and we think that an impartial review of all the work which has been carried out and published with regard to this matter will convince most obstetricians that the vagina and cervical canal of the pregnant woman may contain bacteria which are potential causes of puerperal fever. And, given the presence of such bacteria before labour, in the cervical canal especially, it is obvious that infection of the cavity of the uterus, or of lacerations of the cervix itself, must occur from time to time.

We have, however, made a bacteriological examination of the cervical secretion in 30 non-pregnant women with more or less catarrh of the lining of the canal in order to ascertain whether the bacteria which are to be found in the secretion in cases of slight disease are such as may be a cause of puerperal fever. As the result of our examination we found several bacteria which have already been referred to as being found in the uterus in cases of puerperal fever. Thus, we have found in both the cervical canal of non-pregnant women and in the puerperal uterus the staphylococcus pyogenes aureus, the staphylococcus pyogenes albus, the "diphtheroid" bacillus which we have described, a diplococcus which did not stain by Gram's method and was not the micrococcus gonorrhœæ, and another diplococcus which corresponded in every particular except pathogenicity for lower animals with the micrococcus pneumoniæ. We also found the micrococcus gonorrhœæ in the cervical secretion, although we have not been able to demonstrate[1] its presence in the uterus in any of our puerperal cases. Having regard to these results of the examination of 30 women, taken at random from amongst patients who complained of suffering from "whites," we think that it is obvious that opportunity for auto-infection must be of fairly frequent occurrence and it is probable that a very definite proportion of the cases of puerperal fever, of a mild type at any rate, arise in this way.

Conclusions.—We may now briefly refer to some points of practical interest which are suggested by the results of our investigation. In the first place it seems obvious that the old classification of cases of puerperal fever into sapræmic, septicæmic, and pyæmic has but little value; a comparison of clinical observations with bacteriological findings shows that it is practically impossible to distinguish between cases of septicæmia which are, for the time, of a mild type and cases of "sapræmia," using the latter term in what we apprehend to have been the sense in which it was formerly used in this connexion. And bacteriologically the distinction between a case of septicæmia and one of "sapræmia," or toxæmia as we would now term it, is often extremely indefinite. Whilst no really useful and at the same time concise scheme for the classification of a class of diseases presenting the variety of features which is presented in puerperal fevers is [illegible]ving scheme at any rate indicates the [illegible]sses concerned in the production of [illegible] infections:—

- I. Infection of lacerations of the perineal tissues or of the vaginal wall (sometimes with direct extension by continuity of surface to the cavity of the uterus).
  - 1. Localised infection + toxæmia.
  - 2. Localised infection + toxæmia + generalised infection.
- II. Primary infection of the contents of the uterus or of the placental site.
  - 1. Localised infection + toxæmia.
  - 2. Localised infection + toxæmia + generalised infection.

We have already said that perhaps the chief point which presents itself amongst the results of our investigation is the predominating importance of streptococcic infection in the causation of puerperal fevers. Thus, referring once again to the results of our bacteriological examinations, it will be seen that out of 14 cases of puerperal fever which ended in death, 10 were cases of streptococcic infection; that in 26 severe cases which ended in recovery there were 16 patients who had a streptococcic infection of the uterus and two who showed streptococci in [illegible]lst none of the 14 cases of [illegible] rising above 102° F.) had a streptococcic infection. And the next most important organism was micrococcus pneumoniæ, which accounted for three out of the four other deaths, whilst the cause of the remaining death remained uncertain. Infection by various strains of streptococci or by micrococcus pneumoniæ was present in 33 out of 40 cases of severe puerperal fever (Groups A and B), and these organisms may be held responsible for 13 out of the 14 deaths which occurred (Series A). And between streptococci generally and micrococcus pneumoniæ there are such close affinities with respect to pathogenic action that, apart from the question of specific antitoxic serum treatment, the same general treatment may be regarded as applicable to either.

We think, therefore, that we are justified in laying it down as a general rule that in the absence of a definite bacteriological diagnosis the safe course for the practitioner to adopt is to deal with every case of puerperal fever in which the temperature rises above 102° F. as if it were a case of streptococcic infection.

With regard to the question of the special antitoxic treatment of streptococcic infection there is very little that need be said now, the more especially so as one of us has recently dealt with the matter at some length.[2] We believe, however, that more than one species of streptococcus is met with in puerperal infections and that for serum treatment to be applied with any reasonable hope of success under present conditions a polyvalent or compound serum from a horse immunised against the various strains of streptococci which are met with in puerperal infections is necessary. And we believe that by the use of such a compound antistreptococcic serum, recently obtained from the horse and used in sufficiently large doses, a considerable reduction in the mortality caused by streptococcic puerperal fever could be effected.

The next point which we have to consider is the question of active curettage of the uterus in cases of puerperal infection. In the case of either a streptococcic or pneumococcic infection of the uterus, with or without secondary infection by other bacteria, this procedure would seem on the one hand to be incapable of doing any good, and on the other hand might be productive of most serious result by infecting the hitherto intact deeper tissues of the uterine wall. Nor, again, is it probable that in cases in which the uterus is invaded by bacteria which, unlike the streptococci and micrococcus pneumoniæ, have little tendency to infect the deeper layers of the uterine tissues, the operation is likely to effect any definite good by removing all infection, however thoroughly the curettage may be carried out. We consider, therefore, that the use of the curette should be absolutely discarded in the treatment of puerperal uterine infection.

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[1] Full details of this series of cases will be found in the Transactions of the Obstetrical Society of London, 1905.

[2] The Treatment of Streptococcic Puerperal Fever by Antitoxic Serum, THE LANCET, Dec. 31st, 1904, p. 1823

The results of the treatment of some of the cases of streptococcic infection which have been dealt with in this paper have been such as to suggest that the best local treatment to adopt is that which is now commonly carried out in this country at the onset of puerperal fever—digital exploration of the uterus, the removal in this way of any retained fragments and subsequent douching of the cavity of the uterus with an antiseptic solution. A clinical fact of some importance is that, although invasion of the uterus by streptococci is marked by a sharp rise of temperature and other symptoms of some severity, the fever may be transient, subsiding within 48 hours without any special treatment. *This fact is one that may be usefully remembered* when tracing the conveyance of infection in puerperal cases.

The last matter which we have to refer to is the question of preventive measures which can be taken against the risk of auto-infection; the use more especially of vaginal douching with antiseptic solutions before the commencement of labour. We have the strongest doubts as to the effect of any such douching upon bacteria located in the cervical canal, such as those which we found in the cervical secretion of non-pregnant women, and regard the procedure as generally a useless one. But at the same time the objection which has been urged against it, that by means of it bacteria may be conveyed from the vulva to the upper part of the vagina, appears to be without good foundation.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A REMARKABLE CASE OF STRANGULATED HERNIA.

BY H. E. BARRETT, M.R.C.S. ENG., L.R.C.P. LOND.

THE following case will probably prove interesting to some readers of THE LANCET.

I was recently called to see a man, aged 77 years, whom I found dead on my arrival. I made a post-mortem examination which showed general peritonitis caused by a strangulated hernia, the gut being gangrenous, perforated, and united to the *bottom of the sac by recent adhesions*. The *hernia*, which was of the oblique inguinal variety, had not reached the scrotum. From the perforation there protruded what at first sight appeared to be a mass of fæces but on slitting up the intestine and removing this I found that it was a *portion of newspaper apparently* carefully folded up to about the size of a domino but slightly thicker, forming a hard angular mass; this was lying in the strangulated loop of intestine. Just above it there was another rather smaller piece also folded. They both had a *very slight fæcal envelope*. *At the inquest it came out that* the deceased had suffered from chronic constipation and I think it is not improbable that the paper might have been swallowed in the hope of obtaining an action of the bowels. The friends could throw no light on the matter. The paper when *unfolded* proved to be about a quarter of a sheet of the *Star* newspaper, the printing being none the worse for its journey through the stomach and small intestines. The hernia was an [illegible] there were no [illegible] except a slight [illegible] man died.

Holland Park-avenue, W.

NOTE ON A CASE OF OBSTRUCTION TO THE THIRD STAGE OF LABOUR BY A CERVICAL FIBROID.

BY W. BAIN, M.B., B.S. LOND.

THE following case, which occurred in the maternity department of the Middlesex Hospital presents some features that are interesting and uncommon.

The patient, a woman, aged 38 years, had had 12 children, the last one being two years old. When confined she was at full term and her pregnancy had proceeded normally. There was nothing to note about the first part of the labour beyond the fact that the size of the uterus and its irregularity suggested to the attendant the possibility of *twins*. The birth of the child took place naturally but was followed by fairly severe hæmorrhage which was, however, controlled by stimulation of the uterus and a hot douche. It was at this point that I was called in. The patient was very blanched and had a *pulse of* 140 *which was soft and feeble*. The placenta was still in the uterus. On palpating per abdomen the uterus was found to be fairly contracted and irregular in shape, a large prominence being felt on the left and another on the right.

On making a vaginal examination the passage of the finger through the internal os was prevented by a hard mass. On pressing in a direction almost directly forwards the obstacle was surmounted. The placenta was found to be imprisoned in the fundus of the uterus. With considerable difficulty and some renewal *of the hæmorrhage it was delivered*. The difficulty was rendered greater by the placenta being closely adherent to the uterine wall. After delivery the uterus contracted and the tumour was found to be a large fibroid situated in the posterior wall just above the internal os. The patient's condition *after* this was critical but after the infusion of two and a half pints of normal saline solution by way of the right median basilic vein she rapidly improved and made a good recovery.

The interest of the case lies in its demonstration of a well-known fact—the power which the uterus has of contracting and pulling a cervical fibroid above the presenting head. The subsequent sinking of the uterus into the pelvis caused the tumour to become an absolute bar to the passage of the placenta without help.

Middlesex Hospital, W.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

WESTMINSTER HOSPITAL.

A CASE OF ACUTE GLANDERS.

(Under the care of Mr. WALTER G. SPENCER.)

FOR the notes of the case we are indebted to Mr. M. J. Cromie, house surgeon.

A horse-keeper, aged 25 years, was admitted to the Westminster Hospital from an infected stable on Nov. 12th, 1904, at 8.30 P.M. A consultation between Dr. R. G. Hebb and Mr. Spencer at 11 P.M. lead to a surmise that the patient was suffering from acute glanders. On the following day Dr. Hebb found the bacillus mallei in cultivation. The patient died 33 hours after admission. Animal inoculations made at the *Lister* Institute proved the case to be one of acute glanders, the organisms being exceptionally virulent. A full consideration of the case exposes possibilities of infection and of such cases being overlooked.

The actual date of inoculation could not be verified. On *Oct. 31st* the patient fell while cleaning his stable and hurt his side to which a medical man applied a belladonna plaster. On Nov. 3rd he had pain and swelling of the left side of the face and went to a dentist who advised him to bathe his face in hot water and told him that an abscess was forming but *no* incision was made. He next saw two other medical men who told him that he had cellulitis and erysipelas. On Nov. 9th small hard lumps began to appear in the limbs in the neighbourhood of the joints, with pain in the joints, especially the knees. On this day, the 9th, the patient went *to* a hospital and on his out-patient paper was entered cellulitis of the face. An incision was advised, but as he could not be admitted and felt very ill he declined it. On the 10th the nodular swellings became red and inflamed and pustules appeared on the swollen face, the lips, and the buccal aspect of the lips and the cheek. The lips became black, nasal discharges commenced, and dyspnœa supervened. He was therefore taken to another hospital where he was given a paper saying that he was suffering from cellulitis and cephalitis (*sic*). Finally he was taken in an ambulance to the Westminster Hospital.

With regard to the stables in which the patient worked, his relatives stated that about a year previously a large number (they said 80) of horses in the stables had become glandered and had been condemned after the use of the mallein test. Further, that at the moment there were in the stables certain horses to look after which men were specially employed but that the patient was not one of these. After the relatives had carried back the diagnosis a further application of the mallein test showed a number of horses (it was stated 32) to be glandered.

On admission to hospital the patient was restless, slightly delirious, but could still speak clearly and partly answer questions. The temperature was 103·4° F., the pulse was 126, and the respirations were 38. The face and neck were swollen on account of an aggregation of pustules which had become confluent into a honeycomb-like mass. The pustules occupied the left cheek, the angle of the mouth, and the adjacent buccal mucous membrane and gums. Blackish crusts covered the surface which was not producing much discharge. There was no phagedænic or other marked odour. Pus escaped from the left nostril which was partly blocked by crusts. The rest of the face and the neck were swollen, of a dark-purplish colour, brawny near the pustules, with a fairly well-defined advancing edge. Both the eyelids were swollen as well as the temporal half of the conjunctiva of the left eye. Scattered over the neck, the trunk, and the limbs were seen (1) small erythematous areas with a papule in the centre; (2) small pustules with red areola containing thin pus; and (3) small ulcers. The size of the pustules varied from that of a pin's head to that of a pea. Especially along the lines of the lymphatics of the limbs were seen subcutaneous elevations which proved on touch to be hard nodules of the size of a hazel-nut, more or less, some of which were breaking down, and forming subcutaneous abscesses. None of them, however, came to the surface during life. The joints were painful but not felt to be distended with fluid. No glandular enlargements in the neck, the axillæ, or the groin were noted. The patient gradually became restless, sank, and died 33 hours after admission. Shortly before death he was breathing 68 to the minute, he had a pulse of 148, and a temperature of 99·6°.

Necropsy.—A post-mortem examination made by Dr. Hebb showed besides the superficial appearances above noted that the left cheek was swollen by inflammatory œdema and exudation, with abscesses in the skin and muscles. The muscles all over the body were the seat of numerous abscesses containing a thick sanious pus. The joints were normal. The mucosa of the nose and adjacent sinuses was much swollen and that covering the inferior turbinated bone resembled an aggregation of papillomata. But it is especially to be noted that there was no ulceration of the nasal mucous membrane. The lungs were engorged and the seat of numerous abscesses. Engorgement without abscesses was present in the spleen, suprarenals, and kidneys.

Bacterial observations by Dr. Hebb.—Films from the superficial pustules showed the bacillus mallei mixed with staphylococci, and cultures from the superficial abscesses were mixed, but pure cultures of bacillus mallei were obtained post mortem from the intramuscular abscesses. These cultures were sent to the Lister Institute.

Report from the Lister Institute by the Director.—The morphological and cultural characters of the organism correspond to the diagnosis of glanders. Inoculation of guinea-pigs resulted as follows: emulsion of agar culture 1·5 cubic centimetres intraperitoneally killed three guinea-pigs in 36 hours; 2 cubic centimetres of a similar emulsion given subcutaneously resulted in the animal's death in 40 hours. From these guinea-pigs the organism was re-obtained and gave the characteristic cultural reaction. The post-mortem appearances of the animals were not "characteristic" owing to the very rapid death of the animals but the main localisation of the organisms and inflammatory changes in the scrotum were well shown. The result shows that the organism is one of somewhat exceptionally high virulence.

Remarks by Mr. Spencer.—This case brings to light that in a large stable an epidemic of glanders recurs from incomplete disinfection and from keeping horses doubtful enough for special men to be told off to attend them and yet which were worked without being periodically submitted to the mallein test. Immediately on admission to the hospital Mr. Cromie telephoned me such good reasons for his opinion that I went at once to see the man and after doing so fetched Dr. Hebb. Neither of us had seen a case of acute glanders but the superficial pustules and the chains of nodules forming abscesses along the line of the lymphatics enabled us to confirm Mr. Cromie's surmises as to the nature of the case. On the next morning Dr. Hebb found the bacillus mallei in film preparations. Some months ago he discovered the bacillus in a case of chronic bone abscess under the care of Mr. C. Stonham, the diagnosis being proved as in the present case by animal inoculation. The patient had escaped a correct diagnosis earlier; except for his occupation there was nothing to connect him with the infection. There must have appeared on the cheek at an early stage discrete pustules, in which presumably might have been found the bacillus mallei. When I saw the patient the confluent pustules had begun to honeycomb the cheek. It was certainly not a case of phagedæna, there were no sloughs or odour. The surrounding swelling, although bluish, was not dark enough for anthrax and there was no central eschar. I had had just before in the same room a boy with what we were taught to call Paget's carbuncle, sent up from Westerham by Mr. H. H. P. Cotton, with the history that it had started with a wasp sting. The condition of the cheek was not very different and there were pains in the joints. It proved to be a pure streptococcal infection; the boy rallied at once after streptococcal antitoxin injections. I do not think the appearances of the glanders could have been mistaken for small-pox. Possibly such a case after death might have been registered as one of pyæmia and septic pneumonia. The virulence of the organisms is emphasised by the report of the animal inoculations. It is noteworthy that not only were the sores infectious but the lungs contained numerous abscesses and the patient's breath must have been infectious. I requested the two nurses on duty to wear rubber gloves and masks, otherwise they would have been exposed to considerable risk. The absence of ulceration in the nose of the patient, also of testicular changes in the inoculated animals, is accounted for by the virulence and rapid course of the disease.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Actinomycosis of the Gall-bladder.—Adenoma of the Gall-bladder.—Description of a New Method for performing the Operation of Jejunostomy.—A Series of 123 Cases of Choledochotomy for Calculi in the Common Duct.

A meeting of this society was held on April 11th, Sir R. Douglas Powell, Bart., the President, being in the chair.

Mr. A. W. Mayo Robson read an account of Actinomycosis of the Gall-bladder. He said that so far as could be ascertained by a search through medical literature bearing on the subject no case of actinomycosis of the gall-bladder had hitherto been recorded. The disease in this situation therefore was rare, though when it was borne in mind that no part of the body was exempt from the ravages of the fungus and that, next to the mouth and its neighbourhood, the abdomen was the most frequent site of disease it might have been reasonably expected that, like the appendix, the gall-bladder would occasionally have become invaded from the intestine. As in other successfully treated cases of actinomycosis, the treatment was at first surgical and subsequently medical. The history of the case was as follows. The patient, a man, aged 47 years, had for 18 months been losing weight and feeling ill; at first he had neither pain nor any signs by which he could localise his disease. After a time he began to have occasional attacks of pain in the region of the liver, but until three months before being seen by Mr. Mayo Robson the general symptoms of malaise only engaged his attention. For three months he said that he had never been a day free from bad attacks of colic and between these seizures there was a constant aching pain which he described as inflammatory and, in fact, the tenderness on the right of the abdomen at first led to a suspicion of appendicitis. There had been neither jaundice nor vomiting and his bowels were regular. On palpating the abdomen a decided swelling was at once found beneath the right costal margin, extending two inches below the level of the umbilicus. The tumour was continuous with the right lobe of the liver, was tender on pressure, and felt hard and irregular. The stomach was somewhat dilated but no succussion splash was obtained. There was no jaundice and no evidence of ascites could be obtained. A diagnosis of cholecystitis was made and an incision was made through the right rectus on to the swelling, which was found to be an enlarged gall-bladder adherent to the abdominal wall, containing pus and granulation-like material, with here and there suspicious yellow particles in it. The abdominal wall was not invaded but the omentum, the gall-bladder, and the right border of the liver were intensely bound together and invaded by the same granulation-like tissue. By means of a blunt-edged scoop the cavity was scraped out and afterwards irrigated, a moderate-sized drainage-tube being inserted, and the rest of the wound was closed. The progress of the patient was uneventful and recovery was complete. Three years later he was still in good health.

Mr. MAYO ROBSON then narrated a case of Adenoma of the Gall-bladder. He said that condition had been described as a pathological curiosity. The only other cases of which he had been able to find a description were one under the care of Dr. L. R. Sutherland, the specimen being in the museum of the Western Infirmary, Glasgow; one under the care of Wiedmann, referred to by Terrier and Auvray; and one described by Mr. Stanmore Bishop in THE LANCET of July 13th, 1901, p. 72. The interesting point in the present case was that the tumour produced symptoms exactly resembling those of gall-stones, characterised by spasmodic pains in the region of the gall-bladder, transient icterus, and deter[illegible] either have been due to the [illegible] acting as a foreign body, [illegible] by the neoplasm. The case was as follows. The patient, a woman, aged 53 years, had been subject to attacks of pain beneath the right costal margin for some months, the seizures recurring frequently and being associated with slight jaundice. A physical examination showed a slight enlargement of the right lobe of the liver, but the gall-bladder itself could not be definitely made out. There was slight tenderness in the usual position an inch above, and to the right of, the umbilicus in a line between the umbilicus and the ninth costal cartilage. As the patient had been under medical treatment for gall-stones for some time without obtaining any relief an operation was advised. On opening the abdomen a thickened gall-bladder was found under cover of an elongated right lobe of the liver but no gall-stones could be felt either [illegible] in the ducts. On [illegible] was made through [illegible] wall of the gall-bladder. It then became evident that the fundus of the gall-bladder was occupied by an adenomatous tumour. The loculi contained some particles of cholesterin. The cystic duct seemed to be narrowed and the remainder of the gall-bladder was small and thickened. Cholecystectomy was therefore performed in the following manner. The cystic duct was grasped within half an inch of the common duct by means of a pair of pressure forceps. The peritoneum of the duct was incised one-third of an inch above this and after stripping the peritoneum off the duct the duct was divided and ligatured close to the forceps. The [illegible] gall-bladder to the liver was [illegible] inch from its attachment to th[illegible] was then separated from the liver by the finger, working from below upwards, leaving about one-third of an inch of its peritoneal covering connected to the margins of the gall-bladder fissure of the liver. The peritoneum covering the cut end of the cystic duct was then brought together by a ligature, so as to bury the ligatured duct. After this the peritoneal margins of the gall-bladder fissure were stitched together from side to side so as completely to obliterate the groove in the liver where the gall-bladder had been attached. As no soiling of the peritoneum had occurred and all oozing had ceased it was not thought necessary to adopt any drainage and the wound was closed in the usual way. The after-history gave nothing special to record. The wound healed by first intention, the patient lost all her pain, and she went home at the end of the third week.

Mr. MAYO ROBSON then gave a description of a new method for performing the operation of Jejunostomy and concluded by reading a paper on a Series of 123 Cases of Choledochotomy for Calculi in the Common Duct. He said that on March 25th, 1902, he had read a paper before the society on the Surgical Treatment of Obstruction of the Common Bile-duct by Concretions, with especial reference to the advantages of an operation for the more complete exposure and treatment of the deeper parts of the biliary passages. The operation was fully described in the Transactions of the society for 1902. When this operation was first employed the mortality of choledochotomy including every case, whether complicated or simple, was 16·2 per cent. (21·4 per cent. in the first series and 9·3 per cent. in the second series, or together 16·2 per cent.), but since adopting the operation for complete exposure of the bile passages a continuous series of 76 choledochotomies had been performed for [illegible] of the common duct had been made the patients would have been unrelieved. On five occasions he had removed gall-stones from the common duct, although the patient would not confess to having had any pain, the operation being undertaken for deep jaundice associated with frequent rigors and high temperature. It had to be borne in mind that common duct cholelithiasis was, without operation, usually a fatal disease and that nearly every recovery was a life saved. —The PRESIDENT commented on the occurrence of gall-stones in the common duct without causing jaundice and asked Mr. Mayo Robson whether such was of frequent occurrence. He also asked what area of the surface of the liver it was necessary to use in forming the anastomosis between the abdominal wall and the liver for the relief of ascites. He further asked whether the capsule of the liver was removed in such operations.—Mr. J. WARRINGTON HAWARD said that he had not infrequently observed a gall-stone in the common bile-duct without jaundice. In a case of ascites due to cirrhosis of the liver on which he had operated he had formed an anastomosis between the two surfaces of about the size of the palm of the hand.—Mr. C. R. B. KEETLEY mentioned the case of a man with hydatid of the liver in which on opening the abdomen an abscess was found behind the gall-bladder containing pus and which after being opened discharged bile. He sought to explain the condition by the ulceration of a stone from the common duct into the abscess cavity.—Mr. MAYO ROBSON, in reply, said that he had seen numerous cases of stone in the common duct without jaundice and he thought the explanation lay in the fact that the stone did not completely close the dilated duct. He thought that the most unusual feature in these cases was the absence of pain, and he also thought that from two to three inches of the surface of the liver should be used in forming an anastomosis. He had never removed the capsule of the liver but he had done so with regard to the kidney.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 10th, Mr. JOHN LANGTON, the President, being in the chair.

Dr. T. D. SAVILL exhibited a case of Paralysis of the Left External Pterygoid Muscle with Tremor of the Lower Jaw in a man aged 51 years. When he opened his mouth the lower jaw moved downwards and to the left. Possibly the internal pterygoid was also involved. There was also a constant rhythmical tremor of the jaw unless it was widely open or tightly shut, and to keep the jaw still the patient habitually kept a piece of wood between his teeth. The jaw jerk was increased considerably. There was no anæsthesia, loss of taste, or other symptom referable to the fifth nerve. The cause of the paralysis and tremor was obscure, but they had supervened about five years ago, about a year after a large number of bad teeth had been removed, the alveolus of the lower jaw on the left side being now notably wasted.—Mr. F. C. WALLIS had met with a similar case in a man who suffered from trigeminal neuralgia. On careful examination a few drops of pus were found to issue from a small hole in the jaw, from which one or two stumps were extracted, and the man got well.—The PRESIDENT remarked on the fact that the nerve to the external pterygoid was not near the teeth in the lower jaw and this suggested that the lesion of the nerve might be of reflex origin.

Society for the Study of Inebriety.—The quarterly meeting of this society was held on April 11th in the rooms of the Medical Society of London, Dr. Harry Campbell, the President, being in the chair.—Dr. Stanley B. Atkinson, barrister-at-law, opened a discussion on the Medico-legal Relations of Intemperance. He said that forensic medicine was the science and art of medical evidence. Most cases involving intemperance which came before the law courts were unreported, for they turned on some question of fact which, once having been adjudged by the jury, was not likely to form a precedent. There were, however, many points of law which a judge had to consider when dealing with persons "under the influence of drink." How far was that condition an excuse? How far was it an aggravation of the alleged offence? What was a habitual drunkard? How far did the lunacy laws operate upon inebriates? Forensically, there were three classes of intemperate citizens: 1. The police-court inebriate, who was usually set at liberty after a fine had been paid; occasionally he might be dealt with as a habitual drunkard. 2. The man who wished to be relieved by the court from the legal consequences of some untoward conduct during a fit of drunkenness which led to a criminally or civilly obnoxious result. The law presumed that a man was sober and he who affirmed the contrary must prove his allegation. 3. Whenever excessive drinking had been medically certified to be the cause of death the coroner should be informed of the fact of poisoning. It was very difficult to define what actually constituted drunkenness. A full clinical test should be applied to each case. The contemporary physical and mental health and the quality of the beverage would cause variations—a fact which helped to explain the different manifestations in men and in women. To three classes of the community the definition and the tests of drunkeness were especially important—namely, (1) the publicans, who must not allow a drunken person to be on their licensed premises; (2) the police, who were adepts in shifting responsibility by "sending for the doctor;" and (3) the medical man, who, at times, after considerable delay, became the final referee. It was judicious on the part of a medical man to give the patient the benefit of any doubt and tentatively to treat him as if suffering from a serious disorder unless and until its fleeting nature was proved. The past history, recent or remote, must not deceive him, either in dealing with the pre-comatose irritative stage or with the "dead drunk." There was no golden rule for testing drunkenness; abnormality in mental and in statical conditions was the most easily tested. It would appear from the wording of the Habitual Drunkards Acts that they referred only to the victims of alcoholic intoxication. Further, the Lunacy Acts did not embrace the inebriate as such; a man suffering from delirium tremens was not within their scope. Lawyers have long regarded drunkards as legally responsible for their moral irresponsibility. A few exceptions, however, were tolerated. Actual contemporary drunkenness, if proved, might excuse the unconscionable effects of a contract, or reduce a will, for in such instances the respective *consensus* and *animus testandi* were obviously absent. In criminal law no excuse was allowed unless delirium tremens was proved to have affected the passionate offender; but here also a few exceptions were tolerated, as for instance where a man was unwittingly drugged.

Liverpool Medical Institution.—The last meeting of this society for the session was held on April 6th, Dr. James Barr, the President, being in the chair.—Dr. W. Blair Bell explained his method of Mounting Specimens of Appendices in Clear Formalin Gelatin.—Mr. D. Douglas-Crawford showed an Appendix containing a Large Concretion. Beyond pain referred along the iliac branch of the ilio-hypogastric nerve no other symptoms were present.—Mr. C. H. B. Shears and Mr. E. M. Stockdale showed an Endothelioma of the Retina from a boy, aged three years. The sections demonstrated its origin from the retina showing the neuro-epithelioma.—Mr. R. C. Dun exhibited an Enteric Intussusception which had become gangrenous and irreducible and had been removed from a boy, aged four years. He considered enteric intussusceptions rare.—Mr. W. Thelwall Thomas, however, regarded this form as the usual one in children.—Mr. Dun also showed a Congenital Stricture of the Œsophagus from a child, aged three years. 17 months before death a gastrostomy had been performed.—Mr. Rushton Parker considered that this was an instance of maldevelopment.—Mr. Thelwall Thomas and Dr. E. Cleaton Roberts showed sections of a Non-traumatic Cyst of the External Ear, demonstrating the origin in primary degeneration of the cartilage itself.—Dr. W. Alexander and Dr. R. E. Kelly showed Sections Stained in Various Ways of a Portion of the Pre-Rolandic Cortex from the brain of an epileptic; they exhibited a nævoid condition of the vessels surrounded by old pigment and great atrophy of the white matter and corresponding cortex.—Dr. John Hay showed stained specimens of the Blood from a case of supposed Trichinosis. There was a leucocytosis of 20,000 and 24 per cent. of the white cells were eosinophiles.—Dr. J. Hill Abram demonstrated a Myositis in a patient whose symptoms had been attributed to eating sausage and in which the diagnosis of trichinosis was probable.—Dr. W. B. Warrington and Dr. F. Griffith demonstrated the existence of Fibres in the First and Second Dorsal White Rami of the Cat, the cells of origin of which were in the spinal ganglia.—Dr. R. J. M. Buchanan showed a series of lantern slides illustrating the Changes in the Blood in Spleno-medullary and Lymphatic Leucocythæmia with especial reference to the effect which the x-ray treatment had on the white cells. He regarded the leucocytosis of leucocythæmia and inflammatory leucocytosis as being essentially of the same order.—Dr. John Hay dissented from this view.—Dr. H. Briggs showed a large and beautiful series of Drawings and Paintings illustrating the Histology of Endometritis, Adenoma, and Early Carcinoma Uteri and discussed the value of the microscope as an aid to diagnosis in these conditions. Dr. Briggs and other speakers considered that not too much reliance could be placed on the examination of curettings.

Æsculapian Society.—A meeting of this society was held on April 7th, Dr. Leslie Durno, Vice-President, being in the chair.—Dr. David Ross showed a man, aged 27 years, who 16 months ago was operated upon for appendicitis; three months ago he was delirious from acute pain over the left colon and then examination per rectum gave intense pain at one spot. He is unable to follow his employment. He now wakes with pain in the morning and vomits "from the pain." The treatment by agreement of opinion advised was a reopening of the abdomen.—Dr. Alexander Morison read a paper on Fainting and "Sudden Death" under Exertion and in Allied States. In it, he said, the pulse and heart under exertion have quickened and increased in force; unless the right heart kept pace with the need of the systemic circulation blood to the nerve centres was diminished or absent from which fainting or death resulted; fainting, if by help from without or automatically the blood balance were restored; death, if that lost balance remained. He illustrated the argument by relating a case of a man, aged 35 years, who after a short swimming match sank and was taken out of the bath dead. At the necropsy it was found that death was due to heart failure; the right heart was distended with blood, the left was empty and contracted. There was slight fatty degeneration of the muscle fibres. Perhaps the most important form of fainting after acute conditions involving exhaustion was that associated with unconsciousness following severe convulsions from any cause. In that the resulting state resembles the condition consequent upon severe physical exertion leading up to exhaustion. Dr. Morison compared the vascular condition of acute pneumonia with the above and expressed his belief that the cardio-vascular stress in pneumonia resulted from the pyrexia and not from the obstruction of the lung. A lesson is to be learned from the depleted left and repleted right heart, which is the need for venesection aided by strychnine and rhythmical traction of the tongue. He illustrated that point by quoting two cases which were markedly relieved by venesection though death followed in the one case on the next day and in the other in three months while at physical exercise. A discussion followed, to which Dr. Morison replied.—Dr. Durno showed a Heart from a man, aged 70 years, who had died suddenly. He had had recurrent gouty arthritis and dyspnœa on exertion. The left heart was empty. The aortic valves were competent but calcareous; the mouth of one coronary artery was narrowed by the chalky deposit, and the aortic arch was markedly atheromatous.

Pathological and Clinical Society of Glasgow.—A meeting of this society was held on April 10th, Dr. Henry Rutherfurd being in the chair.—Sir Hector C. Cameron showed a patient suffering from Actinomycosis. When first seen there was a large swelling of the right cheek, apparently unconnected with the jaws. An abscess formed from which a large quantity of pus was evacuated, in which the characteristic organisms were found. At a second operation, some time later, scraping brought to light a grass seed (the species of which could not be exactly determined) which doubtless was the bearer of the infection. How it had entered the cheek was not clear but at any rate it had come from within the mouth.—Mr. J. R. Riddell showed a series of patients illustrating the Effects of Treatment with the X Rays. This included two cases of round-celled sarcoma, six of rodent ulcer, one of epithelioma of the lip, four of lupus, and two of keloid. The results on the whole were very satisfactory.—A joint communication on the subject of Glanders in Man was introduced by Dr. R. M. Buchanan.—Dr. A. K. Chalmers spoke of the prevalence of the disease in various stables in the city and the public health and economic conditions related thereto.—Dr. J. W. Anderson read notes of three cases in man; Dr. J. Cockburn Syson read notes of one case in man; Dr. Buchanan demonstrated the pathology of the disease by microscopic and museum preparations from man and the horse; and Mr. J. R. McCall, M.R.C.V.S., spoke of the rapid increase in the number of cases, the value of the mallein test for purposes of diagnosis, and the necessity of obtaining further powers to prevent the spread of the disease, and gave reasons for believing that it was reponsible for more deaths among men than was generally supposed.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 6th, Mr. G. Morgan, the President, being in the chair.—Sir W. H. Broadbent read a paper entitled "Clinical Illustrations of Pseudo-Angina and Angina" which will be published in THE LANCET *in extenso*. He described the pain of angina usually coming on after exertion or exposure to cold, the determining antecedent being an increase in the blood pressure of the arterial system. He discussed the various theories of causation and remarked that the most constant post-mortem finding was an atheromatous and sclerosed condition of the coronary vessels. He then dealt with hysterical pseudo-angina and next pseudo-angina of gastric origin, characterised by attacks at night or at the same time each day, giving instances of the satisfactory results of treatment of the stomach condition. He next described true angina associated with aortitis, with aortic valve disease, with atheroma of the aorta and syphilitic disease, and with fatty heart. For treatment he advised a quiet life with simple diet, mercury and iodides to reduce the vascular tension and to promote the excretion of toxins, and amyl nitrite and nitroglycerin in attacks, with erythrol tetranitrate to ward them off.—Dr. Walter Broadbent showed the heart from a case of Acute Aortitis, the patient having died from angina less than a week after the first attack.—Dr. F. G. Bushnell showed microscopic sections of the Aorta and of the Heart Muscle from this case and also discussed the paper.—Dr. E. Mackey asked whether in attacks of angina inhalations of oxygen were of use, also whether potassium iodide really reduced vascular tension, and discussed several other points in the paper.—The President, Dr. E. Hobhouse, Dr. F. J. Paley, and Mr. V. T. Greenyer also joined in the discussion.—Sir William Broadbent having replied, Dr. W. A. Hollis proposed a vote of thanks for the paper and Mr. C. J. Oldham having seconded it the vote was carried with acclamation.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on April 6th, when Dr. W. H. Carse read a paper on Vaccination. After a historical introduction he discussed the bacteriology of the subject, the method of obtaining lymph from the calf, and the effects of glycerine and of chloroform vapour on the lymph. He described his own method of vaccinating and showed the instrument which he used—an unsplit pen-nib. Three months was the best age for vaccination but postponement might be necessary owing to various circumstances. Finally the complications which might occur after vaccination were described.—Dr. W. J. Hodgson, Mr. G. W. Malim, Mr. H. H. I. Hitchon, Dr. A. Wallace, and Mr. W. Pooley (the President) discussed the paper.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Kent Dispensary, Greenwich-road, on April 7th, Mr. G. Chisholm Williams occupying the chair.—Dr. F. Harrison Low opened a discussion on Radio-Therapeutics, giving a short description of the appliances necessary and the methods of using Finsen's lamp, the x rays, radium, and high-frequency currents. He discussed the cases suitable for the different methods and referred to some points in the medical ethics in connexion with radio-therapeutics and electro-therapeutics.—The President showed some slides in the lantern of cases treated by these methods.—Dr. G. H. Graham showed four cases of Lupus treated by Radio-therapeutics; and Mr. Willmott H. Evans showed a case of Keloid treated successfully by the x rays.—The discussion was continued by many of the members present.

Reviews and Notices of Books.

A Text-book of Medical Practice for Practitioners and Students. Edited by WILLIAM BAIN, M.D. Durh., M.R.C.P. Lond. With illustrations. London: Longmans, Green, and Co. 1904. Pp. 1011. Price 25*s.* net.

MANY text-books of medicine have made their appearance within the last few years; American writers in particular have shown keen industry in the desire to occupy territory already somewhat overcrowded and yet it has been left to this country to produce a work of distinctly novel type. In all probability every clinical teacher continually refers to the elementary facts of anatomy, histology, and physiology in his demonstrations; it is convenient in addressing students to argue from the known to the unknown, to appeal to previous studies, and to encourage to further work by showing that medicine rests on certain foundations, even though to the beginner it may seem to be built upon the insecure basis of deductions drawn from the interpretation of physical signs. There is an inevitable contrast between the methods of the wards and those of the laboratories, and students who have passed the examinations in the earlier subjects are prone to turn with zest to the newer interests and to become absorbed in the keen acquisition of facts which seem to be more likely to influence the work of life. The teacher endeavours to counteract this tendency but it is to be feared that students rarely revert to the text-books which they have left behind them; life is too crowded, there seems so much to observe, so much to read, and the unity and the progressive character of medical training are apt to be ignored.

Considerations of this nature appear to have influenced the construction of this new text-book, since the separate sections are prefaced by articles on the salient facts of anatomy, histology, and physiology. These sections are contributed by Professor Arthur Robinson, late professor of anatomy at King's College, London, and by Dr. T. G. Brodie, professor superintendent of the Brown Institute, whose names afford sufficient guarantee of excellent work. The sections contributed by these authors are models of concentration and those dealing with anatomy are freely illustrated with clear diagrams from various sources. The medical sections are written by 14 contributors—Dr. Sidney Martin, Dr. C. O. Hawthorne, Dr. T. Wardrop Griffith, Dr. Alfred E. Russell, Dr. Percy Kidd, Dr. W. P. Herringham, Dr. Arthur Whitfield, Dr. J. S. Risien Russell, Dr. J. Dixon Mann, Dr. John Biernacki, Dr. C. Powell White, Dr. C. W. Daniels, Dr. J. Rose Bradford, and by the editor, Dr. William Bain. With so many different authors it is inevitable that the sections should be of unequal merit but in spite of the need of brevity the articles are generally both lucid and complete. In the section on Diseases of the Alimentary System, from the pen of Dr. Martin, we find much that is commendable and as an example of style and utility we would mention the admirable brevity with which he deals with the tongue as an index of disease; in less than and places. The author starts his diary at Tilbury Dock and in the first chapter we have an earnest that his eyes are open to impressions of all sorts and that his pen is ready to record them. The episode of the fond mother who has come to see her son off to India, weeping in seclusion behind a pile of rusty boiler plates on the quay while the son is drinking in the saloon, is exactly the kind of thing that might be expected to appeal to a hospital surgeon whose experiences both of that sort of mother and that sort of son are necessarily intimate. Gibraltar, Port Said (where the process of coaling is vividly brought before us), the Suez Canal, the Red Sea, Aden,—all receive description, and at length Bombay is reached. Sir Frederick Treves's first impression here is of the teeming life in India, the unwonted number of living beings, men and lower animals, who crowd the land. Next the fact is noted that India is a country of intense colour, as shown by its azure sky, the grey roads, the green cultivated fields, the many tinted costumes of the people, and the white domes and minarets of the mosques. This polychromatic scene is familiar to all of us, whether we have been in India or not, from the numerous illustrations of the country, but Sir Frederick Treves gives a dramatic point to the gay colouring that is prevalent by observing the apparent melancholy of the land and its people. The country is monotonous and often dreary as the traveller passes through its vast extent; the people talk little and laugh less as they tramp along in the dust; their religion is gloomy and their quiet fatalism might easily be mistaken for gloom. Then comes a chapter on the "Bazaars" of India, of which no more life-like picture has been drawn with the pen, so much so that on reading it the traveller is once again transported to those malodorous but fascinating quarters. We next come to the description of Agra, prefaced by a short account of the Moghul kings. The far-famed fort, the glorious beauties of the Taj, the tomb of Itmad-ud-Daulah, the marvellous city of Futtehpoor-Sikri, the mausoleum at Sikandra, the big mosque and the beautiful white palace of Delhi, Jeypore, Amber, Udaipur ("the most beautiful place in India"), and the dead city of Chitor all receive attention and ample justice from the author, who is clearly an enthusiastic sight-seer. Naturally, these scenes conjure up memories of the Mutiny, and the terror of that most awful passage in our national history finds full expression, both when discussing Delhi and when describing Cawnpore and Lucknow with their heartrending reminders of the terrible siege and the splendid relief. And so to Simla, now trembling in the agonies of an earthquake. Sir Frederick Treves visited this hill station in December, when the surrounding peaks are magnificent as viewed in their winter garments of snow, and renders cordial tribute to the lovely scene. Benares follows, and then, after a brief description of Calcutta, Burmah, the Golden Pagoda, the city of Mandalay, and the Irrawaddy are brought vividly before us. China was next visited and the result is a most realistic description of the city of Canton.

We have confined our running commentary mainly to Sir Frederick Treves's tour through India, but in Japan and the United States, on his homeward journey, he displays the same capacity for seeing things accurately and recording them sympathetically. "Trivial," to use the author's modest epithet, the book may be in the strict sense of the word, for the route gone over has been much traversed and the observations made follow aptly upon that route. But though Sir Frederick Treves has explored no hidden lands, has endured no arduous adventures, and has formulated no historical or ethnological hypotheses, though his tour was, as he styles it, commonplace, he has not written a "trivial" book according to the accepted and contemptuous usage of the word. On the contrary, he has given us an exceedingly well written and interesting volume.

Die Cystoskopie des Gynaekologen. (*The Cystoscopy of the Gynæcologist.*) By Dr. Walter Stoeckel. With nine coloured plates and many coloured illustrations in the text. Leipsic: Breitkopf und Haertel. 1904. Demy 8vo, pp. 333. Price 8 marks.

The importance of the diseases of the bladder to the gynæcologist can hardly be overestimated. The close anatomical relations of this organ to the rest of the pelvic organs, its frequent association with the affections of the uterus, and its liability to become involved in malignant growths originating in the genital tract render a knowledge of the various diseases affecting it most essential to all those concerned in the treatment of the diseases of women. A great deal has been done of recent years with the help of various forms of cystoscopes to enlarge our knowledge of the disorders of the bladder, and the ease with which it can be examined is in favour of the more extended use of the cystoscope.

This book by Dr. Stoeckel contains a very complete account of the subject of cystoscopy. The first part is devoted to a description of the instruments used and of the methods of their employment. A great deal of space is taken up with the details of the different kinds of cystoscopes and the various ways in which they can be employed, for example, catheterisation of the ureters, irrigation of the bladder, and the process of photography of the interior of the bladder. The author employs by preference the instrument devised by Nitze. The second half of the book deals with the different diseases of the bladder and its relationship to the various affections of the pelvic organs. Chapters are devoted to the condition of the organ in various pathological states of the kidneys and the ureters, in vesico-vaginal fistulæ and other injuries, in the diseases affecting the viscera in the neighbourhood, and, lastly, after the performance of different gynæcological operations.

The book should prove of great benefit to those operators who like to work with the instrument recommended by the author, but for our own part we think that possibly equally good results can be obtained by the use of the much simpler and more easily manipulated instrument of Kelly. The coloured plates are most interesting and are beautifully reproduced and the whole work bears evidence of the author's complete knowledge of his subject and is one which we can heartily recommend to gynæcologists and surgeons.

LIBRARY TABLE.

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, Ph.D., Assistant Professor of Bacteriology, University of Wisconsin. Third revised edition. London: Macmillan and Co., Limited. 1903. Pp. 395. Price 7s. net.—The second edition of this book was reviewed at some length in The Lancet in 1902 so that detailed criticism of this new issue seems hardly necessary. The general plan of the book remains unaltered but minor changes have been made, such as the introduction of newer methods in place of the old and the rewriting of the directions for some of the experiments. The book furnishes instructions for a very complete course of practical bacteriology suitable for medical students and practitioners arranged in very logical sequence. It retains the distinctive characters of the former edition—namely, the arrangement of the work into short exercises so as to permit of easy adaptation to the requirements of various laboratories and the provision of blank forms for the study of micro-organisms which the student is supposed to fill up with the results of his own observations. This is a method which, if properly carried out, is of much educational value. Certain details criticised in the second edition have been altered but the dried-drop method for collecting blood for Widal's reaction is still the only one mentioned. The directions given in the section on Bacteriological Diagnosis are clear and good but whether they are sufficient unless supplemented by the instructions of a demonstrator is doubtful. Taken as a whole, however, the book fulfils its object very satisfactorily.

Higiene de los Trabajadores y Enfermadades de los Obreros. (*The Hygiene of Workers and the Diseases of Workmen.*) By Dr. AMBROSIO RODRIGUEZ. Gijón: La Industria. Pp. 447. Price 8 pesetas (about 5*s.*).—This book, according to its subtitle, is intended for the use of medical students, foremen, workmen, and others employed in industrial establishments as well as of sanitary officials. It is a popularly written account of the elements of public health and of the accidents which may occur in various industries such as machine shops, mines, electric works, and potteries, together with an account of the various diseases to which the different occupations may give rise. For instance, concerning laundrywomen, Dr. Rodriguez points out that they are liable to rheumatism, callosities produced by the use of the "dolly," catarrhal affections, amenorrhœa, œdema of the leg, varix, albuminuria, ulcers, prolapsus uteri, chilblains, and hang-nails or other ulcerations of the skin caused by the caustic soapy water. They may also contract infectious diseases, notably syphilis, from the dirty linen. The various occupations are dealt with in this fashion very thoroughly. Other chapters of the book are concerned with first aid, with sick and accident societies, and with the various toxic effects—e.g., lead or mercury poisoning—to which workers are liable. The book is well illustrated and should, we think, be found useful to those for whom it has been written.

The Gardening Year-book and Garden Oracle, 1905. By the Editor of the *Gardeners' Magazine.* London: *Gardeners' Magazine* Office. Pp. 287. Price 1*s.* net.—This is the forty-seventh year of publication of this useful work of reference on all questions which belong to the art and craft of gardening. It is the kind of guide which amateur gardeners require for constant reference, as it contains pithy reminders of what should be done in the garden and the greenhouse during each month of the year. There are a number of useful articles on such subjects as potato culture, strawberry and tomato growing, lawns and lawn games, rock gardening, climbing and rambling roses, hardy flowers, manures and their uses, and fungoid and insect pests. The article on potato culture gives valuable hints on raising and propagating new varieties, planting, manuring, and storing the crop, with a selected list of the best sorts to grow. The book is full of valuable information of an up-to-date character. An almanac and diary occupy the early pages.

Wisdom of the East, the Teachings of Zoroaster, and the Philosophy of the Parsi Religion, By S. A. KAPADIA, M.D. Brux., Barrister-at-law. London: John Murray. 1905. Pp. 104. Price 2*s.* net.—Out of the millions of believers in Zoroastrianism in the bygone ages there now remains but a handful of devout followers, known as the Parsis, but the author hopes that the strangers to the faith may find in it food for philosophic enlightenment and the Zoroastrians themselves a subject for deeper and wider researches in the untold wealth of sublime theology and philosophy, now locked up in the monumental tomes of the ancient Avesta writings. In an introduction, which is followed by some quotations from the "Sacred Books of the East," Dr. Kapadia gives a survey of the philosophy of the Parsi religion from the time when Zoroaster, the prophet of Bactria, preached nearly 3500 years ago to the present day. The religion is based on the worship and adoration of the "All-knowing Lord" and it speaks to its disciples (1) of the life on earth; (2) of the life hereafter; and (3) of the immortality of the soul and the resurrection of the body. Zoroastrian philosophy shudders at the contemplation of the mother earth being defiled by the burial therein of dead bodies and consequently means are devised of disposing of corpses on high mountain tops by birds of prey or by the process of nature. According to the book of the "Original Creation," at the time of the resurrection the soul will demand its original body out of the custody of the three known elements—the earth, the water, and the fire. All the dead will rise with consciousness of their good and evil deeds. At the Great Assembly, in the presence of the righteous, all will penitently deplore their misdeeds. Then there will be a separation of the righteous from the wicked for three nights and three days. At the end of this time the factor of evil goes to meet his doom of total extinction and God in his mercy permits all to pass through a bath of purification and to arise in sanctified purity. The descriptions of the ceremonies held to perpetuate the memory of the dead and of many others which are given in this volume add to its interest.

New Inventions.

A NEW COUCH FOR X RAY WORK.

Mr. Edward W. H. Shenton, L.R.C.P. Lond., M.R.C.S. Eng., radiographer to Guy's Hospital and to St. Peter's Hospital for Stone, has invented, and is using at Guy's Hospital, an x-ray couch specially designed to facilitate Roentgen ray work in hospitals and in private practice. The particular feature of the invention is the arrangement of the x ray tube which is fixed in a box and moves in longitudinal, lateral, and up-and-down directions under the table. These movements are controlled by turning two handles at the side of the table. The electric current is turned on and off by means of a footboard running along one side of the table, the ordinary incandescent lights of the room being turned on or off, as the case may be, simultaneously. To one side of the table is affixed a special holder for the screen, an ingenious arrangement allowing it to be adjusted to any height from the body of the patient convenient to the operator, while means are devised for turning the screen back to allow of a photographic plate being placed in position. The screen can afterwards be dropped into its original position if required. The top of the table can be converted into a carrying stretcher if necessary and the table itself, which is on castors, can be locked to the floor when required. The makers are the Sanitas Electrical Company, Soho-square, London, W. We have seen the table in use and the ease with which the operator worked would seem to show that it is a real economiser of the radiographer's labour, and what is equally important, it minimises the distress of the patient.

SOCIÉTÉ INTERNATIONALE DE LA TUBERCULOSE.—This society, the object of which is to study the most efficacious means of preventing and treating tuberculosis, held its annual general meeting in Paris on March 14th, under the presidency of M. Richelot, member of the French Academy of Medicine. After a discourse by Dr. Samuel Bernheim, in which he clearly set forth the actual state of the question, the society proceeded to elect its officers for the session 1905–06. The following gentlemen were appointed:—President: Professor Lancereaux, of the French Academy of Medicine, of Paris. Vice-Presidents: M. Huchard, M. Richelot, and M. S. Bernheim of Paris; Professor von Schrötter of Vienna; Sir Hermann Weber of London; and Professor de Lancaster of Lisbon. General secretaries: Dr. Georges Petit of Paris and Count Ivan Tolniewski of London. Treasurer: M. Papillon of Paris. Assistant treasurer: M. L. Garnier of Paris. Secretaries "de séance": M. Tartière, M. Bourdin, M. Roblot, and M. Chauveau of Paris. Archivist: M. Rualt of Paris. All applications for membership, &c., should be addressed to Dr. Georges Petit, 51, Rue du Rocher, Paris.

THE LANCET.

LONDON: SATURDAY, APRIL 15, 1905.

Proposed Confederation of the London Medical Societies.

ALL problems of evolution afford an interesting subject of study. Growth usually implies progress but may be attended by certain difficulties which have to be faced and which have to be overcome. With the progress of medicine there came a rapid growth of specialisation and it was natural that this should be accompanied by the formation of new societies for the comparison of experience and the discussion of improvements. These departures have followed natural laws along well-defined lines of cleavage and the general result has been satisfactory, since true progress can best be appreciated and abnormal tendencies checked by those who, by their training and experience, are in a position to separate the wheat from the chaff. This may be regarded as the justification for the formation of a large number of medical societies, and there is no necessity to take into account the local needs of the profession. Local societies should and will spring up wherever there are sufficient numbers for harmonious interchange of views on the difficulties of diagnosis or of treatment, or for the record of ethical matters. Frequently such meetings are of the nature of social gatherings which are of undoubted service in promoting good fellowship amongst those who are constantly meeting in their work. But such local societies, the number of which is large and might well be larger when the vast size of the district called London is considered, are outside the purview of the evolutionary development which is now to be considered.

Although division and subdivision must be regarded as inseparable from healthy growth, it is clear that there are inherent dangers in the process unless some link with a coordinating centre is retained. There is a natural and and very proper fear lest specialisation should lead to a lack of the sense of proportion or even to error through unduly focussing light upon a small portion of the field while the rest is left in darkness. Moreover, there is the question of finance which undoubtedly accompanies the evolution of new bodies and causes many to pass through periods of anxiety. Multiplication entails expense in the management, and the cost of belonging to numerous societies undoubtedly limits the aspirations of many of the younger generation. Concentration or federation would seem to supply a means of reducing this cost and thus of reducing the annual subscriptions while conferring desired privileges upon all. Although it would seem essential that the constitution of a coördinating centre should involve some principle of parental control due liberty of action might be given to all constituent sections. To facilitate the enjoyment of more numerous points of contact would tend to the advancement of medicine and to the diminution of any undesirable tendencies of specialism. The younger men would benefit from any scheme of concentration or federation which would give greater freedom of selection. In early days of practice, before the conditions of work have led to specialisation, many derive great advantage from roving from one society to another; and even later there are many occasions upon which all members of the profession are interested in the subject under discussion at one society. As it would seem reasonable to desire at that society the presence of all who might usefully contribute to debate the arguments for confederation of the London medical societies will be seen to have considerable force both scientifically and economically.

The meeting at the Royal College of Physicians of London on Monday last (see p. 1020 of our present issue) at which the proposed confederation of the London medical societies was considered, must have surprised even those who were the most sanguine supporters of the scheme. On a wet afternoon the attendance of about 200 members of the medical profession sufficiently indicated the general interest in the proposals, but in view of the history of previous efforts it could scarcely have been expected that unanimity would have prevailed. Sir WILLIAM S. CHURCH, President of the Royal College of Physicians of London, had been asked to convene a meeting and to preside at it, and he opened the proceedings with a brief historical sketch of previous efforts to fuse the principal societies. The failure of all of these might have caused much discouragement had not Sir WILLIAM CHURCH tactfully referred to the causes of failure in an early part of his address and suggested that federation did not involve fusion with the loss of identity. This line of argument was indeed foreshadowed in his letter, which we published on April 1st, 1905, p. 886, and in which he spoke of the attempts to "unite the various London societies representing medical science and practice more closely, so as to form a united Royal Society or Academy of Medicine, in which the existing societies would retain their individuality as sections of the united body." It is evident that, in his opinion, all previous efforts were wrecked on this question of fusion or absorption, and that the only chance of success was the formation of a new central body with a new name of a sufficiently wide character to permit federation without loss of dignity and without danger of invalidating title to property. While it was essential to obtain agreement on broad principles, it was impossible to enter into any detailed discussion of a scheme; in fact, the proceedings speedily proved the wisdom of narrowing the issue to a simple expression of opinion on the question of union. The use of the term the "principal societies" in the first proposition appeared likely to cause some discord. Sir WILLIAM CHURCH spoke of the "central societies" and explained that this term included all those meeting at 20, Hanover-square, or at 11, Chandos-street. This limitation excluded those societies which may be regarded as *local*, such as the Harveian and the Hunterian, though their claims for consideration cannot be ignored should they wish to join.

The meeting readily supported the first proposition, "That in the opinion of this meeting, convened by the President of the Royal College of Physicians and composed of Fellows and Members of the medical societies of London, it is highly desirable that an effort should be made to unite the principal societies into a new body, to be known as the Royal Society of Medicine." Some preference was expressed for a change of title, for the substitution of Academy for Society, and with a show of reason it was urged that constituent societies might more readily retain their name under the comprehensive term "Academy," but this was left as a detail for future consideration. A second proposition, which nominated a committee to make such inquiries as may be necessary and to submit a scheme of union to the various societies for their consideration, was adopted, and it was also agreed that a general meeting of the societies concerned should be convened in July next, if possible, to receive the report of the committee. Started with such enthusiastic unanimity it is to be hoped that no minor details may wreck the scheme. Its advantages are many and obvious, while the objections, which did not find voice at the meeting, are, it would seem, chiefly those of sentiment.

"Eugenics."

WE need make no apology to our readers for returning to the subject of the so-called science of "Eugenics," because if, as we understand Mr. FRANCIS GALTON to contend, it be indeed possible to elevate the general standard of the human race by judicious matrimonial selection, the enterprise is one not only eminently worthy of assistance from the members of a learned profession but also one in which it is practically certain that such assistance will be demanded from them by the public. Even now medical men are occasionally consulted as to the propriety or desirableness of some particular marriage; and we chance to have before us at this moment a letter written 50 years ago by an eminent physician now deceased which fairly expresses what we believe would still be a generally accepted point of view, although it would probably fail to satisfy Mr. GALTON'S requirements. In the case in question the writer, as physician to an insurance office, had advised an addition of from seven to ten years to the age of an applicant for insurance and he was written to, at the conjoint request of the applicant and of the father of a lady concerned, to ask "whether, on the ground of the applicant's health, he would object to his marriage with a lady in whose welfare he, the physician, was interested?" The reply was, "All other matters being favourable, I should not object to such a marriage. As the medical referee of an insurance office which is exceedingly particular as to the character of the lives which it accepts, I have thought it necessary to add from seven to ten years to Mr. A's age, with a view of thus covering certain risks which present themselves. These risks are not, to my mind, of a serious character, or the life would not be accepted by the office. They are merely matters of consideration in regard to the contingencies affecting masses of lives, but are scarcely sufficient to influence in any way the question of eligibility in a matrimonial point of view." The physician clearly entertained the opinion that he was not called upon to protect a lady against contingencies from which it was his duty to protect the insurance office; and this opinion would no doubt be based upon the extreme uncertainty as regards individuals of occurrences which are certain as regards a multitude. Here, indeed, is the crux of the difficulty. A million husbands, to each of whose ages a prudent insurance office would require an addition, would be practically certain to produce a generation somewhat inferior in health, strength, or efficiency to the offspring of a million selected lives. Whether one such husband would be certain, or even likely, equally to lower the standard of his single family is a question to which only a very few persons would venture to return a positive reply. It would, nevertheless, be the question on which a professor of eugenics would daily be asked to afford enlightenment and on which his decisions might exercise a very powerful effect upon the welfare and happiness of individuals or of families. Are there any data upon which such decisions could be securely founded? If there are we have yet to become acquainted with them; and, setting aside actual disease, we do not think it would be possible on the basis of any physical examination of a bride and bridegroom, or of any knowledge of their family histories, to arrive at even high probability with regard to the physical, moral, or intellectual endowments of their children.

We quoted Mr. FRANCIS GALTON on a former occasion as saying that the researches of the last 40 years had invalidated arguments which might formerly have been used against his contention, but no such researches have been brought to our knowledge. WEISMANN and others have suggested physical hypotheses by which the phenomena of atavism may possibly be explained, but these hypotheses cannot be said to have been established, and the phenomena, alike in their occurrence and in their uncertainty, have been familiar to the human race from the most remote antiquity. MALEBRANCHE knew nothing about chromosomes but he wrote in 1674: "C'est qu'il y a toutes les apparences possible que les hommes gardent encore aujourd'hui dans leur cerveau des traces et des impressions de leurs premiers parens." VOLTAIRE, contrasting the comparative certainty of the results of sexual unions in the lower animals with the uncertainty of the same results as observed in man, wrote: "C'est chez l'homme seul que le physique est dirigé et corrompu par le moral," and herein possibly—that is to say, in the influence of emotions and intellectual states—should be sough the explanation of many of the most perplexing incidents of heredity. Nothing has been established which throws any light upon the ordinary causes of the occasional predominance of one or of the other parent in determining the characters of the offspring, or upon the ordinary causes of unlikeness to either, which may often be due to an atavism not always admitting of being traced. Most medical men will agree, we think, that even when the wife has not been the predominant partner in earlie conceptions she is likely to become so if the nervous energies of the husband are engrossed by business anxietie or are weakened by illness at the periods of subsequen ones; and there have been well-authenticated cases in which such anxieties have witnessed the cropping up of previously unsuspected constitutional conditions. Soon after a great commercial failure, which led to widely diffused disaster, it was said that children subsequently born in some of the ruined families displayed marks of syphilitic inheritance from which their elder brothers and sisters had been free and that inquiry showed their fathers to have suffered from the primary disease before marriage and to have had medical authority for supposing themselves to have been cured. Not only business anxieties but the cares of State have often seemed to be unfavourable to the begetting of children inheriting the paternal qualities, and history is full of examples of great men whose sons have fallen lamentably below the paternal standard both in physique and in capacity.

It is certain, and, indeed, obvious beyond the reach of contradiction, that the tendency of the human race, when placed in favourable circumstances, is towards gradually progressive improvement alike in intellect and in physique but the course of this improvement is marked by eddies and backwaters of the most perplexing kind and is manifestly often modified by circumstances of which we have but limited knowledge and as to which we may easily be misled by ingenious guesses. Neither physiology nor genealogy in the least degree explains to us the genesis of the great man who springs up in the most unexpected places where no kind of ancestral preparation for his coming can be perceived. "Where there is nothing great to be done," said DUMOURIEZ, "there can be no great men," and it may be that mute inglorious MILTONS surround us on every side and that genius remains undeveloped in the absence of opportunity. It is at least certain that we cannot so arrange marriages as to secure offspring of commanding physical or intellectual power but it may be that we can so arrange them as to avoid the worst examples of decadence. It is obvious that we might raise the moral and the physical condition of the masses by education and by legislation and that the masses, if so raised, would in time supply the country with children prepared for still further advances in the same directions. The law, which has assumed the right of the nation to take possession of children for the purpose of sending them to school, should, in the opinion of many, clearly assume, as a corollary of that right, the kindred one of seeing that they are fed, and clothed, and washed, and withdrawn from circumstances likely to be destructive of their physical or moral welfare. If this could be done we should not require to select partners for the young men and maidens of the next generation but might permit them, as at present, to select for themselves, with the advantage of having better specimens to choose from. The middle classes might even go the length of looking coldly upon a combination of the small young woman with the small young man, but even then they should not be permitted to forget that brains are not always present in exact proportion to stature. We may, in short, treat the genesis of the coming race on such principles as to justify a hope in the gradual improvement of mediocrity, in whatever station of life it may be found, and the gradual improvement of mediocrity will be likely at once to push up those who are above and to drag up those who are below. The influence must, we think, be exerted rather upon the community than upon individuals with whom, in the present state of knowledge, it might often be hazardous to interfere. The marriage service of our church reminds us that the tie was instituted, not merely for the procreation of children, but also for the mutual help and comfort that the one ought to have of the other; and with this aspect of it we fear it would be dangerous for even a professor of eugenics to interfere. If we may reverse an old proverb, those who will have to lie upon a bed may at least claim to be given a free hand in making it.

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Epidemic Cerebro-Spinal Meningitis.

OF all the epidemic diseases attacking mankind epidemic cerebro-spinal meningitis, or cerebro-spinal fever as it is sometimes called, offers at the present time some of the most interesting problems for discussion. Although it is one of the most fatal of all acute diseases, as many as 77 per cent. of the cases proving fatal in some epidemics, yet owing to the peculiar local distribution of the epidemics it does not as a rule figure largely in the death returns. On the other hand, sporadic cases are by no means uncommon and it will probably be found when the bacteriology of cases of meningitis is more systematically investigated that the number of cases of this disease is much larger than is commonly supposed. At the present time the question of its epidemic spread is occupying the attention of both the lay and the medical press owing to the comparatively large number of cases occurring in certain parts of America and Germany. In New York during the month of February 149 deaths occurred from this disease and so serious is the view taken by the city board of the epidemic that an important commission has been appointed to investigate the disease and to endeavour to devise means to prevent its spread, as mentioned in our New York correspondent's letter in THE LANCET of April 8th. Again, in the neighbourhood of Kattowitz in Silesia over 450 cases have recently occurred with a mortality of 37 per cent. and considerable alarm exists at the prevalence of the disease. The term meningitis was introduced by an army surgeon named HERPIN in 1803 but the first recognition of meningitis as a specific fever was due to VIEUSSEUX of Geneva, who studied an epidemic which occurred there in the winter and spring of 1804–05. The first epidemic recorded in America was that occurring at Medfield, Massachusetts, in 1806 and described by DANIELSON and MANN. No doubt the disease had been prevalent before this time but it was probably confused with typhus fever and other eruptive febrile diseases, a confusion which has persisted until comparatively recent times (the late Dr. MURCHISON regarding the disease as a variety of typhus fever) and which is likely to be perpetuated by the name of "spotted fever" often popularly applied to the disease owing to the frequent occurrence in certain epidemics of herpetic, erythematous, and petechial rashes which, however, are not by any means constant or characteristic. Since 1806 epidemics have occurred in many different parts of the world, notably in America, in Ireland, and in Germany. A few minor outbreaks have been recorded in this country but the number of persons affected has, in nearly all cases, been very small.

As long ago as 1887 WEICHSELBAUM isolated an organism from certain cases occurring in Vienna to which he applied the name of diplococcus intracellularis owing to the fact that it is frequently found in the polymorphonuclear leucocytes. His observations attracted very little attention, especially in France and in this country, where the disease was regarded as due to the pneumococcus, or a modified form of that organism, a view which was apparently confirmed by the close relations existing between it and pneumonia which both present the same seasonal incidence, are associated with herpes, and with a similar leucocytosis and a fibrino-purulent exudate. Moreover, both diseases may occur in epidemics at the same time. In 1895 JAEGER, however, fully confirmed WEICHSELBAUM'S observations and the general result of modern bacteriological investigation of these cases has been to substantiate the claim that WEICHSELBAUM'S diplococcus intracellularis, or the meningococcus as it is sometimes called, is the causative agent of the disease. Two other points of great interest are that in the sporadic cases of cerebro-spinal meningitis occurring in London and other towns an organism presenting practically identical characters is obtained, while in the cases of posterior basic meningitis or "*cervical opisthotonos*" *occurring in infants* an organism has been isolated by Dr. G. F. STILL which has very closely similar characters. Our knowledge of the conditions leading to the epidemic spread of cerebro-spinal fever is of the scantiest. Epidemics most commonly occur during the winter and the spring and, it is said, especially after severe winters. Institutions such as barracks, asylums, prisons, and workhouses are peculiarly liable to be attacked and the disease is therefore apparently favoured by overcrowding. Its age incidence is peculiar, children and young adults being particularly liable, while above the age of 35 years it is very rare. In an epidemic occurring at Dantzic in 1865 93 per cent. of the fatal cases were under the age of 15 years. It is usually supposed that the disease is not directly infectious, or only very slightly so, but this is a matter which is not at present definitely settled and is one with regard to which the commission now appointed in New York may possibly afford us valuable information. Owing to the fact that the organism can frequently be obtained from the nasal discharges of patients suffering from the disease it has been assumed that the nose is the chief channel of infection; in fact, JAEGER thought that infection always occurred in this manner.

The morbid changes produced by the organism are those of a cerebro-spinal leptomeningitis with suppurative or fibrino-purulent exudate and increase in the amount of cerebro-spinal fluid with distension of the ventricles. The great liability to severe complications and sequelæ is also one of the serious features of the disease. Chronic hydrocephalus, blindness, deafness, arthritis, and periarthritis may be referred to as among the most frequent of these. The treatment has hitherto been mainly symptomatic, morphine or opium being the drug which has most generally been employed. Of late years the withdrawal of fluid by lumbar puncture has been tried as a palliative and curative measure. The suggestion to drain the fluid from the spinal theca was first made by Dr. W. ESSEX WYNTER [1] and this method was employed by him in a case of tuberculous meningitis in 1891. In the same year QUINCKE described the process of lumbar puncture as at present carried out, which is now extensively practised as a diagnostic measure, the cytological and bacteriological examination of the fluid removed affording very useful data. Repeated puncture has frequently been tried in cases of epidemic cerebro-spinal meningitis and different opinions have been expressed with regard to its utility. Professor W. OSLER in his Cavendish lecture delivered in 1899 described a case in which 17 punctures were made between the twenty-ninth and seventy-fifth days of the disease, but in spite of this the case eventually ended fatally. Dr. HERMANN LENHARTZ of Hamburg, who has observed 45 cases of the disease in the course of the past ten years, is convinced of the value of early and repeated lumbar puncture in the treatment of these cases. He records his results in an interesting paper in the *Munchener Medicinische Wochenschrift* of March 21st, 1905. The method which he adopted was to insert the tube between two spinous processes, the patient lying on the side with the thighs strongly flexed on the pelvis. The most favourable situation for puncture is usually the spot where a perpendicular line from the crest of the ilium cuts the line of the spine. As a rule about 30 *cubic centimetres were withdrawn and in no case more* than 50. It is advisable to measure the pressure of the fluid in millimetres in the spinal canal. This varied from 620 to 150 in one of his cases of which details are given. After withdrawal of the fluid it may be as low as 40 millimetres. Dr. LENHARTZ'S good results may possibly be attributed to the fact that he adopted lumbar puncture early in the course of the disease and repeated the process almost daily if signs of increased intracerebral pressure developed. Thus in one of his cases lumbar puncture was performed 15 times and a total quantity of fluid amounting to 400 cubic centimetres was removed. His observations are distinctly encouraging although he does not give statistics of the recoveries. In no case, however, were any unfavourable symptoms observed as a result of the puncture. The method is certainly a rational one, as it aims at keeping the pressure low in the cerebro-spinal canal by removing the excess of fluid and preventing it from accumulating. Dr. LENHARTZ'S paper is opportune in the time of its publication and we may hope that one result of the present epidemic may be an advance in the methods of treatment of this grave disease.

Annotations.

"Ne quid nimis."

THE BUDGET.

THE Chancellor of the Exchequer was received with cheering when he rose to make his Budget statement last Monday, for it was believed that he would be able to report establishment of equilibrium between expenditure and revenue. The estimated revenue of the country for the year 1905-06 turned out to be by nearly three millions superior to the estimated expenditure, though in one direction a heavy decline was shown. The revenue for 1904–05 from wine, spirits, and beer altogether failed to fulfil anticipations, for the amount realised was £1,516,000 below what had been expected. Mr. Austen Chamberlain considered that the figures showed us to be witnessing a change in the national character and that for the future Chancellors of the Exchequer must look less to Excise revenue than has been their habit in the past. This may be awkward for Chancellors of the Exchequer but it is excellent hearing for the public and for the medical profession, who for years have been preaching that improvements in the drinking habits of the country would mean a great gain in national morale and physique. We are only a little surprised that the spread of the doctrines of moderation in regard to alcohol, which has been so noticeable recently, has not sooner produced its mark upon the revenue. It is possible that the decrease in the wine duties may have been influenced to some extent by fraudulent competition, and our readers have good reason for knowing that this does occur; but the figures, as a whole, bear out Mr. Austen Chamberlain's interpretation that as a people we are showing a laudable tendency to spend less money upon alcoholic drink. "Twopence off tea" was his reward to a temperate nation for its eschewal of stronger liquor, the rest of the surplus going to the sinking fund and to reserve for contingencies. To medical men whose professional incomes often attain to the figure where the income-tax is most oppressive the fact that no abatement was granted on this toll must have come as a disappointment, but Mr. Austen Chamberlain's action in devoting a part of the surplus to the strengthening of national credit has been widely accepted as sound finance.

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[1] THE LANCET, May 2nd, 1891, p. 931.

MANNERS IN THE LONDON STREETS.

The traffic of London has its daily complement of victims and the wonder is only why that complement is so modest. The element of thoughtlessness on the part of the foot passenger is responsible for most of the big catastrophes, wide-awakeness and freedom from pre-occupation being the two necessary factors for safe pedestrianism. The man who is absorbed in his ideas and fails to notice what is going on is the *bête noire* of the streets, obstructive to others and dangerous to himself. It is not so much the danger of the road traffic to which we desire to call attention as the carelessness of the public in perambulating the foot-paths. Many of them, in London at any rate, have no idea of avoiding collision with those whom they meet and no objection to blocking the way of those whom they precede. They throw the lighted ends of their cigarettes anywhere and may still spit despite the public agitation against the filthy habit. Sticks and umbrellas improperly carried cause many accidents. The proper way to carry these accessories is to hold them by the handle with the point down. The excited individual who raises his stick or umbrella in gesticulation runs a great chance of damaging someone. "A short time ago," writes a correspondent, who has addressed us feelingly on this subject, "I saw a gentleman severely injured in the eye by an over-eager passenger in an *omnibus* who raised his umbrella suddenly whilst gesticulating to the conductor and it is no uncommon thing to see ladies temporarily annexed by the handle of a passing umbrella tucked under the arm. It is the custom to advertise lessons in 'deportment' as one of the elements of the scholastic curriculum but the management of the stick and the umbrella appears to be neglected in this educational course and what might be made an ornamental addendum to the sartorial output becomes a dangerous nuisance, as witnessed in the swaggering switch in the hands of the new recruit or the careless twirl of the dandy's cane." We do not think "the twirl of the dandy's cane" is an expression founded upon observation, for the man of to-day does not happen to flourish his stick, but undoubtedly persons who carry their sticks and umbrellas under their arms horizontally pointed, or who thrust them upwards in the desire to hail a vehicle, are a public nuisance. Education in deportment, however, should not be limited to teaching "the nice adjustment of a clouded cane," and all parents should instruct their children to be thoughtful in the streets, thoughtful of what is going on around them and also of the comforts of the public.

THE VISIT OF FRENCH PHYSICIANS AND SURGEONS TO LONDON IN 1904.

The visit of the French medical men to London in October, 1904, is the subject of a most interesting article by Dr. Just Lucas-Championnière in the November number of the *Journal de Médecine et de Chirurgie Pratiques*, of which he is the editor. At the outset he remarks humorously that he was not without misgivings when it was found that the party numbered 150 members, but he acknowledges with satisfaction that the preliminary arrangements made by Dr. Sillonville and Dr. Triboulet were excellent and that the energy of the English executive committee enabled the visitors to see all that was possible of the London hospitals during the three days which were at their disposal. It was only to be expected that in hospitals, as in other institutions, and even in private houses, there should be some difference between French and English methods. Dr. Lucas-Championnière being a surgeon was naturally attracted by surgical details, such as the situation of the operation theatre at the top of the building and the careful administration of anæsthetics. He was also struck by the spaciousness of the wards and the ample distance between the beds. He writes enthusiastically of all that he saw and heard, with only two regrets—namely, that there was no time to inquire into the details of the public health service and that the state of Lord Lister's health prevented him from being in London at the time. The entertainments and other festivities were, he says, too numerous for individual mention but he devotes some paragraphs to the reception at the Royal College of Surgeons of England, the luncheon given by this journal, and the banquet at the Hotel Cecil. The article as a whole is very gratifying to English readers and admirably shows how community of idea in members of the same profession may encourage international amity.

YOHIMBIN.

A new drug is described in a recent number of the *New York Medical News* (Vol. LXXXV., No. 2) by Dr. E. B. Coburn and Dr. J. H. Claiborne. It is named yohimbin and is an alkaloid derived from the yohimbehe tree, a native of West Africa. It crystallises in silky white needles, is readily soluble in ethyl-, methyl-, and amyl-alcohol, and in ether and chloroform, but is only soluble in water to the amount of about 2 per cent. The hydrochlorate is usually employed but readily decomposes. It is said to be an aphrodisiac. ·25 cubic centimetres of a 1 per cent. solution may be subcutaneously injected without harm and a local anæsthesia is established which lasts for nearly two hours. It causes anæsthesia of the cornea and conjunctiva when dropped into the conjunctival sac. According to M. Magnani, who has recorded his observations in the *Annali di Oftalmologia* (Tome XXII.), though it produces smarting at first, it dulls the sensibility of the cornea in two minutes and destroys it completely after the lapse of ten minutes, the anæsthesia lasting half an hour. The effects on the pupil are uncertain and the drug has no effect upon the accommodation. Soon after the solution has been instilled the eye becomes hyperæmic, and hence M. Magnani suggests its employment in chronic affections of the eye which require stimulation. He prefers it to tropacocaine because its effects are more persistent, and to cocaine because it does not affect the epithelium or interfere with the nutrition of the cornea or produce mydriasis and hypotony. Moreover, it is not toxic. Dr. Claiborne made experiments on himself with solutions of various strength and also with solutions of yohimbin and adrenalin.

THE HUMANITARIAN LEAGUE.

WE have received from the honorary secretary of the sports' department of the Humanitarian League a circular signed with a number of names of more or less eminent men which has been addressed to the "Headmaster-elect of Eton." The signatories are made to say: "Without entering on the general question of the morality of field sports as practised by adults, we would express our conviction that it cannot be otherwise than demoralising for the *young* to be encouraged to seek amusement in the infliction of pain on animals, and that the permission granted to Eton boys to indulge in the sport of hare hunting, when drag hunting is readily available as a substitute, is greatly to be deplored." We do not know who is responsible for the drafting of this circular but we must reprobate in the strongest manner the assumption that Eton boys or any other persons who hunt are seeking amusement in the infliction of pain on animals. We do not deny that it hurts a hare or a fox or any other animal which is hunted by hounds to be caught and to be killed but we do deny that those who follow the hounds find their amusement in the infliction of pain. The recreation of one of the most eminent of the signatories is given in "Who's Who" as "sea-fishing," and we are quite certain that if anybody charged him with taking recreation by the infliction of pain on fishes he would be rightly much annoyed. We cannot think that those who have signed this circular have really gathered the meaning of the preface to which they have attached their signatures.

INFLUENZA, PNEUMONIA, AND HEART DISEASE AT CHICAGO.

THE department of health of the city of Chicago issues every week a leaflet which is extensively distributed to the press and to anyone whom it may benefit. This is done on the principle that sanitation is to a very large extent a question of education and that the best of laws will prove ineffective unless the people at large appreciate their importance and strive to apply them. By constantly calling attention to the various health problems as they arise the public is led to take an intelligent interest in such matters and then it is not so difficult to obtain popular sanction for necessary measures. For instance, at present, while the general death-rate is very low, there is a somewhat puzzling increase of mortality in regard to some diseases. Thus, during the decade 1880-89 the average annual death-rate from pneumonia was equal to 1·269 per 1000 of the population. During the last decade the annual average was 1·847 per 1000. This increase of 45·5 per cent. followed upon the epidemic prevalence of influenza which began at Chicago in December, 1889. But this is not all. During the earlier decade—that is to say, before the advent of influenza—the average annual deaths from heart disease amounted to 0·680 per 1000 and this increased 45·7 per cent. during the last decade and equalled 0·991 per 1000. The similar augmentation of fatality caused by these two diseases has given rise to the belief that influenza is the fundamental factor. During the present winter influenza has been more prevalent than at any time since 1891. Therefore special warnings have been issued urging that influenza is infectious and that the isolation of the patient and the ample ventilation of places and vehicles of public resort are the best protective measures. All excess, especially the abuse of alcohol, predisposes to this disease. The secretions from the nose, the mouth, and the throat of the patients teem with the influenza bacillus, and the department of health offers to disinfect the rooms, the bedding, and the clothes of all who have this disease. It is also urged that bacterial examination is of the first importance and the department of health places its laboratory and its experts gratuitously at the service of the public. Already the bacteriological laboratory claims to have found the influenza germ where there is an apparent simple coryza or uncomplicated influenza; then its presence has been noticed in conjunction with various other diseases, such as bronchitis, conjunctivitis, pulmonary tuberculosis, diarrhœal disease, diphtheria, empyema, endocarditis, meningitis, nephritis, middle-ear disease, mumps, pneumonia, scarlet fever, tonsillitis, and whooping-cough. The bacteriological laboratory also claims that cases which were mistaken for cerebro-spinal fever, lumbago, rheumatic fever, and typhoid fever revealed the presence of the influenza germ and therefore it is urged that more general use should be made of the facilities given for bacteriological investigation. In this latter respect the city of Chicago, in common with many other American cities, is to be congratulated on the possession of a public service of this description.

PROPOSED ADDITIONS TO THE POISONS SCHEDULE.

AT the recent monthly meeting of the council of the Pharmaceutical Society[1] a motion providing for the addition of certain poisonous substances to the Poisons Schedule was carried unanimously. The motion reads as follows:

[illegible]

According to the *Pharmaceutical Journal* the above recommendations can have no legal effect until the formal sanction of the Privy Council has been given, but the approval of that body has already been informally conveyed to the President of the Pharmaceutical Society. The proposed alterations, among others, were recommended two years ago by the Departmental Committee on Poisons and the council of the Pharmaceutical Society has taken action in the matter owing to the improbability of the subject of poisons receiving attention in the near future from the present Government. In taking this step the council has performed a public service. The poisonous substances named include cocaine and its salts, acetanilide, and sulphonal, substances which have during recent years become alarmingly popular with the general public. There is no doubt that the sale of cocaine has been to a very large extent restricted owing to the caution and discretion exercised by the large majority of pharmacists, and yet the "cocaine habit" is of so insidious a nature that within a quarter of a century of its introduction into this country it has claimed thousands of victims and has become a scourge second only to opium. It is to be regretted that writers of fiction should give prominence to habits so pernicious as the "cocaine habit" unless to condemn them. Thus, the vivid pen-pictures of Sherlock Holmes gained for that subtle detective at once a high position among the heroes of fiction. His methods came to be copied by would-be bloodhounds of crime, so much so that no self-respecting student of the subject would now attempt to tackle a problem, however trivial, without first shown. The revenue for 1904-05 from wine, spirits, and beer altogether failed to fulfil anticipations, for the amount realised was £1,516,000 below what had been expected. Mr. Austen Chamberlain considered that the figures showed us to be witnessing a change in the national character and that for the future Chancellors of the Exchequer must look less to Excise revenue than has been their habit in the past. This may be awkward for Chancellors of the Exchequer but it is excellent hearing for the public and for the medical profession, who for years have been preaching that improvements in the drinking habits of the country would mean a great gain in national morale and physique. We are only a ittle surprised that the spread of the doctrines of moderation in regard to alcohol, which has been so noticeable recently, has not sooner produced its mark upon the revenue. It is possible that the decrease in the wine duties may have been influenced to some extent by fraudulent competition, and our readers have good reason for knowing that this does occur ; but the figures, as a whole, bear out Mr. Austen Chamberlain's interpretation that as a people we are showing a laudable tendency to spend less money upon alcoholic drink. "Twopence off tea" was his reward to a temperate nation for its eschewal of stronger liquor, the rest of the surplus going to the sinking fund and to reserve for contingencies. To medical men whose professional incomes often attain to the figure where the income-tax is most oppressive the fact that no abatement was granted on this toll must have come as a disappointment, but Mr Austen Chamberlain's action in devoting a part of the surplus to the strengthening of national credit has been widely accepted as sound finance.

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[1] Pharmaceutical Journal, April 8th, 1905, p. 522.

MANNERS IN THE LONDON STREETS.

THE traffic of London has its daily complement of victims and the wonder is only why that complement is so modest. The element of thoughtlessness on the part of the foot passenger is responsible for most of the big catastrophes, wide-awakeness and freedom from pre-occupation being the two necessary factors for safe pedestrianism. The man who is absorbed in his ideas and fails to notice what is going on is the *bête noire* of the streets, obstructive to others and dangerous to himself. It is not so much the danger of the road traffic to which we desire to call attention as the carelessness of the public in perambulating the foot-paths. Many of them, in London at any rate, have no idea of avoiding collision with those whom they meet and no
objection to blocking the way of those whom they pre [illegible]
They throw the lighted ends of their cigarettes any
and may still spit despite the public agitation agair
filthy habit. Sticks and umbrellas improperly
cause many accidents. The proper way to car
accessories is to hold them by the handle
point down. The excited individual who raises
or umbrella in gesticulation runs a great c
damaging someone. "A short time ago," wi
spondent, who has addressed us feelingly o
ject, "I saw a gentleman severely injured
by an over-eager passenger in an omnibus w
umbrella suddenly whilst gesticulating to the
it is no uncommon thing to see ladies temp
by the handle of a passing umbrella tucked un
It is the custom to advertise lessons in 'deportm
as one of the elements of the scholastic curriculum but the management of the stick and the umbrella appears to be neglected in this educational course and what mig
made an ornamental addendum to the sartorial
becomes a dangerous nuisance, as witnessed in th
gering switch in the hands of the new recruit
careless twirl of the dandy's cane." We do no
"the twirl of the dandy's cane" is an expression upon observation, for the man of to-day does not happen to flourish his stick, but undoubtedly persons who carry their sticks and umbrellas under their arms horizontally pointed, or who thrust them upwards in the desire to hail a vehicle, are a public nuisance. Education in deportment, however, should not be limited to teaching "the nice adjustment of a clouded cane," and all parents should instruct their children to be thoughtful in the streets, thoughtful of what is going o around them and also of the comforts of the public.

THE VISIT OF FRENCH PHYSICIANS AND SURGEONS TO LONDON IN 1904.

THE visit of the French medical men to London in October, 1904, is the subject of a most interesting article by Dr. Just Lucas-Championnière in the November number of the *Journal de Médecine et de Chirurgie Pratiques,* of which he is the editor. At the outset he remarks humorously that he was not without misgivings when it was found that the party numbered 150 members, but he acknowledges with satisfaction that the preliminary arrangements made by Dr. Sillonville and Dr. Triboulet were excellent and that the energy of the English executive committee enabled the visitors to see all that was possible of the London hospitals during the three days which were at their disposal. It was only to be expected that in hospitals, as in other institutions, and even in private houses, there should be some difference between French and English methods. Dr. Lucas-Championnière being a surgeon was naturally attracted by surgical details, such as the situation of the operation theatre at the top of the building and the careful administration of anæsthetics. He was also struck by the spaciousness of the wards and the ample distance between the beds. He writes enthusiastically of all that he saw and heard, with only two regrets—namely, that there was no time to inquire into the details of the public health service and that the state of Lord Lister's health prevented him from being in London at the time. The entertainments and other festivities were, he says, too numerous for individual mention but he devotes some paragraphs to the reception at the Royal College of Surgeons of England, the luncheon given by this journal, and the banquet at the Hotel Cecil. The article as a whole is very gratifying to English readers and admirably shows how community of idea in members of the same profession may encourage international amity.

YOHIMBIN.

[illegible] is described in a recent number of the
al *News* (Vol LXXXV., No. 2) by Dr. E. B.
H. Clai [illegible] is named yohimbin and
ed from the [illegible] native of
tallises in silky wh
thyl-, and amyl alco
only solu [illegible] mount of
e hydr [illegible] ed but
is s [illegible] 25 cubic

[illegible]
it dulls th
destroys it
the anæsthesia l
uncertain and
tion. Soon af
comes hyp
ployment in

typhoid fever to the use of water from a properly constructed well, that is, from a well so protected that no water can enter without having percolated through eight or more feet of compact subsoil. He, therefore, points out that no one need hesitate about residing in the country merely because water has to be obtained from a shallow well, since by selecting a proper site and constructing the well with due care water can be obtained which is as safe as that supplied to any town. In a special section sanitary authorities are advised as to the steps which they should take to improve the water-supplies in their districts, and they are particularly recommended not to grant "certificates" to newly erected houses unless the water-supply is quite satisfactory and to furnish builders and others with instructions as to the proper construction of shallow wells, at the same time intimating that "certificates" will not be granted on shallow well supplies if such wells are not properly protected. This advice should be taken by rural authorities generally but it is a great advantage and a great benefit to the community when the county council is sufficiently enlightened to appoint a medical officer of health whose standing and experience qualify him to offer such advice and whose services are available over a large area. Such services are worth far more to a county than the most liberal remuneration that the officer receives, a fact which cannot be too strongly impressed upon those county councils which have not yet appointed such officers.

FIRST AID TO JOCKEYS.

Our attention is drawn by a correspondent to a defect in provision of medical attendance which certainly demands remedy. We refer to the want of precaution which obtains as regards the presence of a surgeon at the Liverpool race meetings, particularly in the case of the race for the Grand National. As many of our readers no doubt know, the course over which the steeplechase is run is one of the most severe that exists. The "fences" are high and the water jumps broad and, if further evidence were necessary to convince those who have never seen the Grand National course of the danger incurred in riding over it, the fact may be adduced that within the last three years out of 110 horses which have started for the race only some 40 odd have finished the course. It is obvious that where so many horses come to grief there must be considerable chance of injury to their jockeys. We believe it is the case that injuries more or less severe are common in all steeplechases and the Grand National is very far from being an exception to the rule. It would appear, then, to be a mere matter of ordinary foresight and humanity to insure the presence of a medical man, so that at least the removal of an injured jockey might be effected in a proper manner and so that any immediate remedy which is applicable might be applied. Dislocations, for instance, are common in riding accidents and may, of course, often be advantageously corrected at the earliest moment. We will not enlarge, however, on the obvious desirability of having a medical man on the spot at such race meetings. The fact is well recognised and at many, if not all, of the smaller steeplechase meetings a surgeon is regularly engaged by the authorities. The extraordinary thing is, as our correspondent points out, that at a meeting at which accidents are most to be expected, no such arrangement holds. If a jockey is hurt a notice is run up "Doctor wanted." If a medical man happens to be present he is sure to be willing to give his services but if not *tant pis* for the jockey. Liverpool abounds in able surgeons and there could be no difficulty in obtaining competent medical assistance for a salary well within the means of the authorities. The stands alone, we believe, earn many thousands of pounds. We trust that the attention of some member of the Jockey Club may be drawn to this matter, so that pressure may be brought to bear upon the proper persons to insure an alteration being effected in a state of things that is certainly at present far from creditable to those concerned.

ADVANCED PHARMACOLOGY AND THERAPEUTICS AT CAMBRIDGE.

In addition to the ordinary classes in general pathology and pharmacology it is intended to organise at the Pathological Laboratory of the University a series of short courses in which more advanced work will be dealt with. In the pharmacological section such subjects as bronchial asthma, vaso-constriction, the action and therapeutic value of adrenalin, the specific action of drugs, and the relationship of tolerance to immunity will be taken up by Dr. W. E. Dixon. In the pathological section Dr. G. H. F. Nuttall will deal with protozoa and the protozoal diseases, including the hosts and carriers of these protozoa, with sleeping sickness, kala azar, malaria, red-water, small-pox, and other fevers. In general pathology the subjects specially treated will be inflammation, immunity, antitoxins, bacteriolysins, hæmolysins and other "antibodies," food poisoning, and certain clinical methods arising out of recent investigations. We are glad to draw the attention of our readers to these courses as the demonstrations, being under the direction of Professor G. Sims Woodhead, professor of pathology in the University, are sure to be of the most practical and modern description.

PSYCHOSES DUE TO TRAUMA.

In reporting a case of mental disorder due to trauma in the *Allgemeine Zeitschrift fur Psychiatrie*, vol. lxi., part 3, Dr. J. Wende comments on the rarity of this condition and gives some interesting figures Thus Sachs and Freund could only with difficulty find a few instances amongst 20,000 cases of accident, whereas cases of traumatic neuroses occurred in abundance. Edel of Charlottenburg, dealing with material collected during two years, could only find cases of traumatic psychoses in some 2½ per cent. of all cases under treatment in that district where the large resident population of railway employés furnishes numerous cases of disorders due to accidents. Other statistics are those of Wagner (three cases of psychoses amongst 90 of head injury) and Stolper (12 cases amongst 981). It is pointed out that in these two latter instances the figures were collected from amongst workers in mines, in whom severe injuries of the head are unusually frequent. In the Franco-German war, amongst 8985 cases of injury of the head the Prussian "Sanitätsbericht" notes only 13 of mental disorder. Dr. Wende points out that in determining the mode of operation of an injury of the head it is necessary to distinguish between psychical and mechanical effects, for either may suffice to originate mental disorder. Where the effect is in the main psychical such disorder would not be expected to follow except in a predisposed individual. The mechanical effect, apart from cases of profound injury to the skull and the brain, consists in cerebral concussion, and this, according to the investigations of several writers whom Dr. Wende quotes, involves primarily the vaso-motor system and the walls of the blood-vessels; in the latter changes are found, such as hyaline degeneration, round-cell infiltration, aneurysmal dilatation, and endarteritis obliterans. As a result there are disturbances of nutrition with regressive changes in nerve cells and neurogliar cells. Cerebral concussion may be slight in degree and yet result in serious psychical disturbance. The traumatic psychoses present no uniformity of symptoms but comprise the most diverse states, from well-known mental disorders to those of undetermined character. There is, however, a prevailing

Admiralty, the War Office, and the Government of India because of their unsympathetic attitude towards their medical services it will be seen that the position of the officers of all three departments has been altered quite recently for the better in response to representations. The scientific ideal of our great bureaux is not high when medicine is in question, but it is stupid to represent the departments as wantonly and purposely unfair towards the medical man. Moreover, medical men have themselves much to answer for if the scientific side of medicine is occasionally belittled. Professor T. Clifford Allbutt, Regius professor of medicine in the University of Cambridge, recently called attention to the unscientific or even anti-scientific tone of the Army Medical Service as exercising a deterrent effect on medical candidates of a superior class. He spoke as being in possession of information showing that the senior medical officers in this service have a lack of appreciation of the scientific work of their juniors. "Science doesn't pay" expresses the views of these military-minded persons and this is the spirit which has damaged the three services so much and which, if it is not eradicated, will even now prevent their resuscitation.

The three services are taken in the following order: the Army Medical Service, the Indian Medical Service, and the Naval Medical Service, and in each case the old abuses are considered alike where they influence existing conditions, the present circumstances of the service, and the chances of improvement. In the case of the Indian Medical Service I have entered purposely with considerable detail into the matter of pay, as in this service the pay is distinctly bad. The scale on the civil side has not been altered for 30 years and unless alterations are made with promptitude the Government of India will be embarrassed seriously by the dearth of medical officers.

The Army Medical Service.

The Army Medical Service has been the best abused section of the medical profession. The public has slighted it, the War Office has neglected or mismanaged it, and its members have been in prolonged revolt against their conditions of employment. There is no use in going at any length into the disputes which for years raged in the medical journals under the title "The Reform of the Army Medical Service" and which have not yet been settled. But the various steps by which the department has been transformed during the last 14 years into what it now is must be outlined, for the past history affects the present condition and not in a very fortunate manner.

During the "eighties," and no further retrospection will be attempted, the service was full and fairly popular. The instruction at Netley, being intrusted to professors for whom no provision for superannuation or retirement had been made, tended to fall behind modern standards but the public did not lose much by this, for there was good competition for the commissions and a fairly able class of surgeon on probation was recruited. But a change came over the face of things in the next decade. That the conditions of employment were in some respects unfair became manifest. For example, it was not easy for an officer of the Army Medical Service to obtain satisfactory sick leave on full pay. He could have six months' sick leave on full pay, and this leave was renewable once. After that he went on half pay, unless the medical board from the first gave him a prolonged leave for his recovery—a privilege which was rarely, if ever, granted. Again, at a time which was marked by many-sided developments in medical knowledge, when in all the medical schools of the country the more brilliant and ambitious students were striving to benefit by the results of modern research, the Army Medical Service offered no inducements to scientific men. Thirdly, a difficulty experienced by the officers of the Army Medical Service in obtaining entrance to the "Service" clubs was not calculated to increase the demand for commissions. And so, for this reason or that, the applications fell off and competition became a pretence, for there were more vacancies than candidates. In 1891 came a new warrant which it was hoped would meet a case to the seriousness of which the War Office was awakening. This warrant provided that the officers of the Army Medical Service should have sick leave on full pay on the same conditions as those laid down for regimental officers and at the same time the designations of the departmental ranks of the Army Medical Service were altered by the granting of semi-military titles. The question of the use by medical men, who are officers in the army, of military titles is an unsettled one still in many minds. But the officers of the Army Medical Service were almost unanimous in their desire for this innovation, as being calculated to make their general position less insecure and anomalous; their brother officers of the Indian Medical Service had the same opinion, although not perhaps quite to the same extent; both were heartily backed in their views by the British Medical Association and the warrant granted their desire. All now should have been well, but, as a matter of fact, nothing happened. The Army Medical Service did not become more popular, the position of the officers did not improve, and the competition for commissions grew no severer. One class of young medical men were kept from joining the army by the difficulties that they heard would be put in the way of any desire to do original work. With another class the exclusion from "Service" clubs rankled, for many good men, forming the material from which members of a medico-military corps ought to be drawn, felt strongly that it would wound their self-respect to join a service where they were regarded by their brother officers as good enough to work with but not good enough to play with. Lord Wolseley, at that time Commander-in-Chief, was believed, with some show of reason, to view with dislike any acquiescence in the claims of the medical officers. Notwithstanding the multiplication of military-medical duties both at home or abroad, and notwithstanding the increase in the size of the army, the *personnel* of the Army Medical Service was less by 400—i.e., about 30 per cent.—than it had been after the Crimean war. The depletion of the establishment produced an unfair incidence of foreign service, great difficulty in obtaining reasonable private leave, and a constant change of station whereby hardship and expense were entailed upon officers of moderate means, especially if married.

In 1898 another new warrant was issued, under which the Army Medical Service took its place as a Royal corps side by side with the other scientific branches of the army—namely, the Royal Engineers and the Royal Artillery—a position which reformers had contended that it should properly and legitimately occupy. At the same time, and in analogy with the use of military titles by the Royal Engineers and Royal Artillery, such titles were assigned to medical officers up to and including the rank of colonel, so that there could no longer be any doubt about the exact army rank of the officers of the Army Medical Service. The warrant dealt simply with the constitution of the new Royal Army Medical Corps, but the regulation with regard to the use of purely military titles afterwards came into force in the Indian Medical Service. There seemed no reason why the Royal Army Medical Corps should not now become a deservedly popular service and attract a number of well-trained candidates from the universities and medical schools. THE LANCET, after the promulgation of this warrant, said, "Lord Lansdowne has done all he could to secure medical officers an assured rank and honourable position in the army worthy of the profession to which they belong, and his efforts in this respect deserve to be ungrudgingly and gratefully recognised." And many senior officers thought that the concessions of the War Office would prove successful in inducing a large and good class of men to compete for commissions in the Royal Army Medical Corps at the succeeding examinations. But again nothing happened.

The grievances of the service were so manifest that its advantages were lost sight of and yet these were, and are, very real. Medical employment in the British army offers, as a matter of fact, unrivalled opportunities and the records of certain officers show that it is not impossible to seize upon them. The sphere of activity is world-wide. Not even in our navy is there an equal chance of studying the diseases peculiar to particular lands and the imagination and professional interest must be dull indeed which cannot be quickened by a consideration of the varied field in which an officer of the Army Medical Service finds himself. The red tape, of the restricting bonds of which so much is talked, has not been able to stifle much original scientific work. The pay, though inadequate, is certain, and the social conditions, if not perfect, are at any rate more dignified than those of a large section of the civil medical profession. Some writers in the medical press, in the laudable desire of benefiting the officers of the Army Medical Service, appear to have damaged that service by the persistence with which the darker side was always presented. At any rate the medical profession and the teachers in the medical schools did not regard the warrant of 1898 as satisfactory and the Army Medical Service remained nearly as short of men as ever, which meant that the hardships dependent upon undermanning remained acute. And just when the service was in this condition, unpopular, dwindling, and overworked, the tremendous strain of the South African war was thrown upon it. What followed is too well known to need more than the barest recapitulation. Splendid work was done by officers of the Army Medical Service, but the department as a whole came in for severe criticism. Not one of the popular books dealing with the South African campaign failed to give a chapter or more concerning the Corps; while the serious works, as well as the letters of medical men at the front, dealt with its deeds in copious detail. Explanations of, and remedies for, the deficiencies which observant writers noticed in the medical work at the front were forthcoming in every direction, while deeply ignorant persons rushed to the rescue with impossible remedies for non-existent conditions. From every side, in fact, there was offered a rich choice of prescriptions for reviving the drooping condition of the Army Medical Service. Testimony to the devotion and skill of individual members of the Corps was as emphatic as any of the criticism lavished upon the faults of the system; but condemnation produces more effect and lingers in the memory more persistently than praise and the general idea gathered by the public was that, despite the skill and self-devotion of a few, the Army Medical Service had broken down badly. Of course, it did nothing of the kind. Its work as a department was more affected by the tremendous difficulties of transport than was the work of other departments of the army and all criticism that lost sight of this fact, however generously inspired, was unfair.

After the war came the Royal Commission to inquire into the management of the South African hospitals, the report of which, forming the first well-balanced and authoritative expression of opinion upon the medical conduct of the campaign, proved on the whole favourable to the work done by the Army Medical Service. Upon this followed the institution of Mr. Brodrick's committee for the reorganisation of the Army Medical Service, the personnel of which did not escape criticism. It got to work promptly and in a comparatively short space of time produced a document drawn with care and ingenuity, which was received with an outburst of adverse comment. Conditions were suggested by the committee with the laudable object of obtaining and maintaining a high standard of efficiency which were considered to be vexatious and which, it was thought, might impede in their working the careers of many officers. The document was none the less an honest attempt to show how the service could be placed on a satisfactory footing and many of the apprehensions which were expressed were groundless. One of the principal aims of the committee had been to make use of selection rather than of seniority when promoting an officer to a responsible post, another had been to bring the Army Medical Service into close relation with civil professional life, and a third to hold out inducements to men of scientific attainments to compete for commissions—surely all good aims. Examinations that were threatened resolved themselves, when looked at closely, into tests of a practical and clinical character, almost unavoidable if the principle of selection was to be followed. Six months later—i.e., in March, 1902—came the new warrant which followed the recommendations of Mr. Brodrick's committee fairly closely and under which the Army Medical Service now works.[2] The Royal Army Medical Corps is placed under the supervision of an Advisory Board, consisting of two officers of the service, two civilian surgeons and two civilian physicians appointed by the State, a representative each from the War Office and the India Office, a representative nursing matron, and the Director-General and Deputy Director-General. In this way the service should be managed so that good men may be obtained and kept. By the warrant the Director-General is given an increase of army rank and an increase of pay. The pay of medical officers is increased and provision is made for special pay and charge pay. The door is opened for scientific and professional study and for professional merit and distinction. By one new regulation a lieutenant on probation who at the time of passing the examination for admission to the Royal Army Medical Corps is holding, or is about to hold, a resident appintment in a recognised civil hospital, can be seconded for a period not exceeding one year, during which he is holding the appointment. While seconded he receives no pay from army funds but his service reckons towards promotion, increase of pay, gratuity, and pension. This is a distinct bid for a high class of candidate. And other regulations seek to insure the maintenance of a good standard. An officer is eligible for promotion to the rank of captain on the completion of three and a half years' service and to the rank of major on the completion of 12 years' service, "*provided that in each case he has previously qualified in such manner as may be prescribed by the Secretary of State.*" This regulation has seemed to some to foreshadow the examination in school work of men of mature years, much of whose time has been necessarily spent far away from books. But the belief has since grown that the subjects of examination would be as a rule of a thoroughly practical and clinical character, while it is clear that tests must be exacted if the principle of selection is to be followed. If an officer passes with distinction the examination qualifying for promotion to the rank of major the period of service required to render him eligible for the rank of major or lieutenant-colonel is reduced. In other words, promotion now comes largely by selection. Due provision is made for promotion to brevet rank and for distinguished service, and retirement at 20 years on £1 a day, one of the most attractive features of the service and one which was said to be in danger of alteration, is allowed to remain.

The Army Medical Service having laboured under many disadvantages and its work in South Africa having been unjustly belittled and discredited will require time to recover its popularity. But the present warrant seems to promise better things. It would be rash to prophesy more exactly, for the Advisory Board is still new to its work and can hardly be said to enjoy the confidence of the whole Service. Its functions are not as clear as they might be and there is difference of opinion as to the advisability of purely disciplinary and administrative matters being left to its jurisdiction. The selective principle has not had time to display its value, though the recent choice of a Director-General shows that it is intended to give the principle a thorough trial. Under Mr. Brodrick's abortive army scheme the Director-General of the Army Medical Service had a seat at the Army Council but Mr. Arnold-Forster's scheme relegates him to a place in the Quartermaster-General's department. Medical affairs would have had a much better chance of being understood if they were represented by a spokesman at the Army Council, and the exclusion of the Director-General from this body must be regarded as lamentable.

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[2] The warrant will be found published in full in THE LANCET of March 29th, 1902.

(*To be continued.*)

PROPOSED CONFEDERATION OF LONDON MEDICAL SOCIETIES.

AN important meeting of members of the medical profession was held under the chairmanship of Sir WILLIAM S. CHURCH, President of the Royal College of Physicians of London, in the hall of the College, Pall Mall, London, on April 10th. The meeting was attended by over 200 medical men, many leaders of the profession in London being among them.

Sir WILLIAM CHURCH opened the proceedings with a statement in which he said that the attempt to unite the various medical societies of London had repeatedly been before the medical public but had hitherto always failed. In 1808 the Medical Society approached the Royal Medical and Chirurgical Society with the request that the two societies should form a society with a fresh name and a new habitation. That attempt failed owing to there being some doubt whether the proposed change of name and place might not invalidate the title that the societies had to certain properties. In 1850 the Pathological Society approached the Royal Medical and Chirurgical Society with a view to incorporation with the latter but the plan came to nothing owing to various minor details In 1860 a serious attempt was made to join the Medical Society with the Royal Medical and Chirurgical Society and the subject occupied the attention of the medical world for some 16 months, but after all the deliberations came to nothing. In 1867 the Medical Society again approached the Royal Medical and Chirurgical Society with the proposal that they should unite, but nothing came of that. In 1870 there was another attempt to join the two societies together and communications between them went on for nearly two months, but once more nothing took place. Then there was the attempt made by the late Sir Andrew Clark in which, though the societies themselves did not come into official communication, those interested met frequently at the house of Sir Andrew Clark and conferred together. Once again nothing came of these deliberations. Those who were interested in the present movement thought it best to propose that a new central body which he would call and speak of as the Royal Society of Medicine should be established and that all the existing societies should be regarded as subdivisions of it. The idea was that the existing societies should not lose their present individuality and that they should remain as societies embraced and covered by the wing of the Royal Society of Medicine. There could be no doubt whatever that great advantage would ensue if some such society were to be established which would embrace the whole of medicine and all the sciences affiliated to medical practice. Medicine of the present day, in consequence of the enormous advances in knowledge and of the necessity of now making use of special instruments, was necessarily split up into a large number of branches; and rightly enough each of those branches wished to have its own society for the furtherance of that portion of medicine in which the members of the society were especially interested. There seemed to be a certain amount of danger that those special subjects in medicine might get to be regarded as dissociated from general medicine. Anything that would tend to keep up the close [illegible] branc [illegible] All tl [illegible] prestige by being portions of the Royal Society of Medicine of the metropolis of the kingdom. The Fellows and associates of the proposed Royal Society would certainly enjoy a much greater advantage than was possible for them to have at the present time without increased expense. It was thought that there would have to be two grades in the society—namely, Fellows and Associates. The Fellows would join the Royal Society of Medicine on certain financial terms which would give them the right of being [illegible] societies. The As [illegible] preferred to be members of one or more sections of the society and who would have certain advantages and privileges by belonging to the Royal Society of Medicine, such as the use of the library and all the rooms of the society. If any such scheme was carried out it would be necessary to have more accommodation than there was at present at 20, Hanover-square, but those premises were capable of being enlarged to give a bigger meeting room and to provide smoking rooms and tea rooms. In fact, the premises would be much more comfortable than they were at the present moment. The Associates would therefore have certain rights, but as to what those would be he did not know himself, they must be left to be worked out by a committee. With regard to the question of what societies would be likely to join they might take as a working basis the societies that met at 20, Hanover-square and 11, Chandos-street. By that it must not be by any means implied that other societies were to be excluded, but it was merely wished to begin the discussion by taking those societies which seemed to be likely to join in the proposal. The societies referred to that met at 20, Hanover-square and 11, Chandos-street, were societies representing special branches of medicine, but there were also two societies which everyone had great regard for—he referred to the Harveian and to the Hunterian, which were general societies. He did not wish to imply that those two societies should be excluded but he only wished to point out that they were somewhat on a different footing to that of the special societies which met at 20, Hanover-square, and 11, Chandos-street. Continuing, Sir William Church observed that it seemed to him essential for the carrying out of the proposed scheme that the Medical Society, which was so important and powerful, should join in the movement. The Medical Society and the Royal Medical and Chirurgical Society were the only two societies which had any considerable amount of property and if such a combination as was suggested was made they would depend a good deal on the income which might be received from the property of the Medical Society to assist in maintaining the proposed Royal Society of Medicine. He thought it was desirable to face the fact that unless they found that the Medical Society was willing to consider the matter they did not see how they were to provide the extra accommodation and advantages proposed and at the same time to diminish the expenses of individual members. All the details of the necessary subscriptions and arrangements for the government of the society should be left for the consideration of a committee to be appointed at that meeting, which would have the duty of formulating a scheme to be laid before the medical profession later. Allusion had been made to the advantage of the proposed Royal Society having all the different sections of medicine under its wing, but attention should be drawn to the advantage to be derived by British medicine from the proposal. The separate sections of the society would receive and consider their own communications as each thought proper and publish monthly all the papers, while the parent society would with a strong publishing committee select from the communications made to all the various societies under its wing and publish them as the transactions of the Royal Society of Medicine, and such transactions would form a most valuable addition year by year to medicine and would be representative of British medicine. Sir William Church concluded by saying that he ha [illegible] communications all from men of note and [illegible] of most of the societies mentioned, all of them favourable to the idea of confederation, though of course all were not unanimous as to the exact scheme. Sir John Burdon

Sanderson, President of the Pathological Society, had written to say that he was strongly in favour of such a combination of societies being made some years ago and he was still in favour of the proposal. Several gentlemen who did not hold official positions in the various medical societies had expressed the hope that something would come out of the present meeting. Sir William Church was then handed a telegram which was found to be from Mr. J. Tweedy, President of the Royal College of Surgeons of England, regretting his inability to be present at the meeting.

Sir FREDERICK TREVES proposed the following motion:—

[illegible]

He said that the amalgamation proposed would have obvious advantages in many directions. In the first place it would have the great advantage of convenience to have all the branches of medicine represented under one roof and it would be also economical. At the present time each society had its own management, its own premises to provide, and in many cases its own library. The money expended by these various [illegible] if the [illegible] must [illegible] able that the science of medicine should be able to face the scientific world as a coherent whole. There was so great [illegible] in the various branches of medicine which was very desirable and would secure a stronger position for the science of medicine as a science. The proposed society would not, he imagined, concern itself with politics or medical ethics but would be devoted to the science and art of medicine in the widest sense of the term. In his opinion, those who founded the Medical Society and the Royal Medical and Chirurgical Society intended to include all medicine and surgery in their schemes. He pointe[illegible] must involve sacrific[illegible] of sentiment. Sir [illegible] appeal for the proposal.

Sir THOMAS SMITH, in seconding the motion, said that he believed that the proposed amalgamation would be greatly to the benefit of all concerned. In 1870 he was occupied with Sir Geo[illegible] to carry out an amal[illegible] He knew some of the [illegible]d if the [illegible] proposal.

Mr. JOHN LANGTON said he wished it to be understood that he was speaking merely as a Fellow of the Medical Society and not as its President.

Sir WILLIAM CHURCH here observed that no official communications had passed between him and any society, therefore they were all expressing at that meeting their own individual opinion and nothing said would be taken as representing the feeling of any society.

Mr. LANGTON, continuing, said that he was in a great measure in accord with what had fallen from Sir Frederick Treves and Sir Thomas Smith. The difficulties would be great, for it meant that there would be much giving and little taking. On the whole, however, it would be for the progress of medicine and surgery and for their definite advancement. The societies should not ask what shall we get and what shall we lose but should consider if the proposal was for the advancement of science and in that case the scheme would be for the good of all. The proposal would prevent the great over lapping of work in the societies which might be avoided.

Dr. F. J. MCCANN suggested that the title should be the Royal Academy of Medicine instead of the Royal Society of Medicine.

Sir WILLIAM CHURCH said that it would be open to the committee which was to be formed for the consideration of the scheme to suggest what the title should be.

Dr. MCCANN thereupon withdrew his suggestion.

Dr. C. THEODORE WILLIAMS said that financially the scheme would be a great thing for the junior members of the rofession, because instead of being mulcted in some eleven guineas a year they would get all the advantages for three or four guineas. If the proposal was carried out they would be more in the position of some of the foreign academies of medicine.

Dr. T. GLOVER LYON, senior honorary secretary of the H[illegible] to say that the proposed [illegible] the Hunterian Society [illegible]

Sir R. DOUGLAS POWELL said that he did not think it had entered into the minds of those who proposed the union of the medical societies to suggest more than the union of the central societies. He thought that it would be a disaster to the medicine of London [illegible] which were so valuable in [illegible] in their neighbourhood and [illegible] special subjects in their profession, were to be merged into one society. In regard to the point of economy, roughly speaking something like £16,000 a year was spent by medical men on the central societies in London. He considered that under the new scheme the work would be more economically carried on.

Mr. D. H. GOODSALL said that the scheme should be so arranged that no society should feel that it had been snuffed out. The more the scheme was considered the more it would be clear what a great saving would be secured.

The motion as proposed by Sir FREDERICK TREVES was then put to the meeting and carried unanimously.

Sir WILLIAM BROADBENT *moved the following proposition*:—

> [illegible] Medical, Royal Medical and Chirurgical, [illegible]ties be severally invited to appoint two [illegible] President of the Royal College of [illegible] the Royal College of Surgeons, and five [illegible] which shall (1) make such inquiries [illegible]mit a scheme of union to the various [illegible]

He at once suggested a slight modification of the motion which he had read to the effect that the Medical Society and Royal Medical and Chirurgical Society, as the oldest societies and as having property and libraries, should [illegible] on the committee. Further, [illegible] Society and Clinical Society [illegible] they each should have one only and the Obstetrical Society and the Epidemiological Society should each have a representative. It would be seen that if the suggestion which he had made was followed the number of official representatives on the committee would be the same but the representation would be on a somewhat broader basis. It was extremely important to recognise that to secure the success of the scheme a great wave of general opinion was necessary in order to carry [illegible] hitherto [illegible] re than a [illegible]n which [illegible] jects would be prevented. Not only would time be economised but the subjects discussed would be more efficiently and thoroughly treated. He would prefer that the title of the society should be the Royal Academy of Medicine. In regard to the local outlying societies of which Sir R. Douglas Powell had spoken he considered that they also ought to be invited to coöperate in the movement. He admitted that it would be a great misfortune to interfere with the efficiency of these local societies but he thought that they would benefit by becoming connected with the scheme.

[illegible] in seconding the motion, said [illegible] to snuff out any societies. He [illegible]ve a library if the scheme was [illegible] as they did not possess at the present moment. In his opinion the benefits to be derived from the proposed union were extraordinary and unlimited.

Dr. WILLIAMS said that the other societies interested in the matter should also be represented on the committee, otherwise how could they put forward their views? The committee must be large and, speaking for himself, if he [illegible] Medical Society and the Royal Medical and Chirurgical Society were the societies that possessed property it would be better to ask those two societies to appoint delegates and let them arrange for the representation of the other societies.

Sir FELIX SEMON suggested that the two societies possessing property should be asked to send two or three delegates to the committee and that the rest of the committee should be formed by all the presidents of the societies who were asked to form the scheme.

Sir WILLIAM CHURCH suggested that the best way out of the difficulty would be to appoint a committee consisting of two representatives from the Medical Society, two from the Royal Medical and Chirurgical Society, which were really the societies that would bring in the money, one representative each from any other societies that wished to join in the scheme, and the Presidents of the Royal Colleges. This committee should be charged with the duty of making such inquiries as might be necessary and submitting a scheme of union to the various societies for their consideration.

This proposition was then put to the meeting by Sir WILLIAM CHURCH and agreed to unanimously.

The appointment of honorary secretary to the committee was then considered and Dr. Arthur C. Latham was elected.

Dr. JOHN FAWCETT then moved

That a general meeting of the societies concerned be convened in July next, if possible, to receive the report of the committee.

This was seconded by Mr. H. S. PENDLEBURY and carried.

The meeting terminated with a vote of thanks to Sir William Church for presiding, which was moved by Mr. A. WILLETT and seconded by Sir FELIX SEMON.

THE CERTIFICATION OF SENILE DEMENTIA AS LUNACY OR IMBECILITY.

THE patients under the care of the Metropolitan Asylums Board include several thousands of mentally defective persons who are chargeable to the various London Poor-law authorities but are for obvious reasons ill-fitted for retention in either the existing workhouses or pauper infirmaries. Their condition being usually chronic or congenital is necessarily irremediable and they are best dealt with not by certification as lunatics but by simple admission to specially established asylums for imbeciles. The existence of these institutions has much facilitated the work of local Poor-law authorities who have, in fact, been tempted to make too liberal a use of the facilities thus provided and to enlarge the accepted definition of imbecility, by causing it to include the failure of the mental faculties incidental to old age or to general exhaustion from chronic disease. The natural consequence is that the medical superintendents of the imbecile asylums protest against the admission of moribund persons who ought on the grounds both of humanity and expediency to have been retained in the local institutions. The various aspects of the question were discussed at some length by the Metropolitan Asylums Board at a meeting held on Feb. 18th. The subject came up for consideration in connexion with the annual report for 1904 of the imbecile asylum at Caterham in Surrey by Dr. P. E. Campbell, who had drawn attention to the "increasing practice of certifying as lunatics quiet, harmless, mostly senile cases," a practice "much to be deprecated and in a great measure accountable for the recorded yearly increase in the number of pauper lunatics." The medical superintendents of the other asylums having been invited to furnish their views on this subject had all agreed with the remarks of Dr. Campbell. The asylums committee of the Board thought that many patients who had been sent to Tooting Bec Asylum should have been retained in the workhouse infirmaries. On humanitarian grounds alone, the committee stated, that course would seem to be a proper one, for it involved neither the removal of the patients to distances which rendered visitation by friends a matter of difficulty, not to speak of expense, nor the possible injury to their families by the stigma of insanity. The committee recommended that the attention of the Local Government Board should be called to the matter with an intimation that the managers would be glad if they could be furnished with the views of the Board on the subject. It was urged during the discussion which followed that there should be one authority in London for dealing with all cases of imbecility and insanity and that receiving homes should be established where the cases could be diagnosed and sent to the proper institutions.

Speaking generally, we are in agreement with the views expressed by the medical superintendents of the imbecile asylums. That the complaint as to the unnecessary certification of individuals exhibiting mental symptoms differing but little from those of ordinary senility is justified will be admitted, we believe, by all with practical knowledge of institutions for the insane. If the asylums of the Metropolitan Asylums Board have reasons to protest in this matter, so also have the county asylums. Doubtless many elderly persons are sent to asylums with mental symptoms which cannot be regarded as pertaining to physiological old age but which are beyond question pathological. Such persons are often excessively difficult to manage by reason of their restlessness and however unwelcome these cases may be in asylums it cannot be expected that they should be cared for by their friends or even in workhouses adequately equipped for dealing with cases of imbecility and mild insanity. These are very different from the quiet, harmless cases referred to above whose care does not require the elaborate equipment of a modern asylum. It is said that the practice of disposing of these cases by sending them to asylums for the insane is increasing and in this connexion certain statistics given in the last report of the Commissioners in Lunacy are interesting. A comparison is therein made between the statistics of the population at the census of 1891 and that of 1901 and those of institutions for the insane for England and Wales. The figures are grouped under two heads, as affecting persons who had attained the ages of 20 to 54 years in one group and those aged 55 years and upwards in the other. The statistical facts gathered, which refer to about four-fifths of the total (known) insanity, justify the inference that, as regards those cared for in institutions, "the rate of increase in numbers, both of those in residence and those admitted, when contrasted with the total number of persons living at each term, has been much smaller amongst those of ages 20 to 54 than amongst those above the latter age. Indeed, if comparison with the actual rate of increase of the population in the ten years be permissible, the rate of increase of the ratio of the insane to population is seen to be below the foregoing rate in the younger group but above it in the older."

It may be contended that the consignment of their relatives to asylums on an increasing scale argues a greater confidence in these institutions on the part of the public; but there is another and less agreeable explanation to be found in the possible diminution of filial respect and sense of duty. When we look round the wards of an asylum and note cases of quiet senile dementia, those admitted as such and those which have after long residence become such, the question arises whether, in less strenuous times, many of these would not have been cared for with solicitude and efficiency in the homes of their children. In default of home care asylums could be relieved of such cases by workhouses or by the system of boarding out in private care. The proposition said to have been brought forward at the meeting of the Metropolitan Asylums Board respecting the desirability of having one authority in London for dealing with all cases of insanity and imbecility commends itself to common sense.

SECURITY OF TENURE FOR MEDICAL OFFICERS OF HEALTH.

AMONGST the Bills which may shortly be brought before Parliament is the Public Health Bill, of which Dr. C. F. Hutchinson has charge. This is a Bill to secure to all medical officers of health and sanitary inspectors similar security in their tenure of office to that enjoyed by Poor-law medical officers and metropolitan medical officers of health—that is to say, such officers shall be removed only by, or with the consent of, the Local Government Board. Periodically there occurs some glaring example of a medical officer of health being cast adrift by the local sanitary authority, sometimes through a too conscientious observance of his duties by that officer, and sometimes from the advocacy of certain measures which it is feared will increase the rates, or which may injuriously affect certain vested interests of his masters, the district councillors. The most recent illustration of the precarious nature of the appointments held by medical officers of health is afforded by the action of the Havant rural district council. The district of this council is a large straggling one, consisting of Hayling Island and various small villages, with an area of over 10,000 acres and a population of about 4500. The present medical officer of health, whose remuneration is the magnificent sum of £30 per annum, has held the appointment for over 26 years, during which period he has to [illegible] conscientious [illegible] ver, has appa- [illegible] Havant rural [illegible] l, without any complaint being formulated, these bucolic legislators decided that the fitting reward for over a quarter of a century's faithful service was sudden dismissal. A certain furtiveness, or it may be modesty, even then characterised their action, for no intimation whatever was given to the medical officer that it was intended to dispense with his services; the first notice that this gentleman received was seeing the advertisement for a medical officer of health in the local press. There had never been any question of neglect of duty or incompetence in its performance to warrant the advertisement.

The action of the council is the more instructive inasmuch as Mr. A. Stewart Norman, the medical gentleman in question, is well known in the south of England in connexion with sanitary matters and is, in fact, at the present time President of the southern branch of the Incorporated Society of Medical Officers of Health. Further, when already holding the appointment and though busy at the same time with private practice, Mr. Norman, in order to be the better qualified to carry out his duties, devoted considerable time to the study of hygiene, and in 1893 obtained the diploma in public health at the University of Cambridge. It is with considerable pleasure that we have the satisfaction of recording that in this particular instance the action of the council in attempting to slight its medical officer has recoiled on itself, for such is the respect in which Mr. Norman is held by the public generally, and his professional brethren in particular, that no medical man in the district could be induced to send in an application; the council had, therefore, to the benefit of the district, though doubtless to its own mortification, to re-elect Mr. Norman to the post he has so well filled. Voters in rural districts are proverbially apathetic, but it will be indeed strange if those district councillors who are responsible for the recent treatment of Mr. Norman do not have the contemptibility of their action brought home to them when next applying for re-election. Although in the above instance the medical officer of health did not suffer a grave injustice, the important fact to remember is that it was not from any want of will on the part of the local sanitary authority; it was prevented solely by the loyalty of medical men in the neighbourhood. It is more than likely that had the salary attached to the appointment been a large one and had it been advertised in the medical press so as to reach a large number of medical men who were unaware of the true state of affairs numerous applications would have been received and in all probability Mr. Norman would have been dismissed.

Not once but many times has attention been drawn in THE LANCET to the urgent necessity for fresh legislation to govern the appointment of medical officers of health. That the officer who is responsible for the measures to be taken fc [illegible] sease sl [illegible] ugly bl [illegible] tion of this country. Doubtless the reason that so unsatisfactory a state of affairs has been allowed to exist so long is ignorance on the part of the public; the latter, if ever it gives the matter a thought, seems to hold the belief that medical officers can only be dismissed with the consent of the Local Government Board—a totally erroneous idea that has probably arisen from a confusion of these appointments with those of medical officers under the Poor-law Acts. When medical officers were appointed under the Poor-law it was felt that the power of their dismissal should not be vested in boards of guardians and legislation was enacted accordingly. Strangely enough, no such protection has been afforded to medical officers of health, yet the latter are far more likely to suffer injustice than are the former. Indeed, if a medical officer does his duty in a rural district he is morally certain, sooner or later, to offend some of his councillors, with the result that he is dismissed and a more complacent officer sought.

Everyone must feel that the time has come when the perpetration of such a flagrant act of injustice as was attempted at Havant should be put beyond the power of local authorities. At Havant, it is true, beyond the slight put upon the medical officer no great harm has resulted. This, however, cannot be said of similar occurrences that have been recorded in other parts of the country where medical officers have lost their appointments solely from their refusal to sacrifice their sense of duty to their own personal aggrandisement. Leaving out of consideration altogether, moreover, the question of injustice to the medical officer there is the still stronger argument that the public can have no right to expect that the requirements of the Public Health Acts will be efficiently administered if medical officers always have to consider whether the advancement of certain needed sanitary reforms will not injuriously affect their personal relations with their council. For these reasons, therefore, both in the interest of the profession and in that of the public, the Public Health Bill of Dr. Hutchinson may be heartily commended to the earnest consideration of Members of Parliament and it is to be hoped that ere long a fundamental alteration will be effected in the very anomalous conditions under which medical officers of health now hold their appointments.

THE BELGRAVE HOSPITAL FOR CHILDREN.

A MEETING of medical men practising in the neighbourhood of the Belgrave Hospital for Children, Clapham-road, London, was held at that hospital on April 11th. The meeting was convened by the honorary medical staff of the Belgrave Hospital for Children in order to discuss certain proposals with the medical men in the district, as both the committee of management of the hospital and the medical staff were anxious that the work of the hospital should be carried on in such a manner as not to prove injurious to medical men practising in the district. The invitation to the meeting was sent out to about 150 medical men and the medical staff stated that it was their wish that only those patients should be treated at the hospital who, by reason of their poverty or the nature of the illness, were suitable subjects for hospital relief. Further, they were anxious that the hospital should be of advantage to the medical men in the district. The following gentlemen attended the meeting in response to the invitation of the medical staff: Dr. J. W. J. Oswald, Mr. H. H. Norton, Mr. A. J. McNickle, Dr. Benjamin Jones, Mr. W. E. Pain, Dr. Joseph J. O. Constable, Mr. J. O. Constable, Mr. M. S. Duke, Mr. J. G. Glasgow, and Mr. A. C. Robinson. The members of the medical staff who attended to confer with the medical men in the district were Dr. W. Ewart, Dr. E. Cautley, Mr. N. Bishop Harman, Mr. D. J. Armour, and Mr. H. Lett.

The proceedings commenced under the chairmanship of Dr. EWART with a discussion on the suggestion put forward by the medical subcommittee of the medical staff that a local medical society should be formed by the medical practitioners in the neighbourhood of the hospital. After the subject had been debated thoroughly it was agreed that the matter should be postponed until some future date when the views of the local practitioners concerned could be accurately ascertained.

In consequence of Dr. Ewart having to leave Dr. CAUTLEY took the chair and explained that the next business on the agenda paper was the subject of out-patients It was agreed that not more than 20 new surgical cases and 20 new medical cases should be seen on each day by the medical officer in attendance. In regard to the selection of cases preference was to be given to those most seriously ill and to cases referred to the hospital by medical practitioners.

A prolonged discussion took place in regard to the management of the out-patient department and it was finally decided that out-patients living within a radius of two miles from the hospital should only be admitted, except in the case of urgent illness or accident, on the presentation of a card signed by a medical man. It was also arranged that similar cards for admittance should be issued to the Charity Organisation Society and to almoners. Dr. Cautley at this stage of the proceedings pointed out that the occurred in Glasgow, three in Paisley, and three in Greenock. The deaths from diarrhœa, which had been eight in each of the two preceding weeks, rose to 20 last week and included ten in Glasgow, four in Aberdeen, three in Edinburgh, and three in Dundee. The fatal cases of measles, which had been ten, six, and five in the three preceding weeks, rose again last week to 13, of which eight were registered in Glasgow and four in Edinburgh. The deaths from diphtheria, which had been eight, ten, and five in the three preceding weeks, were again five last week, and included two in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been three, one, and four in the three preceding weeks, further rose last week to five, of which two were recorded in Glasgow and two in Aberdeen; in each of these towns one of the two deaths from "fever" was a case of typhus. The deaths referred to diseases of the respiratory organs, which had been 140, 133, and 105 in the three preceding weeks, rose again to 119 last week, but were 19 below the number in the corresponding period of last year. The causes of 15, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·8, 22·4, and 24·9 per 1000 in the three preceding weeks, further rose to 25·5 per 1000 during the week ending April 8th. During the past four weeks the death-rate has averaged 24·2 per 1000, the rates during the same period being 15·4 in London and 16·8 in Edinburgh. The 185 deaths of persons belonging to Dublin registered during the week under notice were four in excess of the number in the preceding week, and included five which were referred to the principal infectious diseases, against eight, seven, and eight in the three preceding weeks; of these, two resulted from diarrhœa, and one each from diphtheria, from whooping-cough, and from "fever," but none from small-pox, measles, or scarlet fever. These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 1·5 in Edinburgh. The 185 deaths in Dublin last week included 31 of children under one year of age and 57 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons exceeded the respective numbers recorded in the preceding week. Seven inquest cases and two deaths from violence were registered; and 73, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 10, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING MARCH, 1905.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·0 per 1000 of the population, estimated at 4,684,794 persons in the middle of the year. In the three preceding months the rates had been 6·1, 5·8, and 5·9 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, Chelsea, the City of Westminster, and Southwark; while they showed the largest excess in Stoke Newington, Bethnal Green, Stepney, Wandsworth, Lewisham, and Woolwich. The prevalence of small-pox last month exceeded that in any other recent month; of the 25 cases notified during March, 12 belonged to Stepney, six to Camberwell, two to Hackney, and two to Greenwich. The Metropolitan Asylums hospitals contained 20 small-pox patients at the end of last month, against 17, 15, and 15 at the end of the three preceding months; the weekly admissions averaged four, against four, one, and three in the three preceding months. Scarlet fever showed a slightly increased prevalence compared with that in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hampstead, Stoke Newington, Shoreditch, Bethnal Green, Wandsworth, Lewisham, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2349, 2067, and 1941 at the end of the three preceding months, had risen again to 1997 at the end of last month; the weekly admissions averaged 272, against 233, 209, and 231 in the three preceding months. The prevalence of diphtheria last month showed a considerable decline; the greatest proportional prevalence of this disease occurred in Stoke Newington, Hackney, Bethnal Green, Stepney, Poplar, and Woolwich. The Metropolitan Asylums hospitals contained 788 diphtheria patients at the end of last month, against 800, 836, and 837 at the end of the three preceding months; the weekly admissions averaged 98 against 99, 115, and 118 in the three preceding months. Enteric fever was slightly less prevalent than it had been during the preceding month; among the various metropolitan boroughs this disease showed the greatest proportional prevalence in Paddington, Holborn, Stepney, Lewisham, and Camberwell. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 237, 134, and 105 at the end of the three preceding months, had declined to 68 at the end of March; the weekly admissions averaged 11, against 22, 17, and 13 in the three preceding months. Erysipelas was proportionally most prevalent in Shoreditch, Bethnal Green, Stepney, Camberwell, and Deptford. The 25 cases of puerperal fever notified during the month included four in Fulham, three in Islington, and two each in Hammersmith, Shoreditch, Battersea, and Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the five weeks ending April 1st the deaths of 6977 persons belonging to London were registered, equal to an annual rate of 15·5 per 1000; in the three preceding months the rates had been 18·4, 17·0, and 16·4 per 1000. The lowest death-rates in London last month were 9·9 in Hampstead, 12·2 in Woolwich, 12·9 in Wandsworth, 13·6 in Hammersmith, and 13·8 in the City of Westminster and in Stoke Newington; the highest rates were 18·0 in Stepney, 18·1 in Holborn, 18·4 in St. Marylebone, 19·1 in Shoreditch, 19·2 in Southwark, 19·5 in the City of London, and 19·8 in Finsbury. The 6977 deaths from all causes in London last month included 532 which were referred to the principal infectious diseases; of these, two resulted from small-pox, 153 from measles, 54 from scarlet fever, 58 from diphtheria, 197 from whooping-cough, 15 from enteric fever, and 53 from diarrhœa. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Paddington, the City of Westminster, Hampstead, Lambeth, Battersea, Deptford, and Woolwich; and the highest rates in Fulham, Hackney, Shoreditch, Bethnal Green, Stepney, Poplar, and Southwark. The two fatal cases of small-pox included one in Hackney and one in Stepney. The 153 deaths from measles were less than half of the corrected average number; the greatest proportional mortality from this disease occurred in Hackney, Shoreditch, Stepney, Bermondsey, Wandsworth, and Lewisham. The 54 fatal cases of scarlet fever were eight in excess of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Chelsea, Hackney, Finsbury, Shoreditch, Stepney, and Bermondsey. The deaths from diphtheria numbered 58 last month, against a corrected average of 167; the highest death-rates from this disease were recorded in Bethnal Green, Stepney, Poplar, Southwark, and Woolwich. The 197 fatal cases of whooping-cough were 94 fewer than the corrected average number; this disease showed the highest proportional fatality in Kensington, Fulham, Chelsea, Hackney, Shoreditch, Bethnal Green, Southwark, and Camberwell. The 15 deaths from "fever" showed a decline of 21 from the average number in the corresponding periods of the ten preceding years and included three in Stepney and two each in Kensington, St. Marylebone, and Islington. The 53 fatal cases of diarrhœa were 15 below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, the City of Westminster, Bethnal Green, Stepney, and Poplar. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 45 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 116 per 1000. The lowest rates of infant

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1905.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1905.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,684,794	25	1515	628	1	87	—	25	413	—	2694	6·0	2	153	54	53	197	—	15	—	53	532	1·2	6977	15·5	116
West Districts.																										
Paddington	147,935	—	29	8	—	6	—	1	8	—	52	3·7	—	2	—	—	7	—	—	—	2	11	0·8	206	14·5	127
Kensington	180,033	—	38	12	—	2	—	—	16	—	63	3·9	—	—	1	1	12	—	2	—	3	19	1·1	285	16·5	187
Hammersmith	119,037	—	38	17	—	2	—	2	9	—	68	6·0	—	3	1	2	7	—	—	—	1	14	1·2	155	13·6	125
Fulham	157,210	—	38	21	—	2	—	4	16	—	81	5·4	—	3	2	3	15	—	—	—	3	26	1·7	212	14·1	140
Chelsea	74,496	—	10	5	—	2	—	1	4	—	22	3·1	—	—	2	—	6	—	—	—	1	9	1·3	120	16·8	103
City of Westminster	175,606	—	38	7	—	4	—	1	11	—	61	3·6	—	2	—	—	3	—	—	—	4	9	0·5	232	13·8	95
North Districts.																										
St. Marylebone	129,453	—	21	18	—	3	—	—	11	—	53	4·3	—	4	2	2	4	—	2	—	—	14	1·1	229	18·4	89
Hampstead	88,142	—	35	12	—	1	—	1	7	—	56	6·6	—	2	—	—	3	—	—	—	1	6	0·7	84	9·9	101
St. Pancras	236,183	1	63	19	—	5	—	—	22	—	110	4·9	—	8	1	1	8	—	—	—	2	20	0·9	351	15·5	121
Islington	342,994	—	100	33	—	4	—	3	17	—	157	4·8	—	7	4	4	11	—	2	—	2	30	0·9	470	14·3	96
Stoke Newington	52,823	—	23	11	—	—	—	1	4	—	39	7·7	—	2	—	—	3	—	—	—	—	5	1·0	70	13·8	82
Hackney	228,479	2	69	49	1	3	—	1	23	—	148	6·8	1	17	5	2	14	—	—	—	1	40	1·8	339	15·5	114
Central Districts.																										
Holborn	56,481	—	18	3	—	3	—	—	2	—	26	4·8	—	1	1	—	2	—	1	—	—	5	0·9	98	18·1	107
Finsbury	98,207	—	33	13	—	—	—	1	5	—	52	5·5	—	2	3	1	4	—	—	—	1	11	1·2	186	19·8	118
City of London	22,425	—	7	1	—	1	—	—	2	—	11	5·1	—	—	—	—	—	—	—	—	—	—	—	42	19·5	143
East Districts.																										
Shoreditch	116,565	—	48	18	—	—	—	2	15	—	83	7·4	—	7	4	1	9	—	—	—	2	23	2·1	214	19·1	152
Bethnal Green	130,401	1	53	34	—	2	—	—	19	—	109	8·7	—	4	2	3	8	—	—	—	3	20	1·6	223	17·8	115
Stepney	305,466	12	108	81	—	11	—	—	34	—	246	8·4	1	17	6	6	7	—	3	—	6	46	1·6	528	18·0	129
Poplar	170,280	—	41	41	—	—	—	—	12	—	94	5·8	—	9	1	6	7	—	—	—	4	27	1·7	276	16·9	116
South Districts.																										
Southwark	208,523	—	23	28	—	3	—	—	19	—	73	3·7	—	4	2	5	18	—	—	—	2	31	1·6	384	19·2	135
Bermondsey	129,006	—	50	9	—	2	—	1	12	—	74	6·0	—	8	3	2	2	—	—	—	1	16	1·3	222	17·9	140
Lambeth	313,045	—	82	15	—	2	—	1	25	—	125	4·2	—	1	3	3	7	—	1	—	3	18	0·6	435	14·5	87
Battersea	177,532	—	63	18	—	1	—	2	15	—	99	5·8	—	6	1	1	5	—	—	—	1	14	0·8	244	14·3	75
Wandsworth	265,392	—	141	44	—	7	—	2	18	—	212	8·3	—	17	5	3	8	—	1	—	2	36	1·4	328	12·9	113
Camberwell	271,240	6	98	30	—	8	—	1	38	—	181	7·0	—	10	2	5	17	—	1	—	4	39	1·5	375	14·4	118
Deptford	114,495	—	40	14	—	2	—	—	17	—	73	6·6	—	3	—	2	3	—	1	—	—	9	0·8	177	16·1	128
Greenwich	103,493	2	24	12	—	2	—	—	10	—	50	5·0	—	2	1	1	5	—	—	—	1	10	1·0	141	14·2	98
Lewisham	144,420	—	93	21	—	8	—	—	13	—	135	9·7	—	12	1	1	1	—	1	—	2	18	1·3	204	14·7	111
Woolwich	125,372	—	90	34	—	1	—	—	8	—	133	11·1	—	—	1	3	1	—	—	—	1	6	0·5	147	12·2	104
Port of London	—	1	1	—	—	—	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Including membranous croup.

mortality were recorded in the City of Westminster, St. Marylebone, Islington, Stoke Newington, Camberwell, Battersea, and Greenwich; and the highest rates in Kensington, Fulham, the City of London, Shoreditch, and Bermondsey.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: H. J. Hadden to the *London;* A. F. Harper to the *Renown;* A. G. Wildey to the *Ramillies;* E. H. Hodnet de Courtmacsherry to the *Powerful;* and W. E. Home to the *Hannibal.* Staff Surgeons: A. H. H. Vizard to Bermuda for service in Ireland Island and Dockyard; P. V. Jackson to the *Latona;* E. T. Meagher to continue to be lent to the *Ramillies;* S. H. Birt to the *Indefatigable;* and F. Bradshaw to the *Edgar.* Surgeons: H. A. Kellond-Knight to the *London:* E. Arkwright to the *Sentinel* on commissioning; P. W. MacVean to the *Flora*; A. F. Mackay to the *Ringdove* on commissioning; N. B. V. Jacob to the *Sapphire II.*, lent temporarily; G. Moir to the *Research*, lent for summer season; A. R. Davidson to the *Triton*, lent for summer season; S. H. Facey to the *Albion;* N. H. Harris to the *Pembroke:* and F. H. Nimmo to Haslar Hospital.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Hoysted, Army Medical Staff (retired), is to proceed to Derby for duty. Lieutenant C. R. Tichborne, R.A.M.C. (Militia), assumes medical charge of troops and Non-Dieted Hospital, Kildare. Major F. W. Begbie is appointed Secretary and Registrar of the Military Hospital at Millbank. Captain A. M. MacLaughlin is posted to Belfast for duty.

Lieutenant-Colonel P. J. Dempsey is placed on retired pay (dated March 28th, 1905). Captain W. J. P. Adye-Curran, from half-pay, to be Captain (dated March 23rd, 1905). Lieutenant J. A. Longley resigns his commission (dated April 8th, 1905).

THE COURSE OF INSTRUCTION AT HASLAR.

The course of instruction for Surgeons R.N. at Haslar Hospital terminated on April 6th, when the prizes were distributed by Vice-Admiral Sir Charles Drury, K.C.S.I., Second Sea Lord, who was accompanied by the Commander-in-Chief at Portsmouth and by the Medical Director-General of the Navy. Luncheon was served in the officers' mess prior to the distribution of the prizes and Sir Charles Drury gave a short address to the newly commissioned surgeons. The gold medal was gained by Surgeon L. F. Cope (St. George's Hospital), the microscope by Surgeon L. C. Hunt (St. George's Hospital), and the silver medal and books by Surgeon H. M. Braithwaite (University of Durham). The names of the candidates with the combined marks gained at the entrance examination and at the Haslar course are subjoined.

	Marks.		Marks.
L. F. Cope...	4472	F. G. Wilson	3619
F. L. de Verteuil	4352	J. McA. Holmes	3575
K. D. Bell	4321	E. D. Rutherford	3500
H. B. Hill	4267	R. Willan	3426
H. M. Braithwaite... ...	4122	A. O. Hooper	3355
D. G. Addison-Scott ...	3991	H. S. Turner	3303
F. Hernaman-Johnson...	3960	E. M. W. Hearn	3177
L. C. Hunt	3859	R. H. McGiffin...	3167
C. R. Worthington... ...	3781	D. P. MacI. Campbell ...	3160
P. M. Rivaz...	3764	S. H. Vickery	3056
J. R. A. Clark-Hall ...	3734	M. W. Haydon...	2931
H. Cooper	3658	A. J. McDiarmid	2890

THE 1ST CADET BATTALION OF THE ROYAL FUSILIERS (CITY OF LONDON REGIMENT).

Writing from the Hampstead headquarters of the 1st Cadet Battalion the Royal Fusiliers (City of London Regiment), the commanding officer, Lieutenant-Colonel Frank Sheffield, wishes to draw attention to the opening ceremony which has been fixed by the Prince of Wales, colonel-in-chief of the Royal Fusiliers, for Monday evening, May 15th. In the course of a careful preliminary inspection of these headquarters His Royal Highness was pleased to express unqualified "approval of their extent, architectural appearance, and general completeness, in which respect they are unsurpassed by any similar buildings in the metropolis." The battalion is entirely dependent upon voluntary subscriptions which may be sent to Lieutenant-Colonel Sheffield at the headquarters, Pond-street, Hampstead, N.W.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 11th, Sir J. Dick, K.C.B., being in the chair, the sum of £50 was distributed among the several applicants.

THE AMERICAN NURSES IN JAPAN.

The *Century Magazine* for the present month contains an article by Mrs. Anita Newcomb McGee, M.D., descriptive of what is termed an international episode afforded by the proceedings and the experience of the American corps of nurses in Japan. A special interest is lent to the paper by the light that it throws upon the nature and the working of the medical, nursing, and hospital systems in that country under the strain and the conditions of a war of unparalleled magnitude. Dr. Anita McGee took a party of well-trained American nurses to Japan in 1904 for six months' uncompensated service. They were received as guests of the Japanese nation and the object of their visit very naturally roused the sentiment and enthusiasm of the people. In the present war Hiroshima, in Western Japan, although not the seat of the Japanese Government, is the principal place of military activity. The policy of the Army Medical Department has been to establish its great base hospital there. At Hiroshima the most serious surgical work is done and, in the words of Surgeon-General Fujita, "except for the smoke and noise of battle Hiroshima is the front." The hospital consisted in October of eight divisions of different sizes with a total capacity of about 14,000 beds, or 17,000 if closely crowded. These divisions are located on what was previously vacant land in different parts of the city outskirts. The division for contagious diseases, including both typhoid fever and dysentery, is one of the smallest, with only 500 beds. The wards are one-storey wooden structures on the pavilion plan and usually for 60 or 70 beds each. For officers and critical cases certain wards are partitioned into small rooms. Several train-loads of patients leave Hiroshima daily, so that the wards are scenes of perpetual change. "The Red Cross Society of Japan is probably, all things considered, the finest organisation of the kind in the world." It has now nearly 1,000,000 members, an excellent relief organisation, and large funds. It is the ally and assistant of the medical officers and altogether subordinate to their orders. The nursing in the field and part of that on hospital ships are done by men. The training of the female nurses is good; it is military throughout and a large proportion of women undertake it primarily as an act of patriotism. One of the things which seems greatly to have struck the American nurses was the strength and endurance of these seemingly delicate and frail Japanese women. Nurses were on duty at the Hiroshima hospital for 28 hours continuously. "All through the hot summer those dear little women were in their wards from eight one morning till noon the next day, followed by a third day of eight hours, and beginning on the fourth another long period. Like all Japanese, they drank hot tea at any hour but they took scarcely 15 minutes to eat their light cold meals. They thought nothing of carrying a man on their backs, just as in childhood they had probably carried their little brothers." As regards obedience to discipline, cheerfulness, habitual kindness, willingness to serve, and an unfailing urbanity in little things, the female Japanese nurses are not easily to be surpassed.

THE WAR IN THE FAR EAST.

The great interest felt everywhere in the present stupendous war has been altogether translated for the time being from the land to the sea and as to what is to be the outcome of the next naval operations which may apparently occur at any moment and may be attended with momentous results. Should the Japanese fleet be defeated so as to entail the loss on its part of command of the sea it is obvious that the whole complexion of the war will be altered, while, on the other hand, if Admiral Rojdestvensky's fleet be defeated it may, and not improbably will, lead to an end being made to this terrible war by terms being proffered on the part of Russia in order to secure peace—a result devoutly to be wished in the cause of humanity. Meanwhile there is still some uncertainty about the Russian fleet and as regards the whereabouts of the Japanese fleet the secret is being well kept, absolutely nothing being allowed to leak out on the part of the Japanese authorities. We have for the first time since the battle of Mukden some trustworthy news as to the belligerent armies in Manchuria. These are in touch and intelligence may be any day received of the fighting being renewed in that direction. According to a telegram from Moscow sent by the special correspondent of the *Standard* an unfortunate Red Cross scandal has just occurred there. Two princes of the Urussoff family and two other nobles were to have been tried there on charges of fraud in connexion with the Russian Red Cross Society. None of them, however, entered an appearance. One of the princes was absent on duty in the Far East while the other had fled abroad and their two alleged accomplices were nowhere to be found.

Probably a unique case, says the *Novosti*, is that of M. Heiman of Riga, who has three sons serving in the active army as surgeons. They were called up singly from the youngest to the eldest in February, May, and October last year respectively. The second has been decorated for the part which he took in the fight at Liaoyang.

The Yaroslav hospital detachment lost all its material, valued at £400, at the battle of Mukden, whilst the losses of the Kharkoff detachment at the same battle are said to be £1500.

It has been decided that from July 1st next, until further orders, all staff, medical, and departmental officers serving at home or abroad (except India) shall, in common with regimental officers, have the option of drawing their pay either through the agents or the local accountant or paymaster. Servant allowance will continue to be drawn in the same manner as the pay, but field allowance and allowances in lieu of forage, stabling, lodging, and fuel and light will always be drawn through the local accountant.

Surgeon-General A. H. Keogh, C.B., Director-General A.M.S., has intimated to general officers commanding that it is considered desirable that matrons or acting matrons should keep a permanent record of all the sisters and staff nurses of the Nursing Service and also of the Army Nursing Service Reserve members who are serving under them in each hospital.

Defective colour vision, it has been decided, shall no longer disqualify candidates for commissions in the army.

Correspondence.

"Audi alteram partem."

THE TEACHING OF HYGIENE IN ELEMENTARY SCHOOLS.

To the Editors of THE LANCET.

SIRS,—In a leading article in THE LANCET of April 8th, p. 939, you deal with the present much-debated subject of a syllabus defining the scope of the teaching of hygiene in elementary schools. As one who attended the recent School Hygiene Conference, which met under the auspices of the Royal Sanitary Institute, I was impressed with the circumstance that opinions differed widely upon this subject, according as to whether the speaker was a physiologist, a public health official, or an educationist, and, generally speaking, an unduly high standard of knowledge was favoured. It appears to me that in the whole scheme of teaching hygiene in elementary schools the fact must never be lost sight of that, *from the broadest point of view*, it is only simple and essential matters that require to be taught and that any scheme aiming at more than this will certainly fail to realise the best results. Moreover, if the subject is to be gone into as deeply as many advocate it would demand a greater share of the already congested school time table than educationists are prepared to bestow. Of course, the distinction must be drawn between what the teacher should know and what the scholar should be taught, but in drawing up a detailed syllabus for the latter we have only to ask ourselves at every step, Is it essential that he or she should know this? Is it knowledge which he or she can apply? To take an example, Is it necessary to teach the scholar the structure of the lungs and the mechanism of respiration in order to impress upon him the importance of fresh air, or is it sufficient to base the teaching on the results of common experience and the simplest possible expression [illegible] the simple and practical devices by which the best results may be obtained in living and sleeping rooms? Surely it is not necessary (although the Board of Education would appear to suggest that it is) that while making reference to the vital necessity of the oxygen in the air the issue in the child's mind should be confused by any allusion to the injurious properties of oxygen *under artificial conditions*. The facts which it is necessary to teach and which would (if generally practised) reduce the sum of preventable misery, suffering, and death very considerably could be incorporated in a short syllabus and the physiology necessary to explain them and to make their importance realised can always be adequately set out in simple non-technical language. The scientific principles involved may be very largely left to the students who attend evening continuation classes, for many of them hardly appeal to the intelligence of the child under 14 years of age.

In short, the instruction must deal with the most easily understood, the cheapest, and the most practicable means of translating sanitary precepts into practice. The conduct demanded of the scholar will constitute the hygienic training necessary, and the school buildings and fittings should, so far as possible, be made to illustrate all necessary hygienic observances. But the *training in the observation of sanitary* precepts is a form of moral training, and if the home influences are antagonistic to those of the school the home influence will often prevail. Therefore, a dirty and neglected child indicates the necessity of attempting to do something to improve the parents. Simple and elementary as the teaching must be, its range must necessarily be a comprehensive one and every female child should be taught the elementary facts of suitable selection of food, cooking, and infant rearing. The Board of Education is certainly well advised in proceeding with caution in the matter of deciding as to what is to be taught; and when this is settled a greater difficulty awaits them in deciding *how the information may best be conveyed*, on a scheme suitably graduated to the ages and the capacities of the scholars. The value of *the right sort of teaching* cannot be over-estimated. The ignorance among the poor of personal and domestic hygiene, including, of course, infantile rearing, is responsible in no small measure for their high preventable mortality, their inferior physique, their intemperance, and their poverty. The possession of citizens of good physical and moral stamina is the most valuable and abiding of all national assets, and for this the nation is very largely dependent upon what the educational influences of school life are made to be.

I am, Sirs, yours faithfully,
HENRY KENWOOD.

Public Health Department, University College, W.C.,
April 11th, 1905.

SHOCK AND COLLAPSE.

To the Editors of THE LANCET.

SIRS,—Mr. P. Lockhart Mummery has produced no evidence in support of his assertions that increased atmospheric pressure is of value in the treatment of shock and that this increased pressure can alter the distribution of blood in the vessels. Until he does so these assertions remain pure hypotheses, unsupported by facts and contrary to ordinary physical principles. Mr. Mummery is astonished at the way in which the vaso-motor system is able to cope with variations of external pressure. (Will he explain how it does so?) To me it seems that the vaso-motor system has nothing to do with it but that the phenomena are to be explained by purely physical principles.

The vascular system consists of a closed system of elastic tubes containing an incompressible liquid. The blood pressure is maintained by the force exerted by the heart and the resistance to the blood flow in the vessels. Alterations in the blood pressure can be produced by alterations in the force or rhythm of the heart beat (which we can leave out of account in the present discussion) or by alterations in the peripheral resistance. *Local* increase in the peripheral resistance, as by localised external pressure, will produce an alteration in the distribution of the blood by driving the blood into that part of the system which is not subjected to pressure and, in consequence, the vessels in this part of the circulation will dilate and their tension and therefore the blood pressure will be increased. On the other hand, a *general* increase in the external pressure cannot produce any alteration in the distribution of the blood because the pressure will be exerted equally at all parts of the system. It remains, therefore, to prove that the increased atmospheric pressure does reach to all parts of the vascular system. This proof follows readily on ordinary hydrostatic principles. The majority of the tissues of the body are in a semi-fluid condition and all the tissues are permeated by an incompressible fluid which fills all the tissue spaces and lymphatic channels. Through this fluid the external atmospheric pressure is transmitted as easily as through the blood and any increase of external pressure is transmitted to all parts of the vascular system with equal force and therefore cannot alter the distribution of blood in the vessels. Under these conditions the absolute pressure in the blood-vessels is raised in the same proportion as the external atmospheric pressure and the relative pressure—that is, the blood pressure in the ordinary sense—remains unaltered. I am, Sirs, yours faithfully,

CHARLES POWELL WHITE.

St. Thomas's Hospital, April 10th, 1905.

LEGISLATION FOR FEMALE CLERKS.

To the Editors of THE LANCET.

SIRS,—With reference to Dr. T. E. White's letter in THE LANCET of April 8th, p. 959, ample legislative powers already exist for dealing with such cases as Dr. White describes. In the metropolis, Section 38 of the Public Health (London) Act, 1891, requires sufficient and suitable accommodation, with proper and separate accommodation for persons of each sex, to be provided in every factory, workshop, or workplace. In the provinces similar powers to require such accommodation to be provided are given by Section 22 of the Public Health Acts Amendment Act, 1890, the category of premises being, however, slightly wider than that in the Section 38 referred to above. There is no satisfactory definition of "workplace" but the decision given in Bennett *v.* Harding (1900), 2 Q.B. 397, is wide enough to meet all requirements. There is, I venture to think, no need for further legislation, only for more activity on the part of local authorities to put into force the powers which they already possess.—I am, Sirs, yours faithfully,

REGINALD DUDFIELD, M.A., M.B., D.P.H. Cantab.

Paddington, W., April 10th, 1905.

"AMAAS."

To the Editors of THE LANCET.

SIRS,—Had Dr. George Turner taken the trouble to read with care my paper on Amaas, which appeared in THE LANCET of May 7th, 1904, he would have noticed that, far from contending amaas to be a distinct disease from small-pox, the view succinctly stated in the concluding sentence of my paper is to the effect that amaas is considered to be variola modified by some undetermined factor or factors. This view I shall consider myself justified in retaining until the experimental evidence adduced of the susceptibility of amaas patients to vaccinia is successfully refuted. In the 14 subjects of amaas vaccinated three to five weeks (not an indefinite number of years) after the outbreak of the eruption all 14 cases proved susceptible to vaccinia.

I am, Sirs, yours faithfully,

King's College, April 10th, 1905. W. E. DE KORTÉ.

THE WEST INDIES: THEIR VALUE AS A HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—The West India Islands, especially Jamaica, have lately come much to the front as a health resort for British and American tourists. I have recently returned from a five months' sojourn in the latter colony and, having had very exceptional opportunities for visiting almost every part of the island, was particularly struck by the fact that the districts of Jamaica, affording most advantages to invalids both in climate and beauty of surroundings, were almost neglected. Visitors to the island flock to the fine hotels in and near Kingston, Port Antonio, and Mandeville. The climate of the latter, reached by an easy railway journey from Kingston and a few miles' drive, is all that could be desired. To the invalids, however, the bustle and conventionality attendant on a busy season were sources of vexation and disappointment. Yet had they known it, within easy reach of them, for Jamaica is a small island, were districts of matchless beauty, of superb and equable climate, and, above all, of simple and inexpensive living.

After close observation and with experience of Egypt and the Canaries I believe that for cases of neurasthenia, chronic rheumatism, and pulmonary disease, no climate could excel that of the uplands of Jamaica. To those to whom a sea voyage is a trial the island can now be reached in ease and comfort by the Direct Line steamers in ten days or a little over. The practitioner who recommends Jamaica would do well to advise his patient not to stay too long in Kingston but to go up country at once. To my mind the beautiful stretch of mountainous country that lies between Mandeville (accessible by railway) and Brown's Town (easily approached from the sea) possesses the most perfect climate in Jamaica. Between the townships of Christiana and Ulster Springs the mountains rise to a height of 3000 feet with good roads. The days are never too hot for a fair amount of walking or riding exercise; the nights are delightfully cool and pleasant; the trellis work with which nearly every window is fitted makes it impossible for the phthisical patient to shut out the air even if he cared to do so. He can drink spring water instead of the tank water so prevalent in Jamaica and he will find the natives a most courteous and law-abiding people. Mosquitoes are rare, in the higher districts practically unknown. All kinds of delicious fruits are at his service at a merely nominal price; indeed, the orange and mango can be had for the picking. The exquisite charm of the scenery, the purity of the mountain atmosphere, the outdoor life—for he need go no further than the verandah if he does not care to stir abroad—the absence of bustle, the increased appetite, and the sound and refreshing sleep soon produce a very marked change in the patient. To the well-to-do of either sex I believe Jamaica affords unrivalled opportunities for repose of mind and body. The climate and life are ideal for convalescents and in phthisis, in the many cases which I have been able to authenticate, the results were remarkably good. In the latter the beneficent results were especially marked in those who had abandoned the tourist track in favour of the unconventional life of the *real Jamaica* in the uplands. The boarding houses, and there are far too few of them, are clean, comfortable, well-served, and not expensive. But why is there no sanatorium in that beautiful and health-giving district?

The conscientious practitioner, who remembers the humble circumstances of his patient before ordering him abroad, will do well to think of Jamaica. For females who have to earn a living there are, unfortunately, few opportunities there. But for the male, whatever his previous training may have been, who is willing to spend a few months in learning the rudiments of agriculture or stock-raising, the island offers a good living. A pleasant life it is, too, compared with the rough and tumble of South Africa. He will not be long a "stranger" there. The Jamaicans are models of kindness and hospitality.

I am, Sirs, yours faithfully,

April 10th, 1905. A. A. BARCLAY, M.B. Glasg.

THE TREATMENT OF EMPYEMA.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 1st Mr. Rickman J. Godlee quite rightly makes a protest against the surgical treatment of empyema, as laid down by Dr. S. West in your issue of March 25th, but he has not called attention to these statements in Dr. West's paper: "It sometimes happens that a case of empyema comes under observation in such a condition that immediate operation seems risky and then paracentesis will give relief and gain time till the patient is in a better state to stand the incision. ...... Of course, if paracentesis be performed for empyema the aspirator must be employed."

I presume that the "risk" referred to is the danger of the anæsthetic on account of the presence of a large amount of fluid within the chest mechanically impeding respiration and the heart's action; as well as the weakness of the cardiac muscle from the general toxæmic condition of the patient. In cases such as these I have not found paracentesis by means of an aspirator satisfactory. No doubt the removal of the pus will for a short time relieve the mechanical pressure, but it will not prevent further absorption of toxic products, and I have also found that very soon there occurs a fresh throwing-out of fluid from the walls of the empyema and thus the mechanical pressure is reproduced. The treatment for these "risky" cases is, in my opinion, to put in a trocar and cannula, with strict antiseptic precautions and under local anæsthesia, and to leave the cannula in to drain off the pus quietly and slowly.[1] This not only relieves the mechanical pressure but also arrests the absorption of toxic products. After from four to ten days, the cannula not having been removed, according to the severity of the case the improvement in the patient's condition will allow an anæsthetic to be administered with impunity. Part of a rib may then be excised, the lymph removed, and the cavity thoroughly explored and drained in the manner recommended by Mr. Godlee.

I am, Sirs, yours faithfully,

Queen Anne-street, W., April 3rd, 1905. WILLIAM TURNER.

THE EPIDEMIC OF PLAGUE IN INDIA.

To the Editors of THE LANCET.

SIRS,—I have read your leading article "Plague in India" with interest and appreciation and having had some years' experience on plague duty share in your misgivings. The Indian Plague Commission advanced our knowledge but little and in my opinion this was owing to the fact that a great part of its time was expended in hearing the evidence of witnesses. This naturally involved much repetition; written reports would have saved time and probably have been clearer. The time of the scientific members would have been more usefully devoted to *personal* bacteriological and experimental research.

It is essential that the India Office should thoroughly appreciate the importance of the inquiry being conducted on the spot by the most able bacteriologists procurable and that [illegible]. The inquiry should aim at affording [illegible] following: 1. The life-history of [illegible] [illegible]ow does the human body become infected? 3. How and where does the bacillus pestis exist during the intervals between epidemics? 4. How is it that the most careful and thorough disinfection fails in some instances to prevent the recurrence (after an uncertain interval) of the disease on the same premises? 5. The relationship between epidemics of plague in rats and in human beings. It is a matter of general knowledge that human cases may follow on the death of rats from plague, but how the two are connected is not certainly known. 6. The manufacture and action of Haffkine's prophylactic and Yersin's serum. The prophylactic, according to my experience undoubtedly efficacious, should be standardised in order that the desired protection can be obtained without excessive inconvenience to the subject. Yersin's serum, so successful in the laboratory, has in the hospitals of South Africa given most unsatisfactory results.

I am, Sirs, yours faithfully,

Hatch End, March 29th, 1905. W. D. BETENSON.

THE AGE INCIDENCE OF CANCER.

To the Editors of THE LANCET.

SIRS,—Dr. E. F. Bashford, in his timely and very interesting address, published in THE LANCET of April 1st, p. 837, insists that "all hypotheses in explanation of the origin and nature of cancer break down, not only in not explaining how growth is maintained but also before the problem of the peculiar age incidence of the disease." The following theory will, I believe, explain the two difficulties mentioned, as well as many other salient features in the history of malignant and other new growths.

We start from Virchow's famous dictum, "Omnis cellula a cellulâ," every cancer consisting of a mass of cells starts from a previous cell, and is really only the result of a deviation from the normal mode of growth. It will be well therefore to bring back to mind very briefly the essential phenomena attending the division of a cell—whether animal or vegetable—and the normal growth of the resulting daughter cells. Consider then a cell just about to divide. When the energy or forces in the nucleus reach a certain point the nucleus divides into two parts which separate, but are joined by fine strands of nuclear protoplasm. Near the middle of these strands is deposited the new cell wall elaborated by the nuclei from the materials contained in the lymph or sap as the case may be. It is evident that the nuclei spend a given amount of energy in the construction of this new cell wall. The two daughter cells in their turn may grow and divide, the nuclei always spending a normal amount of energy in constructing the new cell wall. Such very briefly are the essential features of normal growth. There has been no mention of early and minute changes in [illegible] er only the [illegible] deviation from the above normal process which might lead to continuous abnormal growth. Assume then that we have a cell with a normal nucleus just about to divide, but assume also that some of the materials supplied for the elaboration of the new cell wall about to be formed are wanting in quality or quantity. The nuclei divide but spend less energy than is normally the case in constructing what may now be designated a poor quality cell wall. The (daughter) nuclei are thus left *overcharged with energy*. These overcharged nuclei will, it is safe to assume, divide much more quickly, i.e., after a much shorter interval of time than would be the case with normal nuclei. When they divide their daughter nuclei in turn form poor quality cell walls and so the swift and apparently unlimited growth must continue.

Such is the theory I am bringing forward to attempt to explain the incidents in the life-history of new growths and to be very brief I will mention only a few of the more salient incidents. The two difficulties mentioned by Dr. Bashford are age incidence and limitless growth. Taking the latter difficulty first the theory shows that the only limit to the growth of the cells is the complete withdrawal of nourishment—i.e., the death of the host—or the reappearance of the normal materials for elaborating a normal cell wall. This is excessively unlikely to happen, as once the growth has started the drain on the host is established, making it almost impossible for the latter ever again to supply normal nourishment. As to age incidence, we may put the matter in another way and ask, at what time in the life of an organism is the nourishment supplied to the parts likely to show deterioration? We must remember, at the same time, that the deterioration must be slight, otherwise the nuclei would suffer and there would be no growth at all. The answer to the question is, evidently just past the prime of life. For up to this time the materials supplied for growth will in general be normal. Further, cancer should be unlikely to occur long after the prime of life, for then the nuclei also are on the wane. This theory then suggests that cancer should start just after the prime of life in any animal and, further, that cancer should be less liable to start in the *very* old. Such organs as the mamma and uterus in the parous may be said to pass their prime immediately they begin their first involution, and on this theory cancer ought to occur earlier in such organs than in other parts of the body.

Any interference with the lymph or blood-supply to a part in so far as it altered the nourishment for the elaboration of new cell walls might thus start a cancer in the part. Trauma may cause such interference. Again, the cell wall being, on the theory, of lower quality than normal, a cancer ought to degenerate quickly and show degeneration products peculiar to itself. And again, this cell with its low quality cell wall and nucleus overcharged with energy—in other words, a cancer cell—is a menace to the host as long as nourishment can reach it. The change in the character of the cell wall and the quick rate of growth may account either separately or jointly for the frequent detachment of cells from one another. If such a cell be carried to another part of the body it is supplied with the same nourishment and the chances are greatly in favour of its growth in its new position—i.e., the establishment of secondary growths. In an individual of the same species, provided the cell is transplanted at a corresponding period in life, the cell ought to grow into a cancer in many cases, while if transplanted into the system of individuals of different species it ought to die, unless, indeed, the lymphs of the two hosts were chemically identical.

Finally, as a cancer cell is one with nucleus overcharged with energy it is impossible to fail to see that it is in a similar state to the cell which results from the union of the male element with the ovum and we will not be surprised to notice that in many respects cells in a cancer show resemblance to the fertilised ovum. This latter cell has a nucleus representing the combined energy of the male and female nuclei. The great point of resemblance between the fertilised ovum and a cancer cell is, of course, their characteristic tendency to divide—i.e., to growth.

Enough has been written to show that many important clinical features of new growth can be deduced from a simple consideration of the play and balance of energy in a cell. The theory, tentative, like most theories of cancer, may be found interesting if only because it shows how many points in the course of a cancer can be explained without recourse to a specific cause. I have refrained from confining the theory to malignant new growth alone, for it is evident that other tumours would come within its scope, from the most malignant to those of very slow growth. The only index to the rate of growth is the difference between the normal and new cell wall in composition. The greater this difference the swifter is the growth or the greater the malignancy.

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[1] See THE LANCET, April 12th, 19 2, p. 1044.

I am, Sirs, yours faithfully,
R. E. ROBERTS, M.B., B.Sc. Lond.
Crosskeys, Monmouthshire, April 3rd, 1905.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 1st Dr. E. F. Bashford, in a very interesting paper on the Growth of Cancer, lays a good deal of stress on the unsolved problem of the age incidence of the disease. For some time it has seemed to me that a factor in the production of new growths has been a rise in blood pressure. One could give several instances where tumour formation, both benignant and malign, has been preceded by high arterial tension.

Two cases will suffice to make clear my meaning. A woman, now aged 41 years, has been under my care for the last nine years. During that period I have seen her frequently for headaches of an intense nature, due apparently to high arterial tension. Drugs seem useless but leeches to the temple give some relief. She has also had to wear a pessary for prolapse of the uterus following her last confinement 11 years ago. The patient has seen several physicians and gynæcologists but without relief to the headaches. 18 months ago she developed a fibroid of the uterus which now reaches within an inch of the umbilicus. It is worth noting that before the tumour appeared the heart showed signs of dilatation. Recently the blood pressure by Hill and Barnard's sphygmometer registered 180 millimetres of mercury but such records are of small value unless its relation to the force of the heart-beat is considered. For example, with a very feeble heart-beat the tension might be relatively high, while the sphygmometer might register it as apparently low.

The other case was in a man, aged 72 years. Eight years ago when I saw him for a minor ailment one noticed that his blood pressure was very high and the arterial tone increased. A year later he came with a cancer of the lip, the exciting cause being a clay pipe. The growth was examined microscopically after removal and was certainly malignant. There has been no recurrence, though the blood pressure is still high, and the only change in habits is that the man has given up smoking.

In both these cases there were high arterial tension and also irritation, the one from changes in the uterus following the prolapse and the other from the clay pipe. Since blood pressure presumably tends to rise in all vertebrates in later life it may account for the age incidence in cancer. It is to the general practitioner that one must look to confirm or to refute this view, for, like myself, he has the opportunity to follow cases over long periods of time. As to why increased blood pressure might cause aberrant growth must be somewhat speculative; but if, as some maintain, high arterial tension is due to changes in the density of the blood plasma this would cause a change in osmotic pressure. A change in the normal osmotic pressure as a factor in the production of aberrant growth can be well seen in the eggs of the frog or sea urchin. I am, Sirs, yours faithfully,

Formby, April 3rd, 1905. ARTHUR C. WILSON.

THE TREATMENT OF HÆMORRHOIDS BY THE HIGH-FREQUENCY CURRENT.

To the Editors of THE LANCET.

SIRS,—As we have recently heard a great deal of the value of high-frequency treatment for internal piles I thought it might prove of value to record the following case.

On Dec. 24th, 1904, I was consulted by a gentleman, aged 51 years, suffering from internal hæmorrhoids, which were then inflamed and prolapsed. On Jan. 4th, 1905, the inflammatory condition having subsided, he was, at my request, examined by a surgeon on the staff of one of our special hospitals for rectal diseases so that the exact condition of the parts might be ascertained before high-frequency treatment was commenced, which I was desirous he should try, as the case, to my mind, was a typical one for testing the value of this method and the patient was naturally anxious to avoid an operation. On Jan. 5th high-frequency treatment was commenced by a surgeon on the staff of the electrical department of one of our London hospitals, with the understanding that he might continue the treatment as long as he thought necessary and applied by whatever method he thought fit. On March 29th, the patient having had 32 applications, the surgeon said he could do no further good, even if he had done him any good at all. On March 31st he was again examined by the surgeon on the staff of the special hospital who had seen him on Jan. 4th. The surgeon informed us that the condition was practically the same as on that occasion and that an operation was as necessary now as it was before the high-frequency treatment had been commenced.—I am, Sirs, yours faithfully,

Wimpole street, W., April 3rd, 1905. GEO. STEELE-PERKINS.

ABOUT AUTOGENOUS INSTITUTES.

To the Editors of THE LANCET.

SIRS,—I have noticed in the advertising columns of the medical journals lately statements of analysis issued from sources bearing the titles of "Institute of Hygiene," "Institute of Bacteriology," &c. I humbly submit that it is necessary at once sternly to reprobate this practice—namely, that a fortuitous congeries of individuals should elect to call themselves an "Institute" of Bacteriology or the like and issue certificates of commendation to impress the public or the profession. So far as regards the "Institute of Hygiene" I believe that the gentlemen composing it are of the highest probity and of the greatest eminence. Some of them I know, personally and by repute, and I have the greatest respect for their attainments. But it is obvious that those very excellences which may guard this particular "institute" from adverse criticism will be availed of by less scrupulous folk to foist other "institutes" into being. If we are to tolerate these what is to prevent any half dozen chemists from joining with a couple of medical men and announcing themselves as an "Institute of Pharmacology," which will be prepared to examine and to report (for a fee) on any pharmaceutical preparation? Or a few needy medical men combining with an architect or two and constituting an "Institute of House Hygiene," prepared to bless or to blame every article used in the house? The possibilities of prospective fraud are too awful to contemplate.

I am, Sirs, yours faithfully,
J. C. MCWALTER, M.D. Brux., M.A., D.P.H.
April 9th, 1905.

DANGERS TO THE OPERATOR FROM THE X RAYS.

To the Editors of THE LANCET.

SIRS,—An annotation in THE LANCET of April 8th, p. 945, on the above subject begins: "Though the injuries inflicted on the patient in the use of the x rays have been repeatedly recorded little attention has been directed to the dangers to the operator." Such a statement is, in my opinion, rather too sweeping, as many hospitals and also private workers take precautions to protect the operator from the influence of extraneous rays. At the London Hospital shields made of thick glass containing a high percentage of lead are used. The rays are allowed to fall only where they are wanted and the rule is to take radiographs in all cases, the screen being used only where the peculiar circumstances of the case render it necessary. Under the arrangements there it is considered to be practically impossible for the operator to become seriously damaged and if it does happen it will be due to his own carelessness in not availing himself of the means provided for his safety. That operators in the London Hospital have suffered severe injury in the past is only too true, but nothing fresh has happened since the introduction of the x ray shields over 12 months ago. This is a matter for congratulation considering that we have six sets of apparatus in constant use.

I am, Sirs, yours faithfully,
REGINALD MORTON,
Medical Officer in Charge of the Electrical Department,
London Hospital.
April 11th, 1905.

CHOLERA, PLAGUE, AND OTHER DISEASES IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

SINCE the date of my last letter, which appeared in THE LANCET of March 4th, p. 604, no case of cholera has been reported from any part of the Turkish Empire. It is hoped, therefore, that the epidemic is now extinguished. Reports are still coming in with details of the outbreaks in various places, outbreaks which have already been mentioned in my earlier letters and which fortunately have now little more than an academic interest. During the epidemic in the town of Van there appears to have been a considerable mortality among the troops stationed there and a smaller mortality among the general population. Several villages in the neighbourhood were also invaded by the disease. A large number of villages in the neighbourhood of Deir-Zor, on the Euphrates, in the Aleppo vilayet, were also the scenes of outbreaks of more or less severity, but here also the epidemic seems to be over. In December it was rumoured that the disease was prevalent among the nomad Arabs who winter their flocks in the province of Deir-Zor. The presence of cholera at Bitlis has never been reported, but from information recently received it appears that there was an extraordinarily high mortality there among recruits in the latter months of last year and among the Armenian population (and, it is added, presumably among the Kurds also) the mortality rose to double the average. A still higher mortality is said to have prevailed at Mush but up to the present no definite information is to hand to show that either here or at Bitlis the raised mortality was due to cholera.

The outbreak in Persia has also greatly diminished but it is doubtful whether it has yet completely disappeared. The following is a summary of the latest reports received by the Board of Health here from its representative in Tehran, which bring the history of the epidemic down to March 7th. The Customs authorities had reported on Jan. 18th that no case of cholera had occurred in Shuster or Dizful for the preceding 15 days but at Kermanshah during the first week of that month there had been an unusual mortality from a disease accompanied with diarrhœa and vomiting, particularly among children. Cases of cholera were still occurring at Kasr-i Shirin, near the Turkish frontier, but the disease had apparently disappeared from the Mazanderan province and no case had been seen at Meshed-i-sar since Dec. 15th. Cases had recently been observed at Kumesheh and Abadeh on the road between Ispahan and Shiraz.

Another report dated Feb 1st stated [illegible] the information given in an [illegible] last letter) that the weather [illegible] of exceptional severity. Snow had fallen to a depth of from two to three metres and the thermometer had sunk as low as –17° Réaumur (6¼° below zero, Fahrenheit). This is said to be the lowest temperature recorded for 30 years. Cholera had at this date recently made its appearance at Birdjend where it was causing from 15 to 21 deaths daily. A third report, dated Feb. 8th, quoted from information received in December last from the south of Persia, according to which all that part of the country and the shores of the Persian Gulf were at that time in a satisfactory state in respect of epidemic disease. Cholera had disappeared from Mohamera in the first half of December, but in the last week of that month it had broken out at Jask, against which port a quarantine of four days, including the voyage, had been imposed by the local sanitary authorities. Reports from Tabriz, dated Jan. 15th, stated that cholera had completely disappeared from there. The Customs authorities of Kermanshah announced on Feb. 1st that cholera had apparently become endemic in Kasr-i-Shirin and its neighbourhood, especially among the Djafs, Mahmudis, and other Turkish tribes wintering there. On Feb. 6th it was reported from Khaf that the total mortality from cholera in that town and the surrounding villages had been not less than 700 persons. Cholera had disappeared from among the mining population at Nishapur where the disease broke out in the first week in January and where as many as 150 deaths had occurred. On March 1st it was stated that a few cases were still occurring at Kum and Birdjend; and finally, on March 7th the Turkish sanitary representative at Kermanshah reported that all northern and western provinces of Persia, as also the towns of Kazvin, Hamadan, and Tehran, were free from cholera; that the disease was still present at Kum; and that information was lacking as to its existence or behaviour in the southern provinces.

The reports quoted above make mention of the presence of other diseases in many parts of Persia. At Senneh (? Sehna) small-pox was seriously prevalent in January; it had caused there over 200 deaths in a short period and it was spreading to other parts of Kurdistan. The same disease was also epidemic at Nehavend, Burujird, and Tehran. In February it was also active at Tabriz, Kengaver, and Senneh. It is noteworthy that small-pox inoculation is still practised in these Persian towns, but no precautions are taken as to [illegible] icking the skin of the unfortunate [illegible] to the process; and the result is [illegible] those inoculated die either from the disease itself or from blood poisoning. Typhus fever is mentioned in several of these reports, but it is not clear whether petechial typhus fever or enteric fever is to be understoood by this term. It has been reported from Kengaver, Nehavend, Burujird, Tabriz, and Senneh. Enteric fever and other intestinal disorders were very prevalent in Tehran in January. Diphtheria was present in Kengaver and Tabriz in the same month.

In Russian territory the cholera epidemic has almost completely died out. Between Jan. 16th and 23rd[1] only six cases and four deaths were reported from all parts of the country (one fatal case at the Alexandropol railway station, in the Erivan government, and five cases with three deaths at Tsaritsyn); between Jan. 31st and Feb. 10th only two cases of the disease were reported, one at Baku and one in the Uralsk province, between Feb. 17th and 24th only a single case occurred—at Balakhani, near Baku; and finally between Feb. 25th and March 4th no case of the disease was reported from any part of the Russian Empire.

The outbreak of pneumonic plague among the Kirghiz and Cossack population in the Uralsk province came to an end on Jan. 8th in the Bukeëf Horde and on Jan. 16th in the Gurief district of the province. The serious outbreak of anthrax ("Siberian ulcer") in the Viatka government, reported in my last letter, has to a great extent subsided. In the week ending Jan. 24th t[illegible] was 11; between Jan. 31[illegible] (bringing the total from [illegible] 10th to the 17th, 32 cases; from the 17th to the 24th, 19 cases and four deaths; and from Feb. 25th to March 3rd only six cases.

Some interesting details of this outbreak have recently been made known in a paper communicated to the Saratof Physico-Medical Society by Dr. Vigura and Dr. Konstansof. The outbreak began about Dec. 7th and by Jan. 6th it had caused 420 deaths. Not a single case recovered. The first case occurred in a Kirghiz settlement, close to the northern shores of the Caspian Sea. Nothing can be ascertained as to the source of infection, if for no other reason because the whole of the population of the infected settlement have died from the disease. The funeral ceremonies ("*pominki*" or wake) were attended by Kirghiz and Cossacks who spread the infecti[illegible] miles) was soon infected. A description is given of the precautions taken by the medical and other members of the staff who were sent to deal with the outbreak, and it is stated that while only two "feldschers" and none of the soldiers who followed these precautions contracted the disease, all the voluntary assistants (who did not take the precautions) caught the disease and died.

A severe epidemic of typhus exanthematicus has been recently prevailing in the town of Vladimir. It began in December last and assumed serious proportions in January. Between Dec. 18th and Jan. 24th as many as 115 cases of the disease had been recorded. Between Jan. 30th and Feb. 10th there were 30 fresh cases; for the next week the figures are lacking; finally, between Feb. 18th and 24th 14 cases were reported.

The outbreak of plague at Aden, mentioned in my last letter but one,[2] reached its highest point in the week ending

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[1] All the dates mentioned are New Style dates.
[2] THE LANCET, Jan. 28th, 1905, p. 261.

Feb. 15th, when 374 cases and 342 deaths were recorded. The returns since have been as follows :—

	Cases.	Deaths.
Week ending Feb. 25th	269	200
,, ,, March 4th	174	160
,, ,, ,, 11th	123	115
,, ,, ,, 18th	59	53
,, ,, ,, 25th	41	32

Constantinople, April 3rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Crossley Sanatorium.

AT the annual meeting of the friends and supporters of the Manchester Hospital for Consumption which was held at the town hall on March 31st Mr. Crossley stated that at the moment of the meeting the first 12 patients were on their way to the sanatorium in Delamere Forest. The formal opening will take place in July and it is hoped that the King will perform the ceremony. The sanatorium contains 95 beds and has been built at a cost of £80,000, if not more, and is now handed over, fully furnished and ready for use, to the Hospital for Consumption. It is a munificent gift on the part of Mr. Crossley who sets an example of philanthropic liberality that others of our rich men might follow. It is calculated that a yearly income of £6000 will be required. There is an endowment fund which now amounts to about £57,000 and provides an income of £1800. In his speech at the annual meeting Mr. Crossley said that a further sum of £4200 is required annually "in order that the increased accommodation provided may be fully utilised by the many poor patients in Manchester and the neighbourhood who are now waiting for admission." He made a strong appeal to "people of means" to help in the work. It would be deplorable if the splendid accommodation at the sanatorium and at the hospital at Bowdon could not be fully used for lack of annual income.

Infectious Disease and Elementary Schools.

In his annual report Mr. F. McDougall, the medical officer of health of Runcorn, says that during last year there were 303 cases of infectious disease notified, an increase of 118 cases over the previous year. He drew attention to the part played by schools in spreading scarlet fever, of which there were 153 cases. Some children went to school in an infected condition and possibly also some mild cases were not notified. He says that "the attempt to drive back to school children who had been away sick should be done with extreme caution" and that the education authority should require a clean bill of health before a child is readmitted to school. Financial reasons, in addition to zeal for education, are likely to lead to a too early return. The medical officer of Dukinfield thinks that the scarlet fever was not conveyed there by water or milk but that the scarlet fever germ lives and thrives in the district and is readily conveyed by infection.

Small-pox.

Here in the north small pox is far too prevalent and in view of what is known of its causation and prevention it is allowable to say disgracefully prevalent. A somewhat serious outbreak is reported from Bradford. It is stated that about a fortnight ago a wool-sorter died after eating fish and chipped potatoes. There was an inquest and the verdict was "Death from ptomaine poisoning." On the face of it this does not seem to have any necessary connexion with small-pox. But from the house he occupied and from the next thoroughfare eight cases of the disease were removed. It is also reported that the person who laid out the man's body after the post-mortem examination for the inquest has died suddenly. The medical officer will make a full report to the health committee as is certainly desirable. To-day's report is that three fresh cases have been notified at Bradford. In Oldham last month there was a prosecution that failed apparently because the letter of the law is of more importance than the protection of the people from small-pox. A collier was summoned for not notifying cases of small-pox, he and his wife and a son suffering from it. The defence was that he had no idea it was small-pox. The presiding magistrate said that he did not believe him but the magistrate's clerk struck in with the information that "there are doctors who cannot tell small-pox," and warned the magistrates (very kindly) that they must not convict a man unless he is proved to be guilty, saying "you have no evidence of knowledge at all," and that on the evidence they could not convict. The bench were unanimous in their opinion that the man knew that he was concealing small-pox and were exceedingly sorry that they were not able to mark their sense of the danger to the community of that sort of thing upon a man whom they believed to be guilty. It would no doubt be wrong to attribute to the clerk any wish to aid in the spread of small-pox, but so acute a person would by a few well-directed questions have been able to test the truth or falsity of the plea of ignorance. Burnley has suffered rather severely and is not yet free from the disease, and it is stated that at this date there are eight cases in the Newcastle Town Moor Hospital. Nor is Halifax free from the disease, six cases being now in hospital, while towards the end of March a death from the disease took place at the Ainsworth Small-pox Hospital, the patient, who had not been vaccinated since infancy, having come from Bury. About the same time the mayor of Stalybridge and Mr. F. J. Roberts-Dudley were asked to grant a certificate of exemption from vaccination, but the latter declined, so other magistrates were waited for, one of whom agreed with the mayor to sign the certificate. The former regretted that he and Mr. Roberts-Dudley did not agree on the matter and received an answer that should help those who are so ready to give exemption certificates to understand the responsibility which they incur. "I could not sign such a certificate. If I did and that child caught the small-pox and died I *should* consider that I had signed its death warrant." At Accrington, too, there has been a serious epidemic which has created somewhat of a scare. Last week 16, if not more, cases were taken to hospital, among them an antivaccinationist and his four children—all unvaccinated. Several more cases have been reported from Heywood. At Preston a case occurred a short time since which is instructive as showing what some people will do to conceal the fact that they have small-pox. An inspector found that a woman was suffering from the complaint. She admitted that she had been ill five weeks and had hidden when an inspector had previously called. In consequence of her conduct ten persons were attacked. This distributor of the disease was fined 1*s.* and costs—a penalty that will no doubt strike terror in such offenders. This is an unsatisfactory state of things. One would like to see it dealt with by a practical people, which we cannot claim to be, like the Japanese.

The Mersey and Irwell Committee.

At the last meeting of the Mersey and Irwell joint committee there was some discussion as to the appointment of chemical adviser, which position has been held by Sir Henry Roscoe since the formation of the committee 15 years ago. The question had been referred to the chemical subcommittee which reported that without considerably increased expenditure the services of a chemical adviser, whose position and opinion as a man of science would have weight with local authorities, could not be obtained if he were entirely excluded from private practice. But as the joint committee desired that there should be closer touch between the chemical adviser and the committee and its work, it was recommended that Mr. Scudder, chief chemical assistant, should be appointed in succession to Sir Henry Roscoe at a salary of £725 per annum, inclusive of travelling expenses, &c., on condition that "neither he nor any partner of his shall advise or act in connexion with any matter relating to sewage or trade effluents within the Mersey and Irwell or Ribble watersheds." It was felt by many of the committee that Sir Henry Roscoe was not being treated "with the consideration due to his long and able service," and in the end it was decided to ask him to retain the office for another year. The results of the examination of 36 samples of sewage effluents from the works of local authorities showed 19 good, 13 fair, two unsatisfactory, and two bad. This is one of the best results received and, as a member said, showed that something was being done to improve the rivers under their control. The supply of water for trade and domestic purposes is so difficult a matter that in view of the apparently diminishing rainfall all sources of supply should be considered. At Cleckheaton the public baths are supplied by water pumped up from the old coal-workings and after filtration it is said to be "of a beautiful transparency and blue rather than yellow in tone." The cost is about 9*s.* per 50,000 gallons. It is possible, too, that trade effluents may be more utilised than at present. Mr. A. M. Fowler, C.E., of Manchester, says that about [illegible] the Ship [illegible] t Fowler, [illegible] now quite up to the standard of the Irwell and Mersey rivers committee. Now, he said, "if that was so, that effluent water was practically as pure as some of the Thames water supplies and some drinking supplies in various parts of the country." It is doubtful if this statement will rouse the enthusiasm of the water drinkers of London, however gratifying it may be to members of the Mersey and Irwell committee.

April 11th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Meeting of the Royal Sanitary Institute at Bristol.

THERE will be no general congress in connexion with the Royal Sanitary Institute this year. A conference upon school hygiene, together with a small exhibition, was held in London in February and the council of the institute has arranged a series of provincial meetings during the year. One such meeting has already been held at Nottingham and others are to be held in Liverpool and Birmingham. The city of Bristol was chosen for a meeting on April 8th when the subject of isolation hospitals was considered. In opening the discussion Dr. D. S. Davies, medical officer of health of the city, dealt first of all with the necessity for isolation hospitals and said that it was an axiom that the temporary seclusion of a person suffering from a communicable fever which came to an end in a short period should succeed in preventing any definite spread of the disease in question provided the following essential conditions were fulfilled—namely, (1) that the patient had not handed on his infection to any other person before his seclusion commenced; (2) that the patient had left behind no infected material, or if he had that it had been rendered sterile; (3) that the patient was kept perfectly secluded through the whole of his illness and convalescence from direct or indirect communication of his disease to others; and (4) that the patient had perfectly recovered before he [illegible] in any [illegible] entive [illegible] isola- [illegible] iseases which were specially isolated in Bristol, these being small-pox, typhoid fever, scarlet fever, and diphtheria, and he emphasised the importance in the case of the two last of seeking for "missed" cases. He proposed the following motions which were seconded by Dr. J. Howard-Jones and carried unanimously:—

> That the provision of hospital isolation accommodation for large centres of population is imperative, and that one bed per 1000 of the population is a good working minimum.
>
> That the opposition to such provision is based on a lack of appreciation of the essential conditions that contribute to the success of isolation.

Mr. T. H. Yabbicom, the city engineer, gave an interesting account of the Bristol isolation hospitals, from which it appears that there was a small-pox hospital with 53 beds in temporary wooden buildings and eight beds in permanent wards and a permanent hospital situated about four miles from the city for the isolation of diseases other than small pox. This hospital, which is built of brick, can accommodate 135 patients. The pavilions are built on the Local Government Board plan and include four one-storey buildings and one of two storeys. There are also four observation wards. The total number of beds, including those in the temporary buildings, available for the isolation of infectious diseases in Bristol is thus 196. The population of the city is 358,000; it is not surprising, therefore, that various speakers should have pointed out how inadequate this number was to meet the needs of a city such as Bristol. Mr. Herbert Jones, Dr. J. Middleton Martin, and Mr. J. Tubb-Thomas emphasised the importance of reducing the cost of building if sanitary authorities are to erect hospitals more generally.

A County Medical Officer of Health for Somerset.

In spite of considerable opposition, as mentioned in THE LANCET of March 18th, p. 751, the Somerset county council decided on April 4th to appoint a medical officer of health. The terms of the appointment are that he shall not devote the whole of his time to the duties of the office and shall be paid a salary of £150 annually with a fee of five guineas daily when engaged upon making special investigations on behalf of the council, such fees not to exceed £100 in any one year. It is probable that at the end of this year the administration of the Midwives Act will be placed in the hands of the medical officer of health.

Shabby Treatment of a Medical Officer of Health.

The necessity for giving security of tenure to medical officers of health has been once more illustrated in the treatment which has been experienced by Dr. Francis T. Bond at the hands of the Chipping Sodbury rural district council. Dr. Bond has been medical officer of health of the district for 32 years at an annual salary of £115. In October, 1904, the Barton Regis district was broken up, most of it being added to the city of Bristol and three parishes with a population of 4600 being added to the Chipping Sodbury rural district. The medical officer of health of Barton Regis having recently died the Chipping Sodbury council asked Dr. Bond to undertake the supervision of the added parishes but without any extra remuneration. This Dr. Bond very properly refused to do and after an appeal to the Local Government Board he was given an increased salary of £33 per annum. His term of office will expire in May and instead of reappointing him the council has advertised for an officer at a salary of £120 yearly. The Local Government Board has mildly protested and in doing so has pointed out that the fact of Dr. Bond residing away from the district is no dis- [illegible] that it is a distinct advantage to be able to [illegible] It [illegible] il is [illegible] This, however, is not so but rather the reverse.

West Wales Sanatorium.

The foundation stone of the West Wales Sanatorium at Alltymynydd (two and a half miles from Llanybyther station) will be laid on April 26th by H.R.H. Princess Christian of Schleswig-Holstein, accompanied by her daughter the Princess Victoria. The band of the Carmarthenshire Militia [illegible] concert of Welsh national music [illegible] the Lord [illegible] Tickets [illegible] number of platform tickets at one guinea may be obtained from the Secretary, Sanatorium Concert, Llanybyther, Carmarthenshire.

Archæology in Somerset.

At the meeting of the Somerset Archæological Society held at Taunton Castle on April 6th a valuable collection of archæological, ethnographical, and geological specimens was presented to the Taunton Museum by Mr. Hugh Norris, L.R.C.P., L.R.C.S. Edin., of South Petherton. The curator of the museum (Mr. St. George Gray) gave an interesting account of the collection and alluded to the extreme rarities which it contains. After the gift had been suitably acknowledged by the President, a hearty vote of thanks was awarded to Mr Norris. This was replied to by his nephew, Dr. R. H. Walter, as owing to his failing health Mr. Norris could not be present. Subsequently Professor Lloyd Morgan, principal of University College, Bristol, delivered an address on the educational value of museums.

Ebbw Vale Colliery Surgeons.

For many years the relations between the colliery surgeons and the employés of the Ebbw Vale Steel, Iron, and Coal Co. were all that could be desired, but the introduction a few years ago of an entirely different system to that which formerly prevailed has made the conditions of practice not only onerous to the surgeon but unsatisfactory to the workmen and to their families. As long ago as 1880 Mr. J. W. Davies was appointed by the doctor's fund committee of the works as the workmen's surgeon. He was paid on the poundage system, 2*d.* in the pound being deducted from the men's wages at the company's offices on behalf of the committee and paid over to him periodically. He paid all the expenses of the practice, including the payment of such assistants as were necessary. Some years later an arrangement was made so that the workmen in this and the adjoining districts could be attended by any surgeon irrespectively of the locality in which he lived and the stoppages out of the men's wages were credited accordingly. In 1903 five divisions were formed, to each of which a chief surgeon was appointed (Mr. Davies being one) at a salary of £500 annually, the committee paying the salaries of assistants, the surgery expenses, and the cost of all drugs. The assistants were appointed and controlled by the committee but the chief surgeon was responsible for the carrying on of the work. The chief surgeons were not debarred from private practice or from holding public appointments but each was restricted to practise in his own district, with the result that the managers and chief works' officials protested that they had no choice as to who should be their private medical attendants and they accordingly appointed a surgeon of their own at a salary of £500 per annum, with permission to undertake unrestricted private practice. At the end of 1904 a still further restriction was sought to be imposed by the workmen's committee and the chief surgeons received notice to give up all private practice, the object apparently being to compel the tradespeople and other residents not employed in the works to subscribe to the doctor's fund. Mr. Davies then resigned his position as colliery surgeon but continued in private practice and to hold his public appointments of medical officer of health of the Ebbw Vale urban district and Poor-law medical officer and public vaccinator. At the end of last month a further notice was given by the committee to the chief surgeons to give up all private practice and all public appointments, or in the alternative to consent to a reduction in their salaries equal to the amount earned in this way. Owing to the death of Dr. A. Keith Campbell the committee is now seeking the services of a chief surgeon to take his place and it behoves all those who apply for the position to make quite sure of the conditions under which it is proposed to make the appointment. The Monmouthshire division of the British Medical Association is actively concerning itself with the dispute.

April 10th.

SCOTLAND.

(From our own Correspondents.)

Sanitation in the Nineteenth Century.

At a meeting of the Royal Philosophical Society of Glasgow held recently Dr. A. K. Chalmers, medical officer of health, delivered a lecture on the Development of Sanitation during the Nineteenth Century. During this period, he said, disease had come to be regarded not only as a misfortune to the individual but also as a factor in the national welfare. Although we had added considerably to our knowledge of the causes of disease, we had probably gained more by calling into operation forces that were social and political rather than medical. Dr. Chalmers thought that advance might be made in the direction of devising some method of supervision which would bring the many functions of local administration into coördinated action. To illustrate this he drew attention to the fact that within the municipal area of Glasgow there are for sanitary purposes 25 subdistricts corresponding to the whole of Glasgow school board area and portions of five others (Govan, Springburn, Maryhill, Cathcart, and Eastwood), and to no fewer than five Poor-law parishes (Glasgow, Govan, Eastwood, Cathcart, and Rutherglen), none of which was wholly included; also police divisions and registration districts were not comparable with one another or with any of the divisions mentioned above. Should some method be devised of coördinating those different forms of local administration they might gain a considerable amount of useful knowledge as regards the relation of pauperism to insanity, of neglected school children to both, of crime to both poverty and insanitation, and of insanity to the prevalence of particular diseases. In addition this method of coöperation might enable the various departments to arrange the expenditure in such a way as to be distributed more equally over several years and on that account it would appeal to the ratepayer.

The Marine Biological Association of the West of Scotland.

Dr. James F. Gemmill presided at the annual meeting of the Marine Biological Association of the West of Scotland which has its station at Millport. The report records another year of very successful work and the completion of the large extension of the station, thanks to the generosity of Mr. James Coats, jun. From the corporation of Glasgow for two years a grant of £100 had been received and this has enabled the association to establish a reserve account and also to carry forward to next year a balance of £8 12*s.* 6*d.* The visitors to the Robertson museum for the year numbered 6946 and the teachers' classes were well attended. The programme for 1905 includes a connected course of three or four years' progressive work for students of all grades.

The Open-air Treatment of Tuberculosis.

A meeting of subscribers to the proposed sanatorium for consumptives in Ayrshire was held to discuss the advisability of proceeding with the proposal. The chairman stated that over £12,000 had been subscribed to the building fund, that building plans had been prepared, and that a site had been secured at Glen Afton, New Cumnock. The committee thought that as other sanatoriums erected for the working classes had not been so successful as had been anticipated the subscribers should have an opportunity of deciding whether the plans were to be proceeded with or not. Dr. W. Frew of Kilmarnock proposed that they should proceed with the building and on a show of hands this was carried by a large majority. As regards the upkeep of the institution after erection it was expected that patients or their friends would contribute a little and it was hoped that parish councils and benefit societies would see that it was to their interest to support an institution of this nature.

Cruelty to Children.

During the month of March the Glasgow committee of the National Society for the Prevention of Cruelty to Children investigated 146 cases of reported cruelty involving the welfare of 432 children. The average income of the families was 24*s.* 3*d.* per week but in most instances the father was so lazy or drunken that he contributed nothing to the family upkeep. During the month 722 meals have been given, 28 children have been clothed, and 62 children have been admitted at the children's shelter.

April 11th.

IRELAND.

(From our own Correspondents.)

The Teaching of Sanitary Science in Dublin.

There is a strong movement in Dublin which has for its object to induce the Department of Agriculture and Technical Instruction for Ireland to form a public health museum as an aid to the spread of the knowledge of hygiene. Many public bodies have passed resolutions in its favour—the public health committee of the corporation, the Dublin Sanitary Association, the Dublin branch of the Association for the Prevention of Tuberculosis, the Royal Institute of Architects, &c. It is thought that if a teaching department in public health was founded in connexion with the new College of Science, the foundation stone of which was laid two years ago by the King, the subject of sanitation would obtain a better basis in this city. Professor Antony Roche recently delivered a very successful course of lectures to sanitary inspectors in connexion with the department.

Irish Medical Association.

The now famous report of Surgeon-General G. J. H. Evatt is still the chief topic of interest amongst medical men in Ireland. The following letter from him was published in the daily journals of April 4th :—

> Sir,—The annual meeting of the Irish Medical Association will take place during the ensuing summer at Killarney. I wish to suggest that it seems desirable that so important a gathering of Irish medical men should not devote themselves solely to questions of pay, organisation, and worldly betterment, but that some scientific and technical work should be done. I suggest a discussion on the causes of the pulmonary consumption that so gravely affects the Irish people; further, that some steps be taken to form a representative Sanitary National Council of Irish doctors; and, lastly, that some consideration of the serious lunacy question in Ireland is desirable. It seems to me a pity that the scientific side of Irish medical life, which the Association was formed to develop amongst other things, should, so far as the I.M.A. is concerned, have for many years dropped into abeyance. The time seems now ripe for its revival. Yours, &c.,
>
> George J. H. Evatt.
>
> Junior United Service Club, London, April, 1905.

Surgeon-General Evatt does not seem to be aware that his recent crusade resembled that of "Peter the Hermit" and that the Irish Medical Association when it meets at Killarney during the summer—if it meets at all—will have enough to do in settling its own dissensions. It will certainly have no time on that occasion to cultivate the cool atmosphere of science.

Rainfall in March.

March in Ireland was a wet month with none of the proverbial dust. Rain fell in the neighbourhood of Belfast on 29 days to the amount of 3·92 inches, giving a total of 9·14 inches for this year. The average rainfall in March is 2·93 inches.

The Treatment of Consumptives in Belfast.

The public health committee of the corporation of the city of Belfast has decided that the present time is inopportune for the council to embark on a comprehensive scheme for the treatment of consumptives involving not only a large capital outlay but an annual expenditure which would of necessity considerably increase the ratepayers' burdens. The council is shortly to discuss the question of adopting some modified plan.

Salicylic Acid in Ginger Wine.

At Moville sessions, co. Derry, several people were summoned for selling ginger wine adulterated with salicylic acid. Evidence that this drug as a preservative was dangerous and also that as a preservative in small doses to constitute a temperance drink it did no harm having been given, the magistrates unanimously decided to dismiss the cases.

The Water-supply of Belfast.

The chairman of the Belfast water board at a meeting on April 6th pointed out that although the rainfall at the several works had been slightly below the average yearly quantity all demands during the coming summer months would be supplied as at the present time the reservoirs contained over 200 days' supply of water. During the past season when in many cities in the kingdom an intermittent or short supply for certain hours daily had had to be resorted to owing to the threatened want of water, due largely to the inefficient rainfall, over the entire city area of Belfast, and even in the areas beyond the city supplied by the commissioners, water had been distributed and maintained under high pressure without any interruption whatever.

Belfast District Lunatic Asylum.

At a meeting of committee held on April 10th the medical superintendent reported that in the financial year just closed the gross expenditure had been reduced by £1702 13*s.* 2*d.* as compared with the previous 12 months though the numbers maintained had increased by 27.

April 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Scopolamine as an Anæsthetic.

AT the meeting of the Surgical Society held on March 29th M. Terrier related the case of a woman who suffered from unilateral pyonephritis together with an extremely sensitive bladder. M. Terrier tried in vain to ascertain the condition of the urine coming from the other kidney by the use of a separator but neither that of Luys nor that of Cathelin could be borne for more than a few minutes on account of the acute pain which their introduction produced. M. Terrier then thought of trying scopolamine anæsthesia and one injection produced a profound sleep during which all that was necessary in the way of introducing the separator and leaving it in place was successfully carried out. On awaking the patient declared that she had not undergone any operation.

Pulsating Arterial Tumours of the Parotid Region.

At the same meeting of the Surgical Society M. Tuffier discussed the treatment of the above mentioned tumours. He reminded his hearers that the facial nerve generally crossed the field of development of the tumour and was a serious obstacle to its ablation. He said that other methods of treatment were necessary and cited three cases in support of his argument. The first was in a child, aged two years, in whom fou

a cure. The second

who was afflicted w

the whole of the

artery and also wit

in which tumour there was a souffle but no thrill. Pressure on the external carotid artery caused the disappearance of the souffle. Electropuncture having proved useless, M. Tuffier decided to tie the artery and to obliterate the tumour. The artery was exposed and the ligature was passed underneath. Having assured himself that tightening the ligature stopped the souffle M. Tuffier left it in place without tying it. He then encircled the tumour with the ring-handle of a key which compressed the periphery and injected into it six drops of Piazza's solution. The ligature was then tightened and the patient has been perfectly well for the whole of the one year since the operation. The third patient had an erectile tumour in which were present both souffle and thrill and in addition epileptiform attacks had occurred upon more than one occasion. M. Tuffier performed an operation similar to that practised in the last case and the patient has remained well since the operation which was performed two months ago. M. Tuffier concluded by saying that his results showed that injection of the tumour should accompany ligature of the artery seeing that the latter procedure was by itself inefficacious.

Dust on the Roads.

Dust is every day figuring more largely in questions of hygiene. Not only is it harmful to the respiratory passages but it is to a marked degree a disseminator of microbes. The researches of M. Miquel have shown that epidemic diseases are most prevalent in Paris at that season of the year in which dust is most troublesome and, moreover, the routes frequented by motor cars have become absolutely uninhabitable, especially in the Midi. At the meeting of the Academy of Medicine held on March 28th M. Josias read an account of some researches which he had undertaken into the relative value of the various methods in use for the prevention of dust. None appeared quite satisfactory. Tar has marked antiseptic effects, for at a distance of ten centimetres above a tarred road there are found two-thirds less microbes than in the case of a road not so treated. This condition, however, only lasts for a few hours after the tarring has taken place Moreover, tar is costly, it must be frequently renewed, the roadway must be good, and plenty of sunshine is needed. Finally, if the tar is applied on a gradient of about 1 in 33 horses slip on it. Petroleum and heavy oils have an action less lasting than that of tar and their antiseptic power is very feeble. Westrumite is fairly cheap but its action is uncertain in duration, probably not more than a week. Moreover, roads treated with westrumite are very liable to get covered with moulds.

The Relations between Arterial Pressure and Pulmonary Ventilation during Chloroform Anæsthesia: The Influence of Rapid Breathing upon the Occurrence of "Accidents."

M. Tissot has undertaken some researches on dogs with a view to the study of the above subjects. He states that the temporary augmentation of the arterial pressure which is produced at the beginning of the stage of excitement in chloroform narcosis is not due, at least in the majority of cases, to a peripheral vaso constriction but to the well-known influence upon the arterial pressure of the exaggeration of the respiratory movements and to the increase in their amplitude. The succeeding rapid fall in the arterial pressure which accompanies the stage of excitement is not due to peripheral vaso dilatation but *solely to a rapid intoxication of the heart* or of the cardiac centres provoked by the rapid breathing (*polypnée*). The period of excitement is not dangerous in itself but only on account of the rapid breathing which accompanies it and the rapid intoxication which results. Finally, the method of anæsthesia which consists in administering known quantities of chloroform and air in the proportion of 8 per cent. and upwards (*mélanges titrés de chloroforme à 8 pour 100 et au-dessus*) is one likely to give rise to a catastrophe (*méthode sidératrice*). M. Tissot has arrived at the two following conclusions: (1) a long period of excitement is preferable to a short one, for the former does not give rise to dangerous intoxication, and (2) the whole period of hyperpnœa is dangerous and during this stage the anæsthetic must be administered with caution.

The Antiseptic Properties of Certain Vapours.

At the meeting of the Society of Biology held on March 28th M. Trillat read an account of some researches which he had made demonstrating that the vapours disengaged by the combustion of certain substances, notably sugar, the resins, and aromatic plants, contain a notable proportion of formic aldehyde, thus testifying to the wisdom of the ancient custom of burning these substances with a view to disinfection. The vapour produced by the combustion of two grammes of sugar in a bell jar of 12 litres capacity disinfected in 30 minutes various objects infected by the bacillus coli, the bacillus typhosus, the vibrio choleræ, the bacillus tuberculosis, and the like. The staphylococcus aureus was rendered sterile in one hour and the bacillus subtilis in four hours.

Closing of the Paris Faculty of Medicine.

In a recent article I mentioned the disturbances which have been taking place at the Faculty of Medicine in connexion with the lectures of M. Gariel and the noisy demonstrations that have been made outside his house. The students have not been appeased by the letter of apology addressed to them by the Prefect of Police and have persisted in their unruly behaviour. At M. Gariel's last lecture M. Debove, dean of the Faculty of Medicine, hoping to say something which would have a pacifying effect, entered the lecture room in company with the unpopular professor. More than 500 students who were already assembled there received M. Debove and M. Gariel with such an uproar and shouting that the two professors had to withdraw without having been able to say a word. M. Debove thereupon reported the circumstances to the University council and to M. Liard, the vice-rector. The council was in favour of closing the Faculty and M. Bienvenu-Martin, the Minister of Public Instruction, ordered it to be closed, considering that the students, instead of acting as they had done, might have sent representatives to the dean with a statement of their grievances. The school will be reopened on May 1st. The students have naturally protested, for this measure may have serious results for some of them—those, namely, who are approaching the age limit for military service. In France medical students have only one year of military service provided that they complete their medical studies before attaining the age of 25 years, failing which they must make up the other two years of military service. This closure of the school for nearly a month will delay a good many of the students by preventing them from being ready for the next examinations and may be the means of compelling them to serve the two extra years. The importance of the step that has been taken is therefore obvious. The medical students are having complaints made both in the Chamber of Deputies and in the Senate. It is to be hoped that this unfortunate incident may soon be at an end and that a way out of the difficulty may be found for the young men who are near the age limit.

April 11th.

NEW YORK.

(From our own Correspondent.)

The Increase of Cerebro-spinal Meningitis in New York.

The statistics of the New York department of health up to March 31st showed that cerebro-spinal meningitis had increased and was still increasing. For the four and a half days ending noon, March 30th, from midnight, March 26th, there had been 104 deaths, as compared with 85 for the entire previous week. Statistics tabulated by weeks showed that the progression of the disease as evidenced by its death-rate was 27, 40, 48, 62, 78, 72, and 85, as against the total of 104 for the four days up to noon, March 30th. The disease is also on the increase in the neighbouring towns and considerable public apprehension has been expressed.

Hospital Finances in New York City.

The hospitals of New York are in the plight of some of your best known London hospitals financially; in fact, for some years they have been going from bad to worse in this respect. So serious is the situation considered that a public meeting has been held recently under the auspices of the New York Association for the Improvement of the Condition of the Poor in order to devise means by common action to secure more support for the hospitals and to discuss the question of hospital finance generally. The meeting was very largely attended, each hospital in the city having sent three delegates. Mr. Frank Tucker, in the course of a speech, said that the public should be educated to give more, that the hospitals should be managed more economically, and that enlarged facilities should be secured by the hospitals through inexpensive house-to-house visiting rather than through the establishment of more wards. Dr. John S. Brannan of Bellevue and allied hospitals condemned in sweeping terms the wasteful methods employed in New York hospitals. "Our American system," he said, "is all right from the point of view of training physicians and nurses, but all wrong from the point of view of hospital administration."

A Disgrace to the Medical Profession: the Radium Swindling Case.

Dr. Henry H. Kane and Dr. William H. Hall, the two medical men who were indicted through the agency of the New York County Medical Society for swindling in connexion with so-called "radium cures," have pleaded guilty and have been sentenced. Kane received four months and Hall eight months in the penitentiary. I described the case some few weeks ago in The Lancet. Kane and Hall, it may be remembered, induced a carpenter to give them $9780 (£1956) on the pretence that they would cure him of Bright's disease by means of radium. Clemency was recommended for the men owing to the fact that they had made restitution to the carpenter of the full amount.

The Management of the Panama Canal.

A report to the Government of the United States by Dr. Charles A. L. Reed, published in the *Journal of the American Medical Association* of March 11th, has created somewhat of a sensation in the country. Dr. Reed, although not in the canal zone in a medical official capacity, had been requested by the Secretary of War to make a report of his observations relative to sanitation and the work of the sanitary department in that zone as well as in the cities of Colon and Panama. His report is an extremely severe indictment of the Isthmian Canal Commission, which was nominated by President Roosevelt on Feb. 29th of last year and is likely to be replaced by another authority within the next few days. The composition of the sanitary department is excellent and no man more fitted for the post of its head could be found than Colonel Gorgas, but Dr. Reed asserts that its work is so hampered by the civil authorities as in many respects practically to be nullified. The health department of the canal zone has been subordinated to such a degree to the commission that the former cannot perform its duties properly. The campaign against yellow fever and malaria has been thwarted, according to Dr. Reed, by the actions of the commission. A point sharply criticised by Dr. Reed is the meagre pay offered to physicians for their services in the canal zone. Colonel Gorgas had recommended that the minimum salary to be paid to medical men in the canal zone should be the same as the minimum salary in the army for contract surgeons, $1800 (£360) a year, but this rate of payment did not commend itself to the commission which thought that $50 (£10) a month were sufficient. Dr. Reed contends that so small a salary, taken in connexion with the unhealthy climate, will not attract able men and that only what he terms "cheap surgeons" will go to Panama for such a wage. Dr. Reed's critical remarks have caused a stir throughout the country. Since the publication of Dr. Reed's report, the report of Colonel Gorgas has been issued. From this report it is gathered that the sick employés of the United States Government in the canal zone during February, 1905, numbered 151, a percentage of less than 2, and the number of deaths nine, which is equivalent to a rate of 14 per 1000 per annum. The last case of yellow fever to occur in Panama was on March 18th. The total number of cases among the entire population on the isthmus during January was 19, during February 13, and during March up to date nine. The present sanitary force consists of over 1000 employés, costing over $25,000 monthly. President Roosevelt rebuked Dr. Reed for the manner in which he framed his report and made it public at the time that he did. It is clearly recognised that sanitation is the paramount consideration in the Isthmus of Panama at the present time and it is generally felt that Colonel Gorgas should have a free hand. The late Major Reed and he did such splendid work in Havana that although the situation is worse in the canal zone there would seem to be no reason that, unhampered by unnecessary restrictions, the results should not be successful there.

The First Pavilion of the New Bellevue Hospital.

At a meeting of the New York board of estimate and apportionment held on March 16th an appropriation of $850,000 (£170,000) was made, to be employed in the construction of the first pavilion of the new Bellevue Hospital. This pavilion will be erected in the grounds of the present buildings and will have a capacity of 350 beds and when completed will relieve the congested condition of the old institution. The new structure is to be built in sections as the money is forthcoming at an estimated cost of $10,000,000 (£2,000,000) and when finished will accommodate 2000 patients.

April 3rd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

BUBONIC plague continues to claim a number of victims in Queensland. Up to Feb. 27th 19 cases had been verified since the reappearance of the outbreak. During the last week four deaths have occurred. As regards the outbreak on the Clarence river in New South Wales the President of the Board of Health (Dr. J. Ashburton Thompson) claims that "the campaign of his department against it has been unusually successful." Six cases occurred before any report was made. Between Jan. 7th and 27th six more patients were attacked. Up to Feb. 27th no further cases have occurred. The last plague-infected rat was found on Feb. 26th. A deputation from Grafton protested to the Acting Premier against plague patients being treated at the general hospital at Grafton. The Acting Premier replied that he had discussed the matter with the President of the Board of Health who said that no alteration could possibly be made with regard to the patients at present in the Grafton Hospital. [illegible] as infec[illegible] plague [illegible] outbreak plague patients were treated in the same wards as ordinary patients at the Coast Hospital and as a matter of medical practice no attention was paid to communicability. The President of the Board of Health has also been communicating to a Sydney newspaper his views on plague generally. He remarked that the official methods in India and Egypt had conspicuously failed because they did not, as was done in New South Wales and other countries, recognise the rat as the sole source of danger.

Vital Statistics of Sydney.

The Government statistician's report for the year 1904 has been issued for Sydney. The birth-rate was 25·67 and the death-rate 11·02 per 1000 [illegible] births over deat[illegible] year is, on the [illegible] higher than for any year of the decennium. Relatively to population, although not so high as in 1897, they were higher than the average which has prevailed since that period. The illegitimate births, 1343 in number, formed 10·16 per cent. of the birth list. This rate exhibits a slight increase on that for 1903, which was 10·02. The death record is extremely satisfactory, since, when allowance has been made for increase in population, the death-rate of 11·02 per 1000 is 7 per cent. below the average of the preceding five years. The infantile death-rate is well below the average, being at the rate of 98 per 1000 births, as against 123, the average rate for the last ten years. Of persons aged 70 and upwards there were 926 deaths (435 males and 491 females). They were of the following ages: 649 ranging from 70 to 79, 250 from 80 to 89, and 26 from 90 to 99. As regards the causes of death, the decline in the rate was general in nearly every class, the exceptions being among constitutional and developmental diseases and those of the urinary system. Making allowance for the increase in population the rate was only 80 per cent. of the average prevailing during the previous five years. The returns of the Department of Health show that 665 cases of illness from typhoid fever, [illegible] ses of scarlet fever were [illegible] nbers, when compared [illegible] give fatality results of 9·9, 5·7, and 1·0 per cent. respectively. In the constitutional diseases there is an advance in each of the great divisions of the class, cancer (382) and phthisis (523) exhibiting numerical increases of 6 and 2 per cent. respectively as compared with the quinquennial average. This advance, of course, appears in much moderated force when allowance is made for the increased population.

A Medical Naval Reserve.

The naval commander-in-chief of the Australian station proposes to form a medical naval reserve to [illegible] surgeons in the event of hostilities arising. He has written to the branches of the British Medical Association in the several States asking them to take the matter up in conjunction with the medical schools' authorities and to enlist the sympathy and assistance of the members of the medical profession.

Hospital Affairs.

The Inspector of Charities recently stated that in his opinion the cost of maintenance per bed at the Melbourne Hospital was too high in comparison with other hospitals. A subcommittee was appointed to inquire into and to reply to the statement of the inspector. It has reported that the cost was due mainly to three causes: 1. The building was old and out of date, requiring constant repairs in plumbing, roofing, &c., which last year cost £850. The various wards being on different levels and unconnected and without lifts a large staff of porters was necessary. 2. The large number of patients treated and operations performed, 1770 operations last year as against 700 at the Alfred Hospital, with which comparison was chiefly made. 3 The increase in the nursing staff from 70 to 92, made by order of the Government and against the wish of the nurses themselves. Further, the hospital being a clinical school added to its expenses.—A question of internal discipline has recently taken up the time of the committee of the Melbourne Hospital. One of the sisters in charge of a ward made some remarks in her ward book about the use of sterilised gauze which were supposed to imply a reflection on another sister and she was ordered by the matron to expunge the remarks. She refused and was deposed from her position and given other duties which she declined to do. She was then suspended by the matron and told to resign. As she did not do so she was dismissed. She appealed against the dismissal on the ground that her original statement was correct and the matter of the greatest importance, the use of unsterilised gauze imperilling the lives of the patients. The committee upheld the action of the matron and confirmed the dismissal.—The Women's Progressive Association of New South Wales at its last meeting decided to call the attention of the Premier to the unjust method of selection exercised by the hospital boards of the Sydney and Royal Prince Alfred Hospitals in making appointments to the resident medical staff a question of sex instead of qualification and to ask him to use his influence to have a fairer system adopted in the future.—Although diphtheria and scarlet fever are far from absent in the metropolis of Melbourne the Infectious Diseases Hospital is almost empty and the medical superintendent has reported that the staff was too large for the requirements. As previously pointed out, the admission of patients is so hampered by red-tape regulations that people will not make use of the institution, which is also very inaccessible.

Dr. A. D. Leith Napier's Claims for Compensation.

Dr. A. D. Leith Napier, who some years ago was brought to Adelaide by the Government as medical officer to the Adelaide Hospital, was subsequently appointed surgeon to the second contingent of troops sent to South Africa. In January, 1900, while riding to Marino, he was thrown from his horse and fractured his skull. He recently brought an action in the Supreme Court to recover £6500 compensation from the Government. The Chief Justice held that as the plaintiff was not on actual service when the injury happened he was not entitled to compensation and gave a verdict for the defendants.

March 8th.

Obituary.

JAMES ALEXANDER, A.B., M.D., M.CH. DUB.

Dr. James Alexander died at his residence, Paignton, South Devon, after a short illness, from pneumonia, on April 2nd in his fifty-eighth year. The deceased graduated M.B., M.Ch. of the University of Dublin in 1869, taking the M.D. degree in 1878. Dr. Alexander had been for many years in practice at Paignton. He was surgeon and agent to the Admiralty at Paignton and also surgeon to the post office. He was one of the most popular men in the neighbourhood and was connected [illegible] very social and philanthropic [illegible] town. For some years he was chairman of the Paignton school board and since its dissolution a member of the higher education committee. In politics he was a Unionist and had been on several occasions president of the local constitutional club. He took the greatest interest in all forms of sport and there was scarcely a sporting club in Paignton of which he was not president or vice-president. Dr. Alexander had a large practice and last summer was elected president of the South-Western branch of the British Medical Association, when he entertained the members and delivered an able presidential address. Dr. Alexander will be much missed in Paignton, especially by the poor to whom he was an unfailing friend.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

WE publish below the official programme of the proceedings arranged by the Paris Executive Committee for the entertainment and instruction of the British physicians and surgeons who are next month to pay a return visit to our French colleagues.

PROGRAMME.

Wednesday, May 10th.—9 P.M.: Reception at the Sorbonne by M. Liard, Rector of the University of Paris, and M. Casimir Perier, ex-President of the French Republic, President de la Société des Amis de l'Université.

Thursday, May 11th.—Morning: Visits to hospitals and laboratories. Afternoon: Visits to the Faculté de Médecine, Assistance Publique, Hôtel de Ville.

Friday, May 12th.—Morning: Visits to hospitals and laboratories. Afternoon: Party to visit Chantilly, now the property of the Institut de France. Evening: *Représentation théâtrale* at the Automobile Club, Place de la Concorde.

Saturday, May 13th.—Morning: Visits to hospitals and laboratories. Afternoon: Visits to the Institut Pasteur and the Hôpital Anglais. Evening: Banquet.

The two following excursions will both leave Paris on Sunday afternoon, May 14th, and return to Paris on Tuesday night, May 16th, or Wednesday morning, May 17th.

1. The companies of Vichy and Evian invite a party of 100 (including ladies) to travel to Vichy, thence to Evian *viâ* Lyons, and back to Paris, all expenses being defrayed by the companies.
2. The Medical Society of Pau and the towns of Arcachon, Biarritz, Salies de Béarn, and Pau invite a party of about 100 (including ladies) to visit these watering places, where they will be received by the municipalities.

The British party will include representatives from provincial centres in England and from Scotland and Ireland.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held recently the following candidates passed in the subjects indicated:—

PART I.

Biology.—H. S. Brown, University College, Nottingham; E. C. R. Fisher, Royal Free Hospital; and F. S. Hawks, King's College Hospital.

Chemistry.—U. J. Bourke, London Hospital; W. E. Dimond, Liverpool; F. S. Hawks, King's College Hospital; and H. H. Smith, Royal Free Hospital.

Materia Medica and Pharmacy.—H. S. Brown, University College, Nottingham.

PART II.

Anatomy.—D. E. S. Davies, King's College Hospital; A. R. Hardy, Manchester; P. J. Lush, London Hospital; [illegible] College Hospital; P. D. Pickles, Leeds; C. [illegible] E. F. Waddington, Leeds; and M. V. Webb [illegible]

Physiology.—F. M. Cunningham, Royal Free Hospital; D. E. S. Davies, King's College Hospital; A. R. Hardy, Manchester; O. Marshall, University College Hospital; P. D. Pickles, Leeds; C. S. Spencer, Manchester; and M. V. Webb, Royal Free Hospital.

UNIVERSITY OF ABERDEEN.—The following degrees in medicine and diploma were conferred on April 7th:—

Degree of Doctor of Medicine (M.D.).—Robert Grant, Chatham; Andrew Ross Laing, West Cults, Aberdeen; and Alexander Ledingham, Hamilton.

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—With Second-class Honours: Robert Brown. *Ordinary Degrees:* Mary Ronald Bisset, Alexander Brown, Duncan Coutts, A. Dawson, Walter Allen Elwood, W. Gordon Gordon, William Low, James Breadalbane Macdiarmid, James Edward Mennie, Alexander Mitchell, John Proctor, W. Ewen Reid, John Sangster, James Archibald Bruce Sim, Robert Haig Spittal, John Maxwell Taylor, and Lisette Anne Macdonald Wilson.

Note.—Francis William Falconer has passed all the examinations but wi[illegible] has attained the necessary age.

[illegible] *lth.*—William Anderson, M.B., Ch.B. Aberd., [illegible] mieson Pirie, M.B., Ch.B. Aberd., Orkney; [illegible], M.B., Ch.B. Aberd., Elgin; and Herbert W. Black Ruxton, M.B., Ch.B. Aberd., Ellon.

UNIVERSITY OF OXFORD.—Mr. Arthur F. Hertz, M.A., M.B., Magdalen College, has been elected to a Radcliffe Travelling Fellowship for three years.

DEATH OF A CENTENARIAN.—The *Times* of April 10th states that Miss Tyler, the oldest inhabitant of Durham, died on April 8th. She completed her 100th year in December, 1904.

VACCINATION GRANT.—Mr. W. H. Hubert, M.R.C.S. Eng., L.S.A., has received the Government grant for successful vaccination in the Shipley district of the Horsham union, Sussex.

ST. JOHN AMBULANCE ASSOCIATION.—In the Brunswick Institute, Wandsworth-road, London, S.W., on April 5th, the London and South-Western railway team of Queen-street, Exeter, won the challenge shield, valued at £50, and each of the five members of the team received a silver medal.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The election of examiners will be held on Tuesday, May 2nd, as follows:—Two examiners in anatomy, four in surgery, two in physiology and histology, two in pathology and bacteriology, one examiner in midwifery and gynæcology, one in biology, two examiners in ophthalmology, one examiner in sanitary law and vital statistics, one in engineering and architecture, two examiners in chemistry and physics, two in dental surgery and pathology, two in mechanical dentistry, one examiner (not being a Fellow or Licentiate of the College) in languages, and one (not being a Fellow or Licentiate of the College) in mathematics, physics, dictation, and English essay. Candidates are requested to lodge their applications in writing with the registrar, at the College, on or before Tuesday, April 25th, at 10 A.M.

ROYAL INSTITUTION.—The following are the lecture arrangements at the Royal Institution after Easter:—Professor L. C. Miall, Fullerian professor of physiology, R.I., three lectures on the Study of Extinct Animals; the Rev. H. G. Woods (Master of the Temple), three lectures on Velasquez; Professor Sir James Dewar, Fullerian professor of chemistry, R.I., three lectures on Flame; Professor J. A. Fleming, three lectures on Electro-magnetic Waves (the Tyndall lectures); Professor H. Marshall Ward, two lectures on Moulds and Mouldiness; Dr. J. G. Frazer, two lectures on the Evolution of the Kingship in Early Society; and Mr. A. H. Savage Landor, two lectures on Exploration in the Philippines. The Friday evening meetings will be resumed on May 5th, when a discourse will be delivered by Professor H. E. Armstrong on Problems underlying Nutrition. Succeeding discourses will probably be given by Professor E. Fox Nicholls, Sir Charles Eliot, K.C.M.G., Professor J. W. Bruhl, Mr. George Henschel, and Sir William H. White.

HOSPITAL MISMANAGEMENT IN RUSSIA.—A local correspondent of the *Novoe Vremya* makes serious charges against the management of the infirmary in Nikolaieff, a large town in the south of Russia. He says that the infirmary is so overcrowded that patients have to sleep in the corridors. Bags stuffed with straw are used as mattresses and the pillows are also stuffed with straw. The supply of linen is so scanty that what is in use cannot be changed and the same beds are occupied successively by infectious and non-infectious cases without removal of the bedclothes. Two or three patients bathe in the same water. The water-closets are only supplied with water in the morning, washhand basins are placed in them, and ice for the use of the patients is broken there. Knives and forks are not provided for the patients who have consequently to eat with their fingers, but strange to say the wards are fairly clean, well lighted, and well ventilated. One of the infirmary servants, inspired by benevolent motives, is in the habit of collecting the food which is left by the patients in order that he may distribute it among the poorer classes who live in lodging-houses. As many of the patients suffer from typhoid fever there is an obvious risk of spreading infection in this way and the correspondent expresses the opinion that the practice ought to be stopped.

DONATIONS AND BEQUESTS.—The honorary treasurer of the Southport Convalescent Hospital and Sea Bathing Infirmary has received a cheque for £5000 from the trustees of the late Mr. James Holden of Rochdale towards the endowment of the hospital, in consideration of which five beds are allocated in perpetuity for the use of convalescents from Rochdale and district.—Lord Derby has started a bed endowment fund for the Royal Sea Bathing Hospital, Margate, by contributing a donation of £1000 for the endowment of the first bed.—The Duchess of Somerset has sent £150 to the funds of the Alexandra Hospital for Children as the result of a concert held at 35, Grosvenor-square on March 30th.—Mr. W. R. Merry of Exeter has given £100 each to the Royal Devon and Exeter Hospital, the West of England Institution for the Deaf and Dumb, the West of [illegible]

bequeathed £500 each to the Royal Devon and Exeter Hospital, the West of England Eye Infirmary, and the West of England Blind Institution, and £300 to the West of England Institution for the Deaf and Dumb.—Sir George White, Bart., of Bristol has given a donation of £3000 to secure the completion of the Victoria Memorial Hospital, Nice.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Physical Deterioration.

AT the evening sitting in the House of Commons on Tuesday, April 18th, Mr. SLACK will open a debate on the report of the Inter-Departmental Committee on Physical Deterioration and will propose a motion.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 5TH.

The Administration of Poison by Misadventure.

Sir THOMAS DEWAR asked the Home Secretary whether, having regard to the frequency of suicides by poison and loss of life through [illegible]

[illegible] I gave to the honourable Member on March 15th last.

A Post Office Case.

Sir WALTER FOSTER asked [illegible] he was aware that a telegraphist na[illegible] tificate from a private medical atte[illegible] he was suffering from post-influenza [illegible] rest; that the official medical adviser certified that Bullamore's health was as usual and no rest was required; that subsequently a specialist [illegible] and that he [illegible] and that [illegible] of the s[illegible] that his [illegible] titioners. [illegible] respectin[illegible] and from [illegible] the Post Offic[illegible] I have dec[illegible] the whole ma[illegible] certificat[illegible] to them, bu[illegible] officers o[illegible] the medical referee is consulted.

The Adulteration of Butter.

Mr. BRIGG asked the President of the Board of Agriculture what [illegible]

THURSDAY, APRIL 6TH.

Coastguard Surgeons in Ireland.

Mr. O'CONOR KELLY asked the Secretary to the Admiralty whether he would state the number of coastguard surgeons in Ireland; how many held appointments additional to the Admiralty one; and how many devoted themselves exclusively to Admiralty work.—Mr PRETYMAN said: The number of Admiralty surgeons and agents in Ireland is 117. These gentlemen are not required to devote themselves exclusively to Admiralty work.

Civil Surgeons and Income Tax.

Mr. O'DOHERTY asked the Chancellor of the Exchequer whether he was aware that civilian surgeons attached to His Majesty's forces in [illegible]

The Treatment of Cases of Sudden Illness in the House.

[illegible] the House. No answer was given.

Drumconrath Medical Relief Dispensary.

Mr. JOSEPH NOLAN asked the Chief Secretary for Ireland whether his attention had been drawn to the action of the Local Government Board in proceeding by sealed order to suppress the Drumconrath [illegible] that under the new [illegible] least 10 or 12 miles [illegible] whether, in view of [illegible] the protest of the [illegible] the division affected [illegible] the Local Govern[illegible] replied: The Drum[illegible] adjoining districts of [illegible] the residence of the [illegible] within a reasonable [illegible] is satisfied that no [illegible]

Starving School Children.

Dr MACNAMARA asked the First Lord of the Treasury whether his attention had been called to the Bill to provide, under proper safe[illegible] or is not of [illegible] of the country [illegible] country.—Mr. [illegible] of the underfed [illegible] mittee to give [illegible] think we ought [illegible]

FRIDAY, APRIL 7TH.

Mr. O'DOHERTY ask[illegible] rules regarding the [illegible] on the first of each month and at other times [illegible] in the opinion of the resident [illegible] proper matter are submitted by [illegible] and are dealt with by them [illegible] letters recently written by the [illegible] resident physician and governor [illegible]

MONDAY, APRIL 10TH.

[illegible] stated that a [illegible] for use in [illegible] duty who was [illegible] duly authorised [illegible]

A Question Concerning Horseflesh.

Mr. CREMER asked the Under Secretary of State for Foreign Affairs whether he was now in a pos[illegible] which in August last year he [illegible] number of old and slaughtere[illegible] were periodically exported f[illegible] and Germany; whether he c[illegible] were used; and whether their flesh was made into condiments of various kinds, returned to this country, and sold as articles of food.—Earl PERCY answered: I regret that owing to an oversight some delay occurred before the information was asked for but we hope to obtain it before very long.

BOOKS, ETC., RECEIVED.

Churchill, J. and A., 7, Great Marlborough-street, W.

The Book of Prescriptions (Beasley). With an Index of Diseases and Remedies. Rewritten by E. W. Lucas, F.I.C., F.C.S., Pharmaceutical Chemist. With an Introduction by Arthur Latham, M.A., M.D., F.R.C.P., Senior Assistant Physician at St. George's Hospital. Eighth edition. Price 5*s.* net.

Collingridge, W. H. and L., "City Press" Office, 148 and 149, Aldersgate-street, E.C.

The City of London Directory for 1905. Price 12*s.* 6*d.*

The Horse: its Care and Management. By Henry E. Fawcus. Edited by T. W. Sanders, F.L.S. Price 1*s.* 6*d.*

Dybwad, Jacob, In Kommission bei, Kristiania. (A. W. **Broggers**, Buchdruckerei.)

Aus dem pathologisch-anatomischen Institute in Kristiania. Unter- [illegible] Häufigkeit, Lokalisation und Ausbreitungs- [illegible] insbesondere mit Berücksichtigung ihres [illegible] rusen und ihres Vorkommens im Kindesalter. Von Francis Harbitz, Professor der pathologischen *Anatomie und allgemeinen Pathologie an der Universität zu* Kristiania. (Videnskabs-Selskabets Skrifter. I. Math.-naturv. Kl. 1904. No. 8.) Price not stated.

Fischer, Gustav, Jena.

Ueber den Zusammenhang zwischen Ovarialfunction, Wellenbewegung und Menstrualblutung, und ueber die Entstehung des sogenannten Mittelschmerzes. Von Dr. Th. H. Van de Velde, Haarlem. Price M.3.

Frowde, Henry, London, Edinburgh, Glasgow, New York, and Toronto.

Author and Printer. A Guide for Authors, Editors, Printers, Correctors of the Press, Compositors, and Typists. With full list of Abbreviations. By F. Howard Collins, Author of "An Epitome of the Synthetic Philosophy of Herbert Spencer," with the Assistance of many Authors, Editors, Printers, and Correctors of the Press. Price, cloth, 5*s.* net; leather back and corners, cloth sides, gilt top, 6*s.* 6*d.* net.

Green, William, and Sons, Edinburgh and London.

An Introduction to Physiology. By L. A. Hodgkinson Lack, M.B., Ch.B. Price 8*s.* net

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Baines, Francis E., Captain, I.M.S., L.R.C.P. Edin., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Ferguson, John P., L.R.C.P. & S. Edin,. L.F.P.S. Glasg., has been appointed Medical Officer of Health of the Misterton Rural District.

Higson, J. R., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Lewisham District of the county of London.

Hunt, A. W. D., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chagford District of the county of Devon.

Keyser, Charles R., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Cancer Hospital, Fulham-road, S.W.

Lett, Hugh, M.B., Ch.B. Vict., F.R.C.S., has been appointed Assistant Surgeon to the London Hospital.

Mackenzie, F. S., M.B., Ch.B. Edin., has been appointed House Surgeon to the County Hospital, York.

Mayou, Stephen, F.R.C.S. Eng., has been appointed Ophthalmic Surgeon to the Hospital for Epilepsy and Paralysis, Maida Vale, London, W.

Moon, R. O., M.D. Oxon., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Royal Waterloo Hospital.

Phillips, G. A., M.R.C.S. Eng., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Walsall District of the county of Stafford.

Randolph, Charles, M.R.C.S. Eng., L.R.C.P., L.M. Edin., has been appointed Medical Officer of Health by the Wellington (Somerset) Rural District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Auckland, Rural District Council of.—Medical Officer of Health and Sanitary Surveyor. Salary £600 per annum, rising to £800.

Birkenhead Borough Hospital.—Junior Resident House Surgeon. Salary £80 and fees.

Bristol Dispensary.—Vacancy on Medical Staff.

Bristol General Hospital.—Assistant House Physician. Salary £60, with board, residence, &c. Also Senior House Surgeon. Salary £120 per annum, with board, residence, &c.

Buxton, Devonshire Hospital.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry. Also Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

Chesterfield and North Derbyshire Hospital and Dispensary.—Junior House Surgeon for six months. Salary £50 per year, with board, apartments, and laundress.

Exminster, Devon County Asylum.—Junior Assistant Medical Officer. Salary £125, rising to £155, with board, residence, and laundry.

German Hospital, Dalston, N.E.—Honorary Assistant Surgeon. Also Honorary Assistant Physician.

Hartshill, Stoke-upon-Trent, North Staffordshire Infirmary and Eye Hospital.—Assistant House Surgeon for six months. Honorarium £25, and board, apartments, and washing.

Hastings, Fairlight Hall Convalescent Home.—Visiting Physician (Honorary).

Hospital for Sick Children, Great Ormond street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

Hospital for Women, Soho-square, W.—House Physician for six months. Salary £30.

Hull Royal Infirmary.—Casualty House Surgeon. Salary £50 per annum, with board and lodging.

London Fever Hospital, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £120 per annum, with board and lodging.

Macclesfield, Cheshire County Asylum.—Assistant Medical Officer.

Margaret-street Hospital for Consumption and Diseases of the Chest, Margaret-street, Cavendish-square, W.—Physician (honorary).

National Hospital for the Relief and Cure of the Paralysed and Epileptic, Queen-square, Bloomsbury.—Resident Medical Officer. Salary £100 a year, with board and residence.

Newport and Monmouthshire Hospital.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and washing.

Northampton, St. Andrew's Hospital for Mental Disease [illegible] Junior Assistant Medical Officer. Salary £200 per annum, with board, rooms, and washing.

Nottingham General Hospital.—Assistant House Physician. Salary £100, with board, lodging, and washing.

Paddington Green Children's Hospital, London, W.—House Physician. Also House Surgeon. Both for six months. Salaries at rate of 50 guineas a year, with board and residence.

Ryhope, Sunderland Borough Asylum.—Assistant Medical Officer. Salary £120 a year, with allowances, rising to £160.

St. Mary's Hospital for Sick Children, Plaistow, E.—Assistant Resident Medica [illegible] six months. Salary at rate of £80 per annu [illegible] and laundry.

Samaritan Free [illegible] Marylebone-road, N.W.—Clinical Assistants.

Tottenham Hospital, London, N.—Honorary Anæsthetist.

University of London.—William Lindley Research Studentship in Physiology. Value £100, for one year.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Two vacancies on Surgical Staff to Out-patients. Also Honorary Anæsthetist.

Wakefield, West Riding Asylum.—Junior Assistant Medical Officer. Salary £140, rising to £160, with apartments, board, washing, and attendance.

West Bromwich District Hospital.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

Westminster Hospital, Broad Sanctuary, S.W.—Anæsthetist (honorary). Also Fourth Assistant Physician.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Sherburn in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

Dow.—On April 8th, at High-street, Lewes, Sussex, the wife of W. A. Dow, M.D., of a son.

Dowsett.—On April 5th, at St. Dunstan's, Lebanon-park, Twickenham, the wife of Ernest B. Dowsett, M.R.C.S., L.R.C.P., L.D.S., of a daughter.

Knight.—On April 7th, at The Turret, Streatham High-road, S.W., the wife of G. David Knight, M.D., of a daughter.

Unitt.—On April 10th, at Quorn, Loughborough, the wife of J. A Unitt, L.R.C.P., M.R.C.S., of a son.

MARRIAGES.

Herring—Callender.—On April 7th, at St. James's United Free Church, Edinburgh, Perc [illegible] F.R.C.P.E., to May, elder daughter of [illegible] nburgh.

Hutton—Smart.—On April 1 [illegible] Glasgow, William Kilpatrick Hut [illegible] an Elder Symington, daughter of W [illegible]

DEATH.

Truman.—On April 8th, at The Home Field, Putney-hill, Edwin Thomas Truman, M.R.C.S., of Old Burlington-street, W., in his 87th year.

N.B.—A fee of 5s. is charged for the insertion of Notices o Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

POLICE CALLS FOR MEDICAL MEN.

WHAT was described as an [illegible] came up for discussion at a recent [illegible] standing joint committee The c[illegible] reported that Dr C. Pollard of Worcester had sent in a claim for a fee of 7s 6d. for attending a case of suicide Last November a man who had cut his throat just outside the city was found by a constable at midnight and Dr. Poll[illegible] he arrived the man wa[illegible] now applied for his fee [illegible] the county to pay a fee [illegible] before death and therefore he declined to pay. He had received a letter from the Medical Defence Union stating that the inquest fee had nothing to do with the charge for the midnight visit There was an underlying professional principle affecting the matter which had induced the council of that union to take it up and it gave notice that unless the payment was made it should take proceedings for its recovery. Dr. H. E. Dixey, a member of the committee, said that the two attendances were quite separate and he thought that the money should be paid. If the man had died immediately after the medical man arrived they would have paid without demur and he thought it straining the point to refuse As the medical man had to leave his bed at midnight he considered the fee very reasonable; it might justly have been half a guinea. Mr. Pritchett thought that the fee given at the inquest ought to be held sufficient payment. If the medical profession were not satisfied with the fees paid under the Coroners Act they should endeavour to get them increased. After further discussion the chief constable said he thought that they were liable Objection was taken to the payment on *the ground that it was undesirable to establish a precedent* Eventually, by six votes to five, it was decided that the money should be paid.

THE LORD OF THE MANOR'S HERIOT AT AN INQUEST.

To the Editors of THE LANCET.

SIRS,—Your correspondent, Mr W. H. Marsden, must obviously be right in his suggestion that the "stagg" forfeited as deodand in the case quoted by Dr. J. J. Udale was the horse which caused the injury—perhaps the word is connected with the more familiar "nag." A stag conceivably might be forfeited if it caused death when kept in confinement, but otherwise it could hardly be the subject of "deodand" or "heriot." I take it that in 1794 stags in Westmorland were pretty universally both legally and in fact animals *feræ naturæ* and not the subject of ownership by anyone, still less by anyone who was liable to forfeit either deodands or heriots to Lord Lonsdale

I am, Sirs, yours faithfully,

April 10th, 1905 A

THE CLERGY AND QUACKS

THE following [illegible]

[illegible] is not given and it is dated from Clifton, Jan. 1st, 1802 "... Look into whatever newspaper you please, you will find reverend names, dangling by dozens, to the tails of frauds at *half a guinea the bottle.* I would fain hope that the appearance of these names, in such a disgraceful position, does but add one item more to the advertisers' account of forgery. I, at least, for one, am unwilling to believe, that so many members of a respected profession can lend or let out their credit for a fox's paw, to rake the pockets of the poor, whose money, however ill they can spare it, is often the least valuable thing, out of which, from reliance on the judgement of the clergy, in many cases they [illegible]

a [illegible] cently came a [illegible] ril 12th there a [illegible]

> J. P. SANDLANDS, Author of "The Voice and Public Speaking," "The Microbe," "Disease," "Cancer" (which means no more "Cancer Research"), &c, and Specialist in "Throats," Chest, Nerves, Cancer, and Dietetics, may be CONSULTED between 3 30 and 5 30, Saturdays only, at the Midland Hotel, St. Pancras Letters, Brigstock, Thrapston

J. P Sandlands, the self styled specialist, is, we find on reference to the Clerical Directory, the Rev John Poole Sandlands of Brigstock Vicarage, Thrapston We may remark that being ordained to the cure of souls is not the same thing as being ordained to the cure of bodies, and although we cordially approve of the clergy taking an interest in the sanitation of their parishioners, it is not becoming that they should act as quack "doctors" at a metropolitan hotel We think that the Rev. John Poole Sandland's Bishop might well hint to him that such conduct is unbefitting a clerk in holy orders.

"IN HOSPITAL," BY A PATIENT.

IN England, where so many people find an outlet for superfluous energy or unoccupied time in the propagation of guilds and societies for all sorts of worthy and of trivial purposes, it is a pity that no reformer has yet arisen to start or to lead a crusade for the "suppression of medical matter in non medical magazines" He would have for his society both an alliterative title and a commendable aim The most recent production with which we have been confronted is in the *Grand Magazine* by a "Private Patient" Anyone who wishes to encourage within himself a faint feeling of approaching nausea had better study the pages to which we refer. The writer, a neurotic amateur journalist, it might be imagined from intrinsic evidence, went into the "pay wards" of a London hospital in order to have the appendix removed So far his conduct is from some points of view irreproachable Unfortunately, he sees fit to send to the *Grand Magazine* a detailed account of everything that he remembers of his stay in hospital What useful or beneficial purpose such writing can serve we are utterly unable to perceive It merely panders to a morbid curiosity that is already too fully stimulated by the daily press. It supplies future patients, moreover, with just that little knowledge that is so often dangerous. It gives an exaggerated notion of many slight matters and a minimised idea of others that are important To the non medical reader such effusions must afford chiefly, we imagine, a vague sense of indecency, to the medical reader they offer only a feeling of irritation against the misguided person who writes of what he only partly understands

PARTHENOGENESIS?

THE following advertisement appears in the *Times* of April 12th :—

> MARRIED COUPLE, French, no children, seek SITUATION as LAUNDRYMAIDS in gent 's family. Both thoroughly understand the work in all branches Personal character —J., 42, Marlborough road, Oxford.

It hardly seems necessary for the advertisers to state that they have no children!

DAMMING OF THE THAMES

To the Editors of THE LANCET.

SIRS,—Among the objections to this scheme important medical ones seem to have been overlooked As the Thames at London would cease to be tidal a great cause of the comparative healthiness of that city would also cease—the displacement of air now produced by the tide—and we could anticipate a consequent increase of disease, due, also, to very imperfect flushing by the small stream through a long lake The overflowing of low banks on the Surrey side after storms would lead to insanitary conditions and the increased difficulties of sewerage and drainage would be enormous and costly. If the dam be constructed whence would much of the water supply of London be obtained? and at what cost? None of the water should be drawn from the Thames It would be highly dangerous to drink (unboiled) the polluted fluid taken from the almost stagnant ditch Remember Lincoln The demerits of the scheme outweigh the many advantages, commerce might be enhanced but health would suffer so much that London would become a city to avoid

I am, Sirs, yours faithfully,

Malvern, April 11th, 1905 STANLEY HAYNES, M D. Edin.

DEFECTIVE CHILDREN.

To the Editors of THE LANCET.

SIRS,—Would any member of the profession advise where it is possible to get a governess for a child, aged seven, who is somewhat mentally deficient and requires great care in training A good salary will be given

I am, Sirs, yours faithfully,

G P.

MOSQUITO CURTAINS AND MALARIA.

To the Editors of THE LANCET.

SIRS,—The discovery of Sir H. Arthur Blake that the transmission of malaria by mosquitoes is recognised in Sanskrit literature, referred to in THE LANCET of April 8th, p 973, recalls the following passage in Herodotus which is of some interest in that connexion "The contrivances which they use against gnats wherewith the country swarms are the following In the parts of Egypt above the marshes the inhabitants pass the night upon lofty towers, which are of great service, as the gnats are unable to fly to any height on account of the winds In the marsh country, where there are no towers, each man possesses a net instead By day it serves him to catch fish, while at night he spreads it over his bed in which he is to rest, and, creeping in, goes to sleep underneath The gnats, which if he rolls himself up in his dress or in a piece of muslin are sure to bite through the covering, do not so much as attempt to pass the net" (Rawlinson's Herodotus, vol ii, p 154) It may be inferred from it, however, that the dual advantage of an effective "mosquito curtain" was not then known in Egypt, for no fact so interesting could have escaped the notice of the historian A distinguished orientalist to whom I wrote on the subject kindly informed me that there was not to his knowledge any allusion in Semitic writings anticipating the modern theory, although there are, of course, many to the direct aggressions of insect pests.

I am, Sirs, yours faithfully,

Clifton, April 11th, 1905 D. A. ALEXANDER.

(1.30 P.M.), St. Mary's
London (2 P.M.),
Metropolitan (2.3
(2 P.M.), Samarita
(9.30 A.M.), Guy's

FRI

(10 A.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY
square,
as a C
Klein:

Uses.

WEDNESDAY (19th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Exhibition of Pond Life Paper:—Mr. A. E. Conrady: On the Application of the Undulatory Theory to Optical Problems.

ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Great George-street, Westminster, S.W.).—7.30 P.M. Papers:—

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. S. E. Dore: Clinique. (Skin.) 5.15 P.M. Dr. A. Morison: Modes of Death in Heart Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4 P.M. Mr. Dunn Practical Ophthalmology.

TUESD AND POLYCLINIC
(22, son: Clinique.
(Med in the Examination of Urine.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—3.30 P.M. Mr. C. Williams: Skiagraphy.

WEDNESDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. H. Pinch: Clinique. (Surgical.) 5.15 P.M. Mr. H. L. Barnard: Gastric Surgery.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—3 P.M. Mr. Bidwell: Intestinal Surgery. 4 30 P.M. Dr. S. Taylor: Surface Anatomy.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration: Dr. Abercrombie: Nose.

THURSDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—11 A.M. Dr. Candler: Bacteriology.

FRIDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.). 2 P.M. Clinical Examination of Blood and Urine.

SATURDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—10 30 A.M. Dr. Candler: Bacteriology.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 13th, 1905.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A.M.
April 7	29 76	S.W.	0 13	69	53	35	39	40	Raining
" 8	29 99	N.E.	0 15	91	48	34	35	37	Cloudy
" 9	29 71	S.W.	...	55	51	37	42	43	Raining
" 10	29 41	S E	0 46	60	51	43	45	45	Raining
" 11	29 32	S.	0·30	72	56	45	47	48	Overcast
" 12	29 76	S.W.	0·01	91	60	46	47	49	Overcast
" 13	29 81	S.W.	...	105	62	47	51	55	Fine

During the week marked copies of the following newspapers have been received:—*Freeman's Journal, Herefordshire Mercury, Windsor and Eton Express, Liverpool Courier, Morning Leader, Manchester Evening News, Newcastle Daily Chronicle, Newcastle Journal, Westminster Gazette, Surrey Advertiser, Reading Mercury, Mining Journal, Local Government Chronicle, Daily News, Liverpool Post and Mercury, Daily Chronic andard, Literary Digest, &c.*

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Letters, each with enclosure, are also acknowledged from—

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K.—Miss Kennedy, Ballymoney; "*Kino*," Lond.

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ABSTRACT OF

The Hunterian Lectures

ON

THE DISSEMINATION OF MAMMARY CARCINOMA.

Delivered before the Royal College of Surgeons of England on March 13th, 15th, and 17th, 1905,

BY W. SAMPSON HANDLEY, M.S., M.D. LOND., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR; SURGEON TO OUT-PATIENTS, SAMARITAN FREE HOSPITAL; "RICHARD HOLLINS" CANCER RESEARCH SCHOLAR, THE MIDDLESEX HOSPITAL.

LECTURE III.[1]

Delivered on March 17th.

MR. PRESIDENT AND GENTLEMEN,—We now come to the second great division of the subject, the origin of the metastases found in the viscera. There are few forms of carcinoma in which visceral deposits are more frequently met with, or more widely distributed, than in cancer of the breast. Of 329 cases from the records of the Middlesex Hospital, excluding deposits in the axillary glands, metastases occurred in 77 per cent.

SUMMARY OF CONCLUSIONS ON VISCERAL DISSEMINATION.

The time available is short and I shall therefore submit to you at once a concise statement of the conclusions to which my work has led. By thus inverting the subject I shall avoid at the cost of some loss of emphasis the necessity of continually turning aside from facts to inference. It is for you to decide whether the implied inductions are justified. The evidence upon which I rely will be found more fully stated in my Astley Cooper Prize Essay (1904) on "Epigastric Invasion of the Abdomen in Breast Cancer," shortly to be published in the Guy's Hospital Reports.

The great frequency of visceral metastases in cancer of the breast is mainly owing to the extension of cancerous permeation along the fine anastomoses which, piercing the parietes, connect the lymphatic plexus of the deep fascia with the subendothelial lymphatic plexuses of the pleura and peritoneum and with the mediastinal and portal glands. It has already been shown that in parietal dissemination the main factor is centrifugal permeation of the fascial plexus. And in visceral dissemination, too, permeation, especially of the subserous plexuses, plays an essential part. But these plexuses lie close to the serous surface and consequently, in the later stages of visceral dissemination, a factor even more important than permeation comes into play. The dominant factor in visceral dissemination is the escape of cancer cells into the serous cavities, their distribution through those cavities under the influence of gravity and of visceral movement, and their implantation at various points upon the serous surface of the viscera. This process may be spoken of as transperitoneal or transpleural implantation. The occurrence of permeation and of embolic gland invasion from each of the foci thus arising soon terminates the patient's existence. If this outline sketch of visceral dissemination be a correct one it should be possible to show [illegible] be invaded independently of th[illegible] and both for the peritoneal and [illegible] proved: (*b*) that its subserous [illegible] connected by fine anastomoses with the fascial plexus which lies beneath the subcutaneous fat; (*c*) that along these connecting vessels permeation extends from the fascial to the subserous plexus; (*d*) that in consequence cancer cells escape into the serous cavity; (*e*) that these cancer cells are capable of becoming re-implanted at various points on the serous membrane and of thus giving rise to metastases; (*f*) that if the serous cavity is obliterated by adhesions and trans-cœlomic implantation is [illegible] ation is delay[illegible] l metastases is [illegible] origin, and more especially that they primarily affect the surface of the viscera, and that owing to the action of gravity they are found most abundantly at the lower limits of the serous cavities.

CURRENT VIEWS ON VISCERAL DISSEMINATION.

The embolic theory, rather perhaps in default of a rival than upon its own merits, is the accepted explanation of visceral metastases in general (see Lecture I.). I shall attempt to show, not directly but by implication, that for visceral as for parietal metastases the embolic theory is inconsistent with the broad facts, though for isolated cases it is undeniably true.

STATISTICAL DATA OF EARLY AND OF LATE CASES.

It will frequently be necessary to refer to the data which I have obtained from the pathological records of the Middlesex and of Guy's Hospitals for the 30 years 1871–1900. The two records have been kept separate for purposes of comparison, since they are entirely different in character. Owing to the right of patients in the special cancer wards of the Middlesex Hospital to remain until "relieved by art or released by death" a large proportion of the necropsies are on cases which have run their full course. The pressure on the accommodation of Guy's Hospital leaves no room for this class of case in the surgical wards. Hence in the smaller total of necropsies at Guy's Hospital there is a large proportion of cases in the operable stage—of cases which died after operation or from intercurrent disease. Naturally a large majority of these cases occurred in the earlier (pre-antiseptic) portion of the period under review, while, on the other hand, the number of necropsies from the special cancer wards of the Middlesex Hospital has remained practically constant. These two sets of cases will be referred to as the "early" (Guy's) and the "late" (Middlesex) set of cases, though of course some late cases occur in the Guy's records and some early ones in those of the Middlesex Hospital.

ABDOMINAL AND THORACIC INVASION OFTEN INDEPENDENT EVENTS.

Thoracic metastases occur without any invasion of the abdomen in 10 per cent. of the early and in 22 per cent. of the late cases. Conversely, abdominal metastases occur without any invasion of the thorax in 17 per cent. of the early and in 11 per cent. of the late cases. The latter fact especially is a very striking one, to which I cannot too strongly direct your attention. For according to accepted theories the abdomen is always invaded by way of the thorax, whereas it would appear from these figures that, in point of fact, invasion of the abdomen and invasion of the chest are, or may be, entirely distinct events requiring separate consideration. Invasion of the abdomen will be considered first.

THE EARLY STAGES OF ABDOMINAL INVASION.

Cases in which abdominal growth is present only in a single organ or pair of organs are to be regarded not as examples of the haphazard incidence of cancer but as indicating the usual starting points of the attack on the abdominal viscera. When only one organ is affected it may be inferred that the invasion is in an early stage, unless, as is often the case in the liver, the organ is extensively infiltrated. Of the whole number of cases a single abdominal organ or pair of organs was affected in 115—i.e., in 27 per cent. Table III. shows the incidence upon the various organs.

An account of abdominal dissemination must explain not only why the liver is usually the point of first attack but also why the pelvic viscera, and more rarely the portal glands and the peritoneum, may exceptionally present the earliest metastases. The ten cases in which cancer was invading the abdomen retroperitoneally also require explanation. This is evidently a later event than transperitoneal invasion, for it occurs only in the late series of cases.

EPIGASTRIC INVASION OF THE ABDOMEN THROUGH ITS PARIETES.

In the autumn of 1903 I was present at the necropsy on a case of cancer of the breast of which the following is a brief account.

CASE 1. *Epigastric invasion.*—The patient was aged 63 years. Twenty-one months before death the left breast and axillary glands were removed for cancer. Two months before death she was readmitted with numerous subcutaneous nodules in the region of the scar, especially below it, where they extended nearly to the costal margin. Three weeks after readmission a large mass, diagnosed as omental growth, was felt in the abdomen. At the necropsy no glandular or other metastases were found in the thorax, while in the abdomen they were numerous. The left lobe of the liver was riddled by secondary deposits, which in the right lobe were more sparsely distributed. The fat around the pylorus contained numerous cancer nodules. An irregular nodular line of growth ran along the mesenteric attachment of the small intestine. Douglas's pouch was filled by a mass of diffuse growth in which the ovaries lay imbedded. The omentum appeared normal, though one or two cancerous glands were present in it high up. The large abdominal mass which made its appearance just before death proved to be a diffuse cancerous infiltration of the mesentery, apparently spreading from the lumbar glands. None of the retroperitoneal organs were invaded by cancer.

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[1] A[illegible] n THE LANCET of

TABLE III.—*Derived from 422 cases of Cancer of the Breast, showing in what number of instances, either with or without other metastases, a single* abdominal *organ or pair of organs was affected by cancer.*

	Organ affected.	Guy's cases.	Middlesex cases.	Total number of cases.
Viscera covered by peritoneum.	Liver	13	77	90
	Portal glands	1	1	2
	Ovaries...	1	2	3
	Uterus	0	1	1
	Pelvic peritoneum ...	0	1	1
	Peritoneum	0	4	4
	Mesentery	1	1	2
	Intestine	1	0	1
	Spleen	0	1	1
Retroperitoneal viscera.	Right kidney	0	4	4
	Left kidney	0	1	1
	Both kidneys	0	1	1
	Right adrenal	0	1 (?)	1 (?)
	Lumbar gland	0	1	1
	Lumbar vertebra ...	0	2	2
	—	17*	93†	115‡

* Out of 93 cases = 18 per cent. † Out of 329 cases = 29 per cent.
‡ Out of 422 cases = 27 per cent.

As a preliminary to the consideration of this case the subject of transperitoneal implantation must be briefly dealt with. It seemed quite certain in this case that cancer cells had escaped into the peritoneal cavity and had implanted themselves at various points. Only the organs covered by peritoneum were cancerous. The filling of Douglas's pouch by a diffuse mass of growth matting the pelvic structures, a condition which is recorded four times in 422 necropsies, showed the influence of gravity on the site of implantation. In one case I have been able to trace the earliest stage of pelvic invasion—a case in which the only pelvic deposit was a solitary miliary nodule, microscopically proved to be cancer, on the floor of Douglas's pouch.

Omental cancer.—Cancer of the omentum occurred in only 1 per cent. of the cases of cancer of the breast which I have collected and this is an obvious argument against the view that escape of cancer cells into the peritoneal cavity is a frequent event. The case I have just related throws light on this point. A microscopic section of the apparently normal omentum in Case 1 showed it to be bordered by a false membrane containing degenerate cancer cells. It appears that the pre-eminent encysting power of the omentum usually, though not invariably, enables it to protect itself against invasion and that this fact explains the rarity of omental cancer. The most interesting form of omental cancer is that in which numerous secondary growths hang from the surface of the omentum as cancerous polypi attached by delicate non-cancerous pedicles. In such cases trans-cœlomic (i.e., trans-peritoneal or trans-pleural) implantation is seen in its most unequivocal form. Beneke is stated by Borst to have observed in peritoneal fluid minute spherules of cancer cells surrounded by an organised layer of non-vascular lymph. Often, no doubt, the cancer cells thus encysted are destroyed but sometimes the condition above described results in consequence, as it seems to me, of the adhesion of these encysted masses to the great omentum and of their continued growth. In a later stage the polypoid growths become sessile and invade the substance of the omentum, which is at last seen as a transversely elongated tumour puckered up along the lower border of the transverse colon.

The main problem to be solved in Case 1 may be stated as follows: How, in the absence of invasion of the thorax, did cancer obtain access to the abdomen? The presence of subcutaneous nodules nearly as far down as the left costal margin, and the predominant incidence of cancer upon the left lobe of the liver, suggested to me a direct invasion of the abdominal cavity through the epigastric parietes where the left lobe of the liver lies in direct contact with them. An opportunity of testing this hypothesis presented itself in the next two cases. Though in both these cases the chest as well as the abdomen had been penetrated there was conclusive *direct* evidence of invasion through the abdominal parietes of the epigastric region. It is immaterial to my argument whether in these particular cases the abdomen was also invaded *viâ* the thoracic cavity.

CASE 2. *Epigastric invasion.*—The patient was aged 36 years. Two years before death the right breast was removed for carcinoma. At the necropsy the thoracic wall showed an extensive cancerous ulcer extending inwards to the middle line and outwards to the axilla. Beneath the ulcer the growth had invaded the underlying muscles and pleura. The left pleura and pericardium also showed cancer. The axillary, supraclavicular, and posterior mediastinal glands were cancerous. The only visceral metastases were a large solitary nodule in the liver at the umbilical notch and nodules in both ovaries. In the vicinity of the primary growth were some scattered subcutaneous nodules. The lowest of these was situated eight inches above the umbilicus. It was found that permeation of the deep fascia had extended downwards two and a half inches below this nodule. At the level of the tip of the ensiform cartilage there were nodular deposits on the anterior layer of the rectus sheath. Here the rectus muscle was deeply invaded by growth and a fibrous septum containing permeated lymphatics was traced three millimetres backwards into the substance of the muscle. In order to trace the further course of the growth sections of the falciform ligament and of the included round ligament of the liver were made at different points. (*a*) In a section of the falciform ligament about three inches long, parallel to, and six millimetres distant from, the convex surface of the liver, growth was found about three millimetres from the anterior margin of the ligament. (*b*) In a section near the umbilicus where the parietes had been proved to be free from growth none was found in the round or falciform ligaments. (*c*) In a section of the round ligament just within the umbilical fissure scattered cancer cells could be seen in the subendothelial tissue all round it. (*d*) A section of the falciform ligament taken far back, beneath the diaphragm, was free from growth.

In this case it was demonstrated (*a*) that fascial permeation had extended considerably below the ensiform cartilage; (*b*) that the rectus muscle in the epigastric angle was in consequence deeply invaded by cancer; (*c*) that at the same level there was a large solitary nodule in the contiguous portion of the liver; and (*d*) the escape of cancer cells into the cœlom, their gravitation to its lowest point, and their subsequent implantation, were shown by the nodules in each ovary, which were the only other abdominal metastases. It will be noted that in this case epigastric invasion was apparently subsequent to, though not consequent upon, invasion of the thorax. If this were usually the case the surgical interest of epigastric invasion would be comparatively slight.

CASE 3. *Epigastric invasion.*—The patient, aged 57 years, died from a cancer of the left breast two years after it was first noticed. Ten months before death she became jaundiced and at this time the left breast was represented by a shrunken ulcerated scirrhus puckering the surrounding skin. The reporter notes that there was marked tenderness just below the ensiform cartilage but no obvious enlargement of the liver. A hard lump appeared in the *right* breast just before death. At the necropsy there was cancer *en cuirasse* over the left side of the chest. There was no ulceration of the primary growth at the time of death. It had extended through the chest wall. The pleura and pericardium beneath showed minute nodules and some of the bronchial glands were cancerous. There were no other deposits in the chest. Upon the convex surface of the liver in the neighbourhood of the falciform ligament a few small nodules of cancer were visible but none were present in the substance of the organ. The common bile-duct was surrounded and constricted near its outlet by a nodule of growth. The left kidney showed cancer at one point on its surface. On the pelvic peritoneum were some small flat cancerous nodules. On the parietal peritoneum at the level of the tip of the ensiform cartilage a few miliary nodules were visible. Above and below this point the peritoneum appeared normal. This was especially noted to be the case at the attachment of the diaphragm to the ensiform cartilage.

A vertical section of the entire thickness of the abdominal wall from skin to peritoneum in the subxiphoid region showed the following points: (*a*) the skin was free from growth; (*b*) the deeper part of the subcutaneous fat was extensively infiltrated, while the more superficial layers were comparatively free; (*c*) the deep fascia was much thickened and infiltrated throughout by growth; (*d*) the superficial fibrous bundles of the linea alba were much eroded by growth; lines of cancer cells, apparently lying partially in lymphatic vessels, could be seen passing between its bundles and debouching on the subperitoneal fat (the transversalis fascia is in this situation hardly recognisable as a distinct layer); (*e*) the subperitoneal fat, between whose bundles wide empty interspaces are present, was practically free from growth; though this layer had itself escaped it could offer but a minimum of resistance to the passage of cancer cells through it; and (*f*) the peritoneum showed cancerous permeation of the subendothelial lymphatic plexus; many cancer cells were also lying in the cellular interspaces. Here and there the peritoneal endothelium overlying the cancer cells was degenerate. Quite evidently at these points cancer cells were entering the peritoneal cavity.

In each of three sections taken at different levels through the falciform and round ligaments between the umbilical notch and the anterior abdominal wall a small area of cancerous permeation was found in the falciform ligament. The permeated lymphatics were found only in the *left* lamina, to which (owing to the attachment of the falciform ligament to the posterior layer of the *right* rectus sheath, an inch to the right of the middle line) cancer would first naturally extend from the epigastric peritoneum. The two laminæ of the ligament are here separated by a thick pad of fat. If growth had extended downwards through the diaphragm one would naturally have expected the impartial invasion of *both* laminæ. Moreover, a section of the falciform ligament far back under the diaphragm was found to be free from growth.

The escape of cancer cells into the peritoneum was locally shown in this case merely by a few small macroscopic nodules on the convex surface of the liver. Gravity had carried a few cells into the pelvis where they had given rise to small peritoneal nodules. The permeated lymphatics which were found in the falciform ligament are anatomically known to lead to, or from, the portal gland [illegible] group of metastases, [illegible] round the invaded g[illegible] vicinity. Such appears to be the explanation of the pyloric nodules and of that in the bile-duct. The only remaining abdominal focus was that in the right kidney. (See later—retroperitoneal invasion.)

It appears, then, that of three necropsies, all occurring within the space of three months, presumptive evidence of epigastric invasion just below the ensiform cartilage was obtained in the first one and conclusive evidence in the last two. During this period a total of five necropsies on cancer of the breast might on the average be expected at the two hospitals concerned. The inference that epigastric invasion is a frequent event seems unassailable.

Anatomy of the Epigastric Angle.

It is somewhat remarkable that so far as I can find it has never been suggested, even as an arm-chair hypothesis, that cancer of the breast directly invades the abdomen through the epigastric parietes. Mr. A. M. Sheild, for instance, the most recent systematic writer on cancer of the breast in this country, says:[2] "It seems hardly logical to assume that growths of the ovary, uterus, or liver, occurring perhaps years after an amputation of the mamma, are true recurrences in the strict sense of the word. Their occurrence, however, is very mysterious and significant and at present wrapped in obscurity." And yet the anatomy of the epigastric region strongly suggests the likelihood of this mode of invasion. According to Mr. H. J. Stiles, the lower and inner margin of the breast overlies the sixth costal cartilage—that is to say, this part of the circumference of the breast is distant only about an inch from the interspace between the ensiform and the seventh costal cartilages. Thus as soon as parietal permeation has extended little more than an inch beyond the edge of the breast the cancerous lymphatics of the deep fascia are no longer separated from the subserous (subperitoneal or subpleural) fat by a bony cage of many layers, covered by thick muscles, but simply by a single layer of fibrous tissue, traversed by lymphatic channels. For at the tip of the ensiform cartilage the transversalis fascia is hardly recognisable as a distinct layer and the parietal lymphatic plexus is separated from the subperitoneal fat simply by the linea alba. It is not surprising if, through this obviously weak spot, cancer frequently reaches the peritoneum before it has succeeded in reaching the well-protected pleura, even at points directly subjacent to the primary focus.

A Statistical Study of Epigastric Invasion.

The occurrence of epigastric invasion has now been histologically proved in two cases. It is impossible single-handed to examine a large number of cases by this laborious method. To obtain a broad view of the subject it is necessary to turn to post-mortem records. In the absence of direct evidence for any other hypothesis it is legitimate to assume epigastric invasion in all cases in which the thorax has escaped invasion and in which at the same time metastases are present in the viscera intimately related to the peritoneum. Excluding six cases in which co-existent bone or brain metastases might *primâ facie* indicate embolic blood invasion no fewer than 53 such cases were found among 422 necr[illegible] the group is a natural one th[illegible] ses is practically identical [illegible] of cases. It must be emphatically stated that these cases do not represent the whole number in which epigastric invasion occurs, for all cases in which previous or subsequent invasion of the thorax took place are *ipso facto* excluded from consideration.

It appears, then, that at the time of death *uncomplicated* epigastric invasion, apart from the independent invasion of the thorax which must often precede or follow it, is present in 12 per cent. of all cases. The total incidence of epigastric invasion must be somewhere between 12 per cent. and 46 per cent., the difference between these figures representing the percentage of (late) cases in which both the chest and the abdomen are invaded. Probably the latter figure is much nearer to the truth than the former one.

Epigastric Invasion an Early Event.

It is of great practical importance to know whether epigastric invasion usually takes place before or after invasion of the chest. If it is an early event invasion of the abdomen may be found apart from invasion of the chest more frequently in the early than in the late set of cases.

Table IV.—*Showing the Comparative Invasion-percentages of the Thorax and Abdomen in an Early (Guy's) and a Late (Middlesex) Set of Cases.*

—	Early cases	Late cases.
	Per cent.	Per cent.
Metastases present in the abdomen and not in the thorax (abdominal group)	17	11
Metastases in the thorax and not in the abdomen (thoracic group)	10	22
Metastases in both cavities (abdomino-thoracic group)	20	35
No metastases present	40	23
Other cases, e g., those of bone invasion ...	13	9

The early cases, as might be expected, are more often free from metastases and less frequently show thoracic or abdomino-thoracic invasion. On the other hand, there is this apparently anomalous fact—that the early series shows, as compared with the late series, a considerably *larger*

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[2] Sheild Diseases of the Breast, 1898, p. 457.

In three of these 11 cases the adherent pleura on the side of the growth had escaped invasion, while the opposite non-adherent pleura was cancerous.

Doubt may at first sight appear to be thrown on this evidence of the protective action of an adherent pleura by the fact that only 30 per cent. of the cases with pleural adhesions were absolutely free from metastases, as compared with 33 per cent. of the sum-total of cases—an inappreciable difference. But the protective action of an adherent pleura extends only to thoracic metastases. It has been shown that in a large proportion of cases invasion of the abdomen occurs not by way of the thorax but directly through the epigastric parietes. Pleural adhesions do not check this process; perhaps, indeed, their resistance to the deep extension of the growth may accelerate the progress of fascial permeation and so actually favour epigastric invasion. It is a most striking fact that while only 12 per cent. of a total of 329 cases showed the abdomen invaded by cancer and the chest free, 32 per cent. of the 37 cases with marked pleural adhesions showed invasion of the abdomen coexistent with freedom of the thorax from secondary deposits. The converse difference is equally striking. While 22 per cent. of the Middlesex Hospital necropsies show the thoracic cavity invaded and the abdomen free, only 5 per cent. of the cases with pleural adhesions show a similar state of affairs. These facts are a strong indirect testimony both to the protective influence of pleural obliteration and to the frequency of direct epigastric invasion of the abdomen. It is difficult to see how the embolic theory of dissemination can be made to explain them. The possibility of delaying dissemination and of prolonging life by artificially producing obliteration of the pleural cavity is one not to be entirely lost sight of.

DISSEMINATION IN OTHER FORMS OF CARCINOMA.

That permeation is the main factor in dissemination has been proved for some of the few cases of cancer of the breast I have been able to investigate. Outside these cases, for cancer of the breast in general, I have attempted to show that the permeation hypothesis of dissemination agrees with, and is the best explanation of, the peculiarities of metastatic distribution as seen in post-mortem records. If the permeation hypothesis can account for the widely scattered metastases of cancer of the breast it seems *a fortiori* the most likely explanation of the less extensive dissemination seen in most other forms of carcinoma. The distribution of the metastases, which for each form of carcinoma is variable and characteristic, appears to depend chiefly on the lymphatic relations of the primarily cancerous organ. The metastases of cancer of the breast are especially numerous and widespread, partly because of the intimate relations of the breast and the extensive fascial plexus, but also because the breast is favourably situated for the invasion either of the thorax or of the abdomen. The latter cavity, too, is invaded at its summit, whence showers of cancer cells are distributed by gravity over all the organs in relation to the peritoneum.

PRACTICAL CONCLUSIONS.

These must be very briefly stated.[5] If, when it transgresses the limits of the breast, cancer spreads primarily in the deep fascia the main operative aim next, of course, to complete removal of the breast and of the axillary glands, should be the removal of as wide an area as possible of the deep fascia. And if the mode of fascial extension is by centrifugal continuous permeation, the area affected is roughly a circle and the area of fascia removed should also be circular with its centre at the point of origin of the primary neoplasm. The use of the expression "pectoral fascia" to describe the area which requires removal and the almost exclusive attention paid to the axillary glands as the channels of dissemination have led to inadequate excision of the deep fascia in a downward direction over the upper part of the abdomen. In order to prevent epigastric invasion the usual incision should be prolonged downwards over the linea alba for about two inches, the flaps undermined, and the fascia excised as far down as a horizontal line running two inches below the ensiform cartilage, or even lower if the growth is in the inferior part of the breast. I have not found that this step increases the shock of the operation. Excision of the overlying skin and of the underlying muscle must be free but need not be carried out over so wide an area as excision of the fascia, for the extension of the growth to skin and muscle is a secondary process.

Removal of the deep fascia appears to be carried out more thoroughly in this country than elsewhere. In America Halsted, whose valuable work on surgery of the breast is so widely known and appreciated, lays stress rather on the removal of a wide area of skin. To this extent the English operation seems based on sounder pathological principles. At the Middlesex Hospital especially, whence came the first protest by Moore,[6] which was vigorously supported by Campbell de Morgan, and by Nunn, and others of the past and present staff, against the incomplete operations formerly in vogue, excision of the deep fascia is at the present day carried further than has to my knowledge been publicly advocated by any English surgeon, though among others both Jacobson and Watson Cheyne advise very wide excision of this layer. It appears to me, however, that even the widest removal of deep fascia as at present carried out is deficient in the direction of the epigastrium. Owing to the fact that the abdominal muscles arise well above the costal margin, the excision of the deep fascia over the origins of these muscles, a step which forms part of the accepted operation, does not necessarily involve any interference whatever with the epigastric deep fascia, still less such an extensive removal of it as I am at present advocating.

Local and intrathoracic recurrence after the operation for cancer of the breast appears to take place more and more rarely in the practice of experienced surgeons—that is to say, the modern operation seems to afford a maximum of protection so far as the chest is concerned. On the contrary, it appears from statistical records that the operation for cancer of the breast as at present usually performed does not by any means give the maximum attainable security against *abdominal* recurrence. For while modern results show a diminution in the sum-total of cases of recurrence cases of purely abdominal recurrence seem to be increasing in frequency relatively to the lessened number of thoracic recurrences. And this phenomenon is clearly seen only in the results of the more successful operators—i.e., of those whose methods enable them to guard against thoracic invasion.

Only last week I had the opportunity of seeing a patient whose right breast was removed for cancer 28 months ago by a surgeon of large experience in the surgery of the breast. Subsequently the disease recurred in the opposite breast which was removed by another surgeon. Even at the time the second breast was removed the patient was beginning to suffer from pain in the left ovarian region. At the present time there is no local recurrence but the pelvis is filled by cancerous masses and per vaginam an ulcerated growth can be felt indistinguishable from a primary carcinoma of the cervix. The mammary operation scars reach downwards only to a point two inches above the tip of the ensiform cartilage and it therefore seems unlikely, even allowing for their contraction, that the deep fascia of the epigastric region was removed at the time of operation. It is my opinion that in this case the pelvic mass of growth resulted from epigastric invasion and was not a second primary carcinoma. During the past few weeks I have heard, through Mr. C. J. Symonds and Sir Alfred Fripp, of three other cases of exclusively abdominal recurrence, in one of which palpable subcutaneous nodules were present in the epigastric region.

The relative excess of abdominal recurrences associated with modern methods of operation is strikingly exhibited in the cases, upwards of 100 in number, published by Professor Watson Cheyne. Visceral recurrence took place in 15 cases. In ten of these cases the recurrence was (clinically) abdominal, while in only five was it (clinically) thoracic. It seems to me almost certain that in some of these cases abdominal recurrence might have been prevented by a wider excision of the deep fascia in the epigastric region. I will therefore conclude by expressing the hope and, indeed, the firm belief, that a recognition of the danger of epigastric invasion and the adoption of precise means for its prevention will bring about a further appreciable reduction in the mortality from mammary carcinoma.

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[5] See Handley, "On Certain Defects in the Present Operation for Mammary Carcinoma," Brit. Med. Jour., Oct. 1st, 1904.

[6] Moore: Transactions of the Royal Medical and Chirurgical Society, 1867.

The Goulstonian Lectures

ON

SOME CONSIDERATIONS ON THE NATURE OF DIABETES MELLITUS.

Delivered before the Royal College of Physicians of London on March 16th, 21st, and 23rd, 1905,

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LECTURE III.[1]

Delivered on March 23rd.

MR. PRESIDENT AND GENTLEMEN,—In my first lecture I ventured to suggest that the essential nature of diabetes mellitus, as opposed to mere symptomatic glycosuria, consisted in an internal formation of sugar from the tissues of the body, while the liver had nothing to do with this condition, being responsible only for a possible aggravation of the existing symptoms by temporary increase of the sugar existing in the blood and thence appearing in the urine. In my second lecture I pointed out some of the reasons which exist for believing that defect in the pancreas is responsible for diabetes. I also mentioned that suggestions had been made with regard to a possible interaction between the pancreas and other organs in the process of regulating the formation and destruction of sugar and dealt with the question of the alleged action of the liver in this respect. Two other organs must also be alluded to as suggested partners with the pancreas—the suprarenal body and the thyroid gland.

The suprarenal body.—The hypothesis of a joint action of this gland with the pancreas is supported by definite experimental evidence and a special form of diabetes, the *Nebennierendiabetes* of the Germans, has been supposed to exist. Experiments show that the injection of suprarenal extract is followed by the appearance of sugar in the urine and the condition is seemingly very similar to true diabetes. The sugar may appear in the urine even when the animal receives only a proteid diet. Feeding by the mouth with suprarenal extract does not produce glycosuria, and subcutaneous injection of it is less efficacious than intraperitoneal. Croftan has called attention to the pigmentation of the skin which occurs in hæmochromatosis as well as in Addison's disease, and has used this resemblance as an argument in favour of a connexion between the suprarenal body and diabetes. Since, however, glycosuria does not usually occur in Addison's disease it is clear that it is not defect in the function of the suprarenals which leads to glycosuria, whereas it is with such defect that pigmentation seems to be connected; hence the argument does not seem valid. On the other hand, an excessive action of the suprarenal might conceivably be responsible for diabetes as [illegible] cretion of these glands when [illegible] act upon the pancreas and to [illegible] Thus, it is found that painting the extract upon the pancreas is followed by an excretion of sugar, whereas similar application to the liver or spleen is not productive of the same result. Curiously enough, the surface of the pancreas when thus treated is stated to become pink and hyperæmic instead of blanched, as is the case with other parts which are similarly treated. The property of inducing glycosuria when applied to the pancreas is not, however, confined to suprarenal extract but is exhibited by other reducing agents, such as sulphurous acid, ammonium sulphide, coal-gas, carbonic oxide, &c., so that it is to the reducing action of the suprarenal secretion and not to any specific effect that the appearance of the glycosuria is to be attributed. It is, indeed, said that in fatal cases of poisoning by an overdose of suprarenal extract the cells of the islands of Langerhans are the seat of granular degeneration, while the other cells of the pancreas are not equally affected, but this statement needs confirmation. In any case, the peculiar effect of the secretion of the suprarenal body in producing glycosuria must be attributed to its action on the internal secretion of the pancreas, and there is no evidence that in spontaneous disease any overaction of these bodies takes place or that they are in any way connected with the origin of diabetes mellitus.

The last organ which has been supposed to exert a joint action with the pancreas in destruction of sugar is the *thyroid gland.* Its claims have been urged recently by Lorand of Carlsbad in a lengthy monograph on the production of diabetes This writer states that in diabetic patients the thyroid is often markedly enlarged—a condition which is not, so far as I know, generally noted in text-books as a symptom of the disease and which I have not personally observed in these cases. He further points to the frequent presence of sugar in the urine of patients suffering from Graves's disease; to the onset of this condition as a result of fright or mental stress—factors which may act as causes of diabetes; and to the sweating which some diabetics exhibit, resembling the sweats so common in Graves's disease, which also may be accompanied by pruritus, pigmentation of the skin, and psychical phenomena. All the symptoms of diabetes can be induced, according to Lorand, by administration of excess of thyroid extract. He considers that the thyroid, the pituitary body, the suprarenal bodies, and possibly the testes and ovaries are all vascular glands (*Blutgefassdrusen*) and that the islands of Langerhans in the pancreas are also to be placed in this class. All these structures are correlated in function, and defect of one of them produces alterations in the others. Thus in cases of Addison's disease the pancreas is often, he affirms, large and hyperæmic, while the thyroid is small and atrophic. He thus brings myxœdema and Graves's disease, acromegaly, Addison's disease, and diabetes into one group of disorders depending upon alterations in the vascular glands—a sufficiently heterogeneous collection, though perhaps hardly equal to that embracing gout and rheumatism, epilepsy, Raynaud's disease, megrim, hysteria, Bright's disease, chlorosis, and diabetes itself, seriously maintained by one of the Fellows of this College to be all due to poisoning with uric acid introduced with the food (Haig). Lorand states that it is chiefly in female diabetics that actual enlargement of the thyroid is present though why the other sex should not also exhibit the same alteration is not clear. He further says that post mortem the gland is soft and that the amount of colloid substance present in it is increased. He quotes some other writers who have found changes in the gland; thus, Rosenfeld noted them in three cases out of 15, while Bachstein and von Noorden record the existence of enlargement in different proportions of their cases. Some support, perhaps, is lent to Lorand's views by the experiments of Knopfelmacher, who examined the alimentary capacity in regard to assimilation of sugar in two patients suffering from congenital myxœdema; he found that the assimilative power for sugar was much greater in these cases than in normal persons Lorand also claims to have obtained good results in the treatment of diabetes by the use of milk derived from animals which had undergone thyroidectomy. It would thus seem that the presence of sugar in the urine may in some cases be connected with an over-activity of the thyroid gland. There does not seem to be sufficient evidence that this organ is at fault in true diabetes. In a case which I recently examined the thyroid gland appeared quite normal both in size and structure I also remember reading an account of a case in which diabetes coexisted with myxœdema though I cannot put my hand upon the reference. It is, however, desirable to pay careful attention to the condition of these vascular glands in necropsies upon diabetic cases in order to ascertain the frequency with which pathological changes occur in these parts.

PATHOGENY.

I have now to consider some of the views which have been held as to the pathogeny of the disease—the actual mode of production of the defect in metabolism which constitutes diabetes—and to bring before you any facts which appear capable of throwing light upon the difficult problems involved. In the first place, if we ask in what way the pancreas exercises an influence upon the production or assimilation of sugar, it must be confessed that its mode of action is not by any means clear. Two ai were originally suggested by von Mering and Minkowski: (1) that the pancreas forms an internal secretion necessary for the regulation of the sugar-forming and destroying activities of the organism; and (2) that it may neutralise some poisonous material formed elsewhere, which acts injuriously upon these processes. The authors just named discarded the latter theory and adhered to the former. The pancreas would thus come into the same category as the thyroid gland, the existence of an internal secretion from which is now definitely established, and with the ovaries, testes, suprarenal bodies, pituitary body, and thymus in the case of which an internal secretion remains hypothetical, possessing varying degrees of probability in the cases of the different organs mentioned. It may be remarked that it is not the fact of the existence of an internal secretion in these cases which is questionable, for every organ and tissue in the body must in one sense form an internal secretion, inasmuch as it casts off into the circulation substances formed in its life processes—waste products in fact. The question is as to the usefulness of the materials thus formed to other parts of the body. In the case of the thyroid the useful character of its secretion has been most conclusively demonstrated by the results of feeding myxœdematous patients with the substance of the gland. Unfortunately this proof does not exist in the case of any of the other glands in question—possibly because the digestive juices destroy the substances manufactured by them. In the case of the pancreas an instance is, indeed, reported by Wegele in which the use of pancreatic extract caused cessation of glycosuria in a case of apparent diabetes with fatty stools. It is interesting to note that in this instance alimentary glycosuria remained after the treatment, a fact which may afford some support to the view which I have suggested that alimentary glycosuria and diabetes are in many cases quite independent processes. It is held by most authorities that in cases of mere alimentary glycosuria no alteration can be made out in the pancreas (Wille).

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[1] Lectures I. and II. were published in THE LANCET of April 8th (p. 903) and 15th, 1905 (p. 977), respectively.

Now, in endeavouring to elucidate the possible action of the pancreas upon metabolic processes it is natural to seek to associate it with views recently set forth as a result of study in quite a different field of pathology—namely, that of infection and immunity. The whole subject of immunity was exhaustively discussed two years ago by Grünbaum in his Goulstonian lectures and I need not do more than allude to the salient points which bear upon my present subject. In the first place it is found that when bacteria enter the circulation, or when blood corpuscles from one species of animal are injected into one of another species, these intruders are destroyed by the interaction of two distinct bodies, one of which—the alexine or complement—exists naturally in the serum of normal animals, while the other—the copula or immune body—is formed in response to the stimulus of the injected foreign material. The use of the second body seems to be to unite the alexine to the intruding bacterium or corpuscle and thus enable it to destroy the latter.

We are here introduced to chemical actions of great complexity in which three or more bodies take part, as contrasted with the simpler reactions of non-vital chemistry in which two bodies are generally concerned. We may compare with the processes sketched above that of the coagulation of the blood, in which it has long been known that three or more substances take part—the fibrinogen, the fibrin-ferment and calcium salts; or the action of the digestive ferments, pepsin and trypsin, in the presence of acids and alkalies respectively; or the curious interaction between pancreatic secretion and intestinal juice, in which the inert protrypsin is rendered active by enterokinase. One is tempted to speculate whether we may here be in the presence of a general law of vital chemistry, by which a complicated reaction between three or more bodies—one of which is generally a ferment—is substituted for the simpler interchanges in non living materials.

Further, in studying the formation of antitoxins Professor Ehrlich was led to formulate his well-known hypothesis of side-chains or receptors. According to this living cells consist of a central mass of protoplasm to which are attached outlying groups of molecules (side-chains or receptors) having the property of entering into combination with bacterial toxins. Now, since it would obviously be better for an organism to possess no receptors capable of uniting with toxic molecules we cannot suppose that the side-chains exist for the purpose of combining with these. It is therefore held that they are primarily intended for the assimilation of food molecules and are only accidentally capable of uniting with toxins. It thus seems possible that the assimilation of sugar by the tissues is carried on by some process allied to the union with toxins. The phenomena of diabetes may thus some day be brought into line with these observations in one of several ways.

1. In the first place, a view very commonly held is that the disease consists in a defective power of assimilating sugar, the defect residing in the tissues throughout the body. It would appear at first sight tempting to suppose that the connexion of the pancreas with diabetes lay in the formation by it of some copula by which molecules of sugar are anchored to the cells; if this be not supplied the assimilation of sugar will then be no longer possible. An analogous defect might be supposed to exist in myxœdema, the thyroid gland here failing to supply an intermediary substance necessary for the utilisation of some other form of cellular pabulum. I do not, however, think that this is the true explanation for more than one reason. In the first place there does not seem to be any convincing evidence that such failure in the assimilation of sugar by the tissues actually exists. The presence of fat-droplets in the muscles and elsewhere may indeed be pointed to as evidence of lack of normal assimilative powers but it can be otherwise explained. Secondly, as I previously suggested, it seems certain that in the terminal stages of diabetes sugar is formed from the tissue cells and it seems preferable to apply this explanation of the excess of sugar present in the blood to the whole course of the disease. Defect in the formation of an intermediary body would not explain this phenomenon.

2. We may, however, consider in this connexion the hypothesis advanced by Lépine, who explains the phenomena of diabetes by the absence from the blood of a sugar-splitting ferment which it normally contains. He finds that healthy blood possesses the power of causing the disappearance of a certain amount of the contained sugar when it is allowed to stand. Diabetic blood, on the other hand, possesses this property to a notably less degree according to this observer. Croftan has supported Lépine's observations of a power of destroying sugar resident in the blood and lymph. He states that the glycolytic power of the blood is diminished after removal of the pancreas. He also claims to have isolated the ferment by which this action is performed and to have identified it with trypsin. He finds that in the presence of hæmoglobin trypsin has the power of destroying sugar, but apart from the former the normal pancreatic juice has not this property. The glycolytic ferment of these writers would be analogous presumably to an alexine rather than to a copula. Croftan considers that it is formed by the pancreas. Other observers have, however, pointed out that the glycolytic power of the blood increases after it has coagulated, thus appearing to be a non-vital phenomenon, while the process depends to a considerable extent upon the amount of water present in the blood (Biernacki), so that the failure of diabetic blood to destroy sugar may be dependent upon its concentration. Umber found that the glycolytic power of the blood was not increased in the pancreatic vein, as it would have been had the pancreas formed the destructive body. With regard to the glycolytic power of the tissues Giacco found that it varied in different organs, being great in the heart and little in the pancreas. He also found that it remained after boiling the tissue and so was not a vital action. It is interesting to note, in view of the acid poisoning which exists in diabetes, that according to this observer alkalies increase the glycolytic property while acids diminish it.

3. If the action of the pancreas, then, is not in the direction of assisting in the utilisation of sugar, there remains the suggestion that it in some way neutralises or destroys a poison which either interferes with some part of the process by which sugar is assimilated or increases the formation of sugar within the body. This the pancreas might do by absorbing the poison and using it for its own metabolic processes, or by forming an antitoxin which would meet and neutralise the toxin in the blood. In the latter case we should again be in presence of a phenomenon analogous to those supposed to occur in bacteriolysis and immunity. Once more it must be confessed that the evidence in favour of a toxic origin for diabetes is hopelessly scanty; yet there are a few indications pointing that way, and in the state of darkness which prevails as to the pathology of this disease the smallest ray of light is better than none. In the first place we have the undoubted fact that experimentally

certain poisons are capable of producing a condition closely resembling diabetes—indeed, as far as we can see, identical with it. The most notable instance—that of phloridzin poisoning—has already been referred to, but other substances, such as diuretin and uranium nitrate, may also produce at least glycosuria, while the effect of suprarenal extract and other reducing substances applied to the pancreas has just been mentioned.

With regard to the actual presence of poisons in diabetes very little direct evidence has been brought forward. Klemperer was apparently the first to suggest that there was present in the disease a poison which interferes with the oxidation of sugar. This hypothesis has been revived by Leo. Long ago Minkowski made experiments to investigate the matter by injecting the blood of a dog rendered diabetic by removal of the pancreas into a normal dog, but the result was negative and indeed was so almost of necessity, since even if the blood of the diabetic dog contained a poison which ought to have been neutralised by its pancreas, yet the normal dog possessed a pancreas capable of dealing with the poison. Lépine injected guinea-pigs with a watery solution of the blood of a diabetic dog and produced a glycosuria lasting for some days, whereas a similar experiment with the blood of a normal dog produced only a very transitory appearance of sugar. From this he concluded that the diabetic organism contains special leucomaines or toxins of internal manufacture. On the other hand, injections of blood derived from pneumonic patients seemed to have a similar power of inducing glycosuria, so that the value of the experiment does not seem very high. Further, the injection of pancreatic emulsion or extract does not seem to influence the condition of animals who have suffered experimental pancreatectomy. The attempt to associate diabetes with an infective micro-organism has—one might say, of course—been made. Topfer and Freund injected animals with the contents of the intestines of diabetic patients and thereby produced a lasting glycosuria; and Hammerschlag and Kauffmann obtained bacteria from the intestines of diabetics and produced a similar result by feeding experiments and by intravenous injections of the organisms. These experiments are not very convincing. It is easy to set up glycosuria in animals in many different ways and there does not seem to be evidence in any of the experiments that a condition analogous to diabetes mellitus was produced. As previously mentioned, there is little evidence that in man diabetes is an infectious malady; even Hutinet, who maintains the possibility of infection, believes that diabetes is a secondary result dependent upon the production of arterio-sclerosis.

On the whole, then, while there is reason to suspect that diabetes may be due to the action of some toxic substance formed within the body, which is normally neutralised or destroyed by the pancreas, nothing approaching to proof of such a substance or such a condition has so far been established.

Acid intoxication.—There remain to be considered one or two sides of the question of diabetes which may throw light upon the nature of the process. The first of these is the so-called acid intoxication which forms so characteristic a feature of the graver cases of the malady. In this condition the alkalinity of the blood is diminished owing to the formation in the system of acid substances which combine with the alkali present in the body fluids. Coincidently, and apparently as a result of the increase of organic acids present, there is given off some excess of ammonia which combines with these and is excreted in this combination in the urine. An increased amount of ammonia in the urine is thus characteristic of acid intoxication. The acids formed appear to be chiefly oxybutyric, amido-butyric, aceto acetic, and others perhaps belonging to the same series, which is intimately connected with the volatile substance, acetone, which gives the sweet smell to the breath of diabetic patients. Acetone is said to occur normally in the urine in minute quantities, too small to be recognised by ordinary clinical tests; but in diabetes it is much increased, and almost as much may be eliminated by the lungs as by the urine. It is accompanied in the latter fluid by aceto-acetic acid which gives the characteristic red colour with perchloride of iron. Acid intoxication may occur in other conditions besides diabetes, though it is most profound in this disease. Thus a certain degree is seen in the summer diarrhœa of children, in starvation, and in many fevers. Acetone is also increased in the urine after the administration of ether and chloroform. In all of these conditions, however, it seems to be a feature of no clinical importance; in diabetes it is of very grave urgency, being the forerunner of the fatal coma which terminates so many cases.

An alkaline reaction appears absolutely necessary for the existence of vital activities in the tissues and grave disturbances of nutrition soon occur if an animal is caused to lose alkali which cannot be replaced from the food. Bunge considered that the toxic substance which accumulates in the body in such cases of withdrawal of alkalies is sulphuric acid. The condition would thus be equivalent to sulphuric acid poisoning. If acids in excess are administered to animals respiration increases in frequency and the pulse-rate rises. Finally, ataxy and convulsions occur and the animal dies in coma. It seems that carnivorous animals are more tolerant of acids than are the herbivora, apparently owing to the greater amount of ammonia which they are capable of forming from their proteid diet. Mankind are capable of dealing with a large quantity of acid in this way.

Excess of acid may occur in the system in two ways: either by failure to excrete that which is normally formed, with resulting accumulation in the blood; or by increased manufacture of acid by chemical processes within the tissues. With regard to the former possibility it is conceivable that lesions of the kidney may at times cause accumulation of toxic substances in cases of diabetes and may thus sometimes precipitate the onset of coma. I alluded in my first lecture to the intense degeneration of the renal tubules which I found in a recent case which died comatose. The sudden onset of coma in some instances could be better understood on such a hypothesis than on that of the gradual accumulation of acids by increased manufacture alone. But such renal lesions are not the invariable rule. In any case the presence of acids appears to be due to formation by the tissues. [illegible] formed i [illegible] oxalic, ur [illegible] which are most to the fore in diabetes—β-oxybutyric and aceto-acetic (diacetic), related to each other and to acetone.

Coma.—The interest of the series of bodies just alluded to—the acetone series—in diabetes is very great, since it is to one or more of them that attempts have been recently made to assign the causation of diabetic coma. Two older theories may be mentioned as of historical interest. One is that coma is due to a fat embolism of the lungs, arising from the presence of excess of fat in the blood in cases of diabetes. This hypothesis seems untenable for more than one reason. In the first place, liphæmia is not by any means of constant occurrence in diabetes and is not found in all or nearly all cases dying from coma; while it is very doubtful whether fat circulating in the blood in the form of fine droplets, as it does in such conditions, is capable of producing embolism of even capillary vessels, since fat is practically fluid at the temperature of the body and is probably thus able to pass through any vessels to which it is conveyed. The existence of fat-globules in the capillaries of the lungs can, it is true, be demonstrated in some instances; but this is after death when the fat has solidified. There is no proof that the fat has been previously arrested in the capillaries and has thus blocked them. It is not impossible that the lungs may act as the mechanism [illegible] excess of fat from the blood, a [illegible] place within them The second [illegible] be made is that diabetic coma is due to accumulation of carbon dioxide in the blood owing to insufficient absorption of oxygen; coma would thus be a form of asphyxia. This view seems negatived by the experiments which have been performed to ascertain the respiratory exchange in diabetics. Recently Pembrey, Beddard, and Spriggs have investigated this in cases of diabetic coma and have satisfactorily shown that defective respiratory exchange can be eliminated as a cause of the condition.

To return to the acetone bodies, the first attempt to connect these with diabetic coma was in the direction of identifying acetone with the toxic body at work. This view was sustained by von Jacksch and others. Experimental injection of considerable amounts of acetone into animals and inhalation of this substance gave rise to a condition of stupor and sometimes to glycosuria. On the other hand, acetone can be given in large quantities by the mouth without giving rise to any ill-effects; and subsequent observers repeating the experiments and studying the production of acetone normally in the body were led to attach little importance to the production of acetonæmia as the cause of coma. Attention was next turned to β-oxybutyric acid as a possible cause, but in the case of this substance also it was found that it could be taken in large amounts without the production of injurious effects; and that it was tolerated even by animals which had been deprived of their pancreases. Such ill consequences as ever ensue after its administration are now assigned to its acid qualities alone, whereby it withdraws a certain quantity of ammonia from the body to neutralise it (von Noorden). Other authors have laid stress upon the presence in diabetic coma of other acids, especially β-amido-butyric acid; but it is now generally held that there is no reason to associate any one substance with this condition, which appears to be dependent upon the general fall in the alkalinity of the blood.

Source of acetone bodies.—Now in view of the importance of the acid intoxication which is present in severe cases of diabetes it is necessary to inquire as to the source of the substance by which it is produced. Since aceto-acetic acid and oxybutyric acid are apparently intermediate products which in normal circumstances are excreted as acetone inquiry may conveniently be directed to ascertain the source of this last. In the first place, experimental investigation has shown that the addition of butter to the diet leads to an increased excretion of acetone, so that it would seem likely that it is a product of the disintegration of fat, which is supposed to enter the system practically unchanged by digestive processes. Consumption of other fats may have a similar effect to that produced by butter. In the second place, the chemical composition of the acetone bodies forcibly suggests an origin from fat, since oxybutyric acid ingested may be excreted as acetone and the relationship of this acid to fat (butter) is sufficiently indicated by its name. A consideration of the chemical formulæ of the substances involved will make the relationship clearer. Glyceryl tributyrate, a typical fat, may be represented as—

$$C_3H_5 \,.\, (CH_3 - CH_2 - CH_2 - CO_2)_3.$$

The figures in the brackets represent the formula of butyric acid—

$$H \,.\, (CH_3 - CH_2 - CH_2 - CO_2).$$

By substituting in this formula OH for one of the atoms of hydrogen we obtain β-oxybutyric acid—

$$H \,.\, (CH_3 - CHOH - CH_2 - CO_2).$$

By combination of the two atoms of hydrogen in the second group with one of oxygen aceto-acetic acid and a molecule of water are formed—

$$H \,.\, (CH_3 - CO - CH_2 - CO_2) + H_2O\,;$$

and by the removal of the last group (CO_2) from this we obtain acetone,

$$CH_3 - CO - CH_3.$$

It would appear, further, that the acetone bodies are formed within the system, not in the intestinal canal, for although small quantities of both acetone and oxybutyric acid have been demonstrated in the contents of the stomach and intestines the administration of purgatives which rapidly clear out the intestinal contents does not diminish the quantity of acetone in the urine; indeed, von Noorden states that it may occasionally even increase it. The acetonuria which occurs in pregnant women is attributed by Stumpf and Stolz to the increased destruction of fat which takes place in the maternal organism and that which sometimes accompanies death of the fœtus has been supposed by Waldvogel to be caused by destruction of fat resulting from the action of toxins absorbed from the uterus. In the absence of evidence to the contrary, then, we are justified in believing that the acetone series of substances is produced within the body from fat. This conclusion appears consistent with the conditions present in the various pathological states in which acetone and its congeners are found to be increased. Thus they are excreted in greatly increased amount in states of starvation in which there is great wasting of the body and in which it has been shown by experiment that the tissue which suffers the most severely is the adipose. A similar explanation would seem to apply to the acetonuria of fevers, of diarrhœal conditions, and of advanced carcinoma, in all of which the fat is suffering serious reduction in quantity. Acetonuria is also seen sometimes as a result of the administration of anæsthetics. Now the two substances most frequently used for narcosis are ether and chloroform, and both of these are capable of dissolving fat outside the body; it is only reasonable to suppose that when they are absorbed into the system they may also be capable of acting upon the adipose tissues.

It is true that von Noorden and Mohr deny the possibility of the acetone bodies formed in diabetes resulting from destruction of fat, although they admit that such destruction commonly takes place in this disease. "This factor," they say, "could only explain the excretion of moderate quantities of acetone not the enormous quantities of acetone bodies that severe cases of diabetes frequently eliminate." They do not, however, support this assertion by any evidence and it is not easy to see on what grounds it is founded, since the quantity of fat that is undergoing destruction at any moment in a case of diabetes must, in the present state of our ignorance, be entirely conjectural. The whole of the argument as set forth by von Noorden and Mohr supports the derivation of the acetone bodies from fat, and it is clear that they are formed within the body, not in the alimentary canal. It may be admitted that the acetone could not all be formed from fat used as food; but there is nothing to show that it is not formed from the fat in the tissues.

Von Noorden attributes the presence of increased acetone in the urine to diminution in the amount of carbohydrate matter in the diet and quotes actual cases in which a great diminution of the acidosis occurred as a result of adding some carbohydrate to the restricted diet of diabetic patients. This is in accordance with the tendency of the present time in the treatment of diabetes not to put patients on so severely restricted a diet as in days gone by; and there seems no doubt that this procedure constitutes a definite advance; while the sudden cutting off of carbohydrates from a diabetic's diet has almost certainly before now resulted in the onset of coma. But, on the other hand, all physicians must be acquainted with cases which have exhibited acetonuria when they first came under treatment but which lost this symptom as a sequel of being put upon a more restricted diet (cf. Herter). It seems not impossible that such concomitant conditions as rest in bed may have some influence upon this phenomenon. Von Noorden himself admits that in diabetes the excreted acetone may suddenly decrease and then increase again without reference to the amount of carbohydrate food taken. At the same time it is quite in accord with the theoretical possibilities that defect in carbohydrate food should lead to some increased destruction of the fat in the body, to make up for the loss of a material which is not only important as a source of energy but is probably itself capable of being stored up—if not actually absorbed as Pavy maintains to be usually the case—in the form of fat.

Source of sugar.—Lastly, we have to consider the question of the source of sugar in diabetes. With regard to this question, attention had been chiefly directed to the possibility of the formation of this substance from the different categories of food materials. Thus it seems to have been satisfactorily established that sugar is excreted whether carbohydrate is given or proteid or fat is substituted. From this it is concluded that sugar is formed by the diabetic organism from all these kinds of food. I venture to suggest that to allege these experiments as a proof that all these materials are capable of being converted into sugar is to be guilty of the fallacy of proving too much. Is it not more probable that what is actually occurring is that the diabetic organism is continually forming sugar out of some of its own tissues, and continues to do so whatever kind of food is administered, than that by some extraordinary perversion of chemical change all these diverse materials are converted into sugar? We ought at all events to consider the more simple explanation very carefully before we reject it in order to adopt the more difficult, especially in the presence of the fact upon which I have already insisted to a degree which I fear may become tedious, that in the final stages of diabetes this internal formation of sugar is admitted to occur.

If we inquire what are the tissues which break down into sugar under these conditions the answer is not easy. It is generally assumed that it is the proteid or protoplasmic substance of the body, in view of the fact that the nitrogen excreted in the urine is increased and that this increase is to some extent proportional to the amount of sugar. Recently Baer has published some observations upon the subject, based on experiments made upon dogs poisoned with phloridzin, showing that the quantities of sugar, of acetone, and of nitrogen excreted, if graphically represented, follow very similar curves. Seeing, however, that the acetone is in all probability formed from fat, not from proteids, and yet follows a curve similar to that of the nitrogenous excretion we *have no right to conclude on this ground that* the source of the sugar is the proteid of the body The increased excretion of nitrogen may be connected with the breaking down of proteid as a consequence of the acid intoxication

Mandel and Lusk also maintain that sugar is derived from proteid finding in a case which they studied a constant ratio of dextrose to nitrogen in the urine On the other hand, Lépine states that diabetics may excrete more sugar than is accountable for either by their diet or by destruction of their proteid tissues and concludes that some of the sugar is formed from fat With regard to this suggestion it may be observed that it seems illegitimate to assume a double source for any substance appearing in the body until it is shown that its presence cannot be accounted for without such an assumption, in other words we must not lightly suppose the existence of two separate chemical reactions leading to one and the same result until it is shown that neither one alone is sufficient to explain the phenomenon If some of the sugar is formed from fat, may not it all be thence derived? Theoretical considerations lend considerable support to this suggestion It the first place, of all the substances within the animal body with the exception of glycogen fat is probably the most nearly allied to sugar From the point of view of theoretical chemistry the conversion of fat into sugar would seem to present no insurmountable difficulty The glycerine radicle of fat may be represented by the formula —

$$C_3H_5(OH)_3 \text{ or } \left\{\begin{array}{l} CH_2OH \\ CHOH \\ CH_2OH \end{array}\right.$$

By a series of substitutions of the group CHOH for one of the atoms of hydrogen we might theoretically get a substance —

$$\left\{\begin{array}{l} CH_2OH \\ CHOH \\ CHOH \\ CHOH \\ CHOH \\ CHO \end{array}\right\} \text{ or } C_6H_{12}O_6$$

—a typical sugar Secondly the production of sugar from fat has been experimentally demonstrated outside the body by Abderhalden and Rona who showed that if a mixture were made of liver tissue and blood with fats and oils some of these last were converted into sugar Thirdly some experiments performed by Luthje appear to prove that glycerine administered as food to animals may be converted into sugar within the system. *It seems certain therefore* that glycerine formed internally may undergo the same transformation That a liberation of glycerine takes place in pancreatic disease seems proved by the observation of Cammidge that it may appear in the urine under such conditions This observation, however constitutes a somewhat two edged argument, since if some of the glycerine formed within the body is excreted unchanged it might be asked why some should be converted into sugar Fourthly of the possibility of the conversion of fat into sugar within the body there seems no doubt since it has been shown that in hibernating animals such as the marmot —taking no food but merely absorbing a small amount of oxygen—there occurs an increase of the glycogen of the liver, with a corresponding decrease of the fat The fat must, therefore have been converted into glycogen and the further step to sugar is easy

If the origin of sugar from fat be really existent in diabetes it is of interest to note that both the substances most characteristic of the disease—the sugar and the acetone bodies—will be derived from destruction of the same tissue the acetone bodies arising from the fatty acid and the sugar from the glycerine radicle of the fat It is possible to bring forward various subordinate considerations drawn from the phenomena of natural and experimental diabetes to corroborate the suggestion of a disturbance of fat as the basis of the disease

1 In the first place the experiments made by Rosenfeld upon dogs which had been poisoned by phloridzin—experiments to which I have already alluded—suggest a serious disturbance of the adipose tissue in this condition which is closely similar to diabetes In phloridzin poisoning it seems possible that the fat is discharged into the blood from the stores of it existing in different parts of the body and is then taken up by the liver It must, however, be admitted that all the phenomena of phloridzin poisoning are as yet *inexplicable upon this or any other theory*

2 That a marked disturbance of the *body fat* takes place in dogs which have been deprived of their pancreases is shown by some experiments of Lombroso This observer was investigating the absorption of fat from the intestines in animals in which the pancreas had been removed and he found that more fat was excreted in the fæces than was given in the food, in other words, there existed an intestinal excretion of fat derived from the pre existing fat in the body Here, too it is clear that there must be a breaking down of the adipose tissue within the body of the animals These two conditions—phloridzin poisoning and removal of the pancreas—are the two most obvious forms of experimental diabetes, the probability that any special lesion which exists in both of them is also present in the natural malady is very considerable

3 But there are other phenomena pointing this way in diabetes itself *Thus it is not very rare in it to find that* the circulating blood is loaded with fat (lipæmia) This may occur in other conditions but it is most frequently met with in diabetes and is most marked in such cases It is reasonable to suppose in view of the conditions just alluded to as existing in experimental animals that here, too we have a rapid destruction of fat cells which not only give rise to sugar in the process of disintegration but allow a certain proportion of their contents to escape unchanged into the blood

4 In starving persons (tramps) and animals glycosuria is frequently met with (Hofmeister Hoppe Seyler) Under the same conditions it is found in animals that the fat content of the blood is increased (Fischer) This would appear to be another instance of a condition in which breaking down of fat is associated with glycosuria, while as previously mentioned the acetone in the urine is also increased in starvation so that the parallel with diabetes is very close

5 Further in diabetics it is not rare to find a fatty liver and the kidneys usually contain in their tubules some quantity of fat Fat is often found lying between the fibres of the muscles This fat may be simply taken up from the blood in which it exists in excess of the requirements of the tissues

6 The special cutaneous affection associated with diabetes —xanthoma—appears to consist in an accumulation of fat in the skin

7 The relationship of diabetes to obesity may perhaps be alluded to in this connexion, though it scarcely affords evidence in favour of the hypothesis Still the coincidence of the two conditions is of interest Fat diabetics as a rule *suffer comparatively* little from their malady It is possible on the one hand that many of them are not true diabetics but rather glycosurics Such patients suffer probably from no pathological destruction of fat due to deficient pancreatic secretion, but they may in presence of the increased amount of fat in their connective tissue produce by its normal disintegration an abnormal amount of sugar, for it is not impossible that the excessive destruction of fat in diabetes—like so many if not most pathological processes—is only a quantitative change in a normal process in other words that some breaking down of fat into sugar is a constantly occurring change natural to the organism but that it is increased to a harmful extent in diabetes owing to loss of the regulating action of the pancreas On the other hand in fat persons who become the subjects of true diabetes the supply of fat to start with being larger, they will be able to hold out longer against the drain of fat

8 Lastly the benefit derived in many cases from the use of fat in the diet may be connected with the destruction of the natural fat of the body produced by the disease

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if diabetes be really due to the ac [illegible] a poison which causes a breaking down of adipose tissue, it might not improbably also induce some defect in the processes by which these cells assimilate fat If they are poisoned they

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in defective storage of [illegible] actual destruction of existing fat *If this be so* a bond will be established between the alimentary and the composite forms of the malady, without the necessity for the sharp distinction which

I emphasised for the sake of the argument in my first lecture.

Of the mechanism, if it be so called, of the storage and distribution of fat little seems to be known. It seems to be established, however, that cells of connective tissue do not directly swallow droplets of fat but that they break down the fat into some soluble material and absorb this, reconstructing fat within their own bodies. In the same way it is stated that in normal circumstances the fat within a cell is not directly discharged into the surrounding fluids, though this occasionally takes place; more often an analysis and a synthesis of the fat are effected, similar in all probability to those by which the process of storage was performed. It is not a very wild conjecture to suppose that the intermediate soluble substance in each process is either sugar or some closely allied substance while the comparatively rare direct discharge of fat from the cell may take place to an excessive extent in cases characterised by the appearance of liphæmia.

I would make no pretence to conceal the fact that the argument which I have set forth with regard to the source of sugar in diabetes is highly speculative and has little actual evidence to support it. It is quite possible, on the other hand, that since the protoplasmic constituents of the body contain both carbohydrate and fatty elements it may be by disintegration of proteid that sugar and even acetone are formed. The parallelism of the excretion of sugar, acetone, and nitrogen seems to point in this direction and the phenomena of phloridzin poisoning and starvation are susceptible of explanation on this basis. Lépine's observations are, however, important. The whole question is one which time and continued observation and experiment must be left to answer. At present, in spite of the immense amount of work which has been done on this subject, the results are contradictory and inconclusive.

Finally, if diabetes be due to the action of a poison which is normally neutralised by the pancreas, we are in the presence of two factors which interact to produce the disease. It is conceivable that in some cases the poison may be produced in excess of the power of the pancreas to neutralise it, even when the organ is only slightly affected, and that this may be the explanation of some of the cases in which we fail to find noteworthy anatomical changes in it after death. Of the seat of the formation of the toxin we have no indication, but it is not impossible that the benefits derived from restriction of carbohydrate diet arise less from mere limitation of the amount of sugar present in the blood than from the cutting off of the source of the poison which may be derived from carbohydrate metabolism. On the other hand, Dr. Lorand who was good enough to set his views before me in a personal interview, believes that an excess of animal food in the diet of a diabetic patient is harmful as tending to cause an excessive secretion of the colloid substance of the thyroid gland, this being, in his opinion, the poisonous substance at work. In view of this suggestion it would be interesting to observe carefully cases of obesity which are undergoing a course of treatment by thyroid extract in order to ascertain whether they exhibit glycosuria, but I have not had the opportunity of observing such a case since undertaking this inquiry.

In conclusion, then, I would venture to sum up the views which I have suggested as embodying a possible explanation of the phenomena of diabetes and the arguments by which they were reached.

1. Excess of sugar in the blood, which is the condition precedent of glycosuria, may be caused by over-production of sugar in the system or by diminished use or excretion. There is practically no evidence of either of these last processes. There is convincing evidence that at one stage, at all events, of diabetes there is increased production.

2. Over-production of sugar may depend upon some digestive irregularity, whereby more sugar than normal is poured into the blood from the food or upon manufacture of sugar from the tissues of the body. We have sufficient evidence that both these processes are at work in diabetes, in that at first the output in the urine can be controlled by limiting the diet, whereas later this is not possible. But whereas there are a considerable number of conditions in which sugar appears in the urine apparently as a result of absorption of additional sugar from the alimentary canal—these conditions being identical with diabetes only in the single fact of the appearance of sugar in the urine, while they run an entirely different clinical course—it is in diabetes mellitus alone that we have at any time evidence of formation of sugar from the tissue cells of the patient. This autolytic formation of sugar, if it may so be called, is the characteristic feature of diabetes in so far as the production of sugar is concerned.

3. It involves less of an assumption to suppose that this autolytic formation of sugar is present in diabetes all through the disease than to suppose that it ensues after a time as a result of the presence in the blood of excess of the very substance—sugar—into which the cells finally break down. The absence of proof of the existence of this process in the early stages of the disease, when the glycosuria is controlled by diet, may be due to the body possessing a certain power of utilising sugar in its nutritive processes, so that only the excess above a definite quantum appears in the urine.*

4. There is sufficient evidence available to establish beyond the possibility of doubt the fact that there is some connexion between the pancreas and diabetes. Although it is not yet proved, yet it is becoming increasingly probable that the pancreas is diseased in all cases of diabetes mellitus. An increasing bulk of evidence is also accumulating to show that the function of the pancreas which is in abeyance in diabetes is normally performed by certain special groups of cells known as the islands of Langerhans, which are distinct from the ordinary secreting cells of the gland, but which are not improbably formed from the acini. The special lesion of these islands—hyaline degeneration—which has been associated with diabetes by some writers, is not present in all cases of the disease and may be found (in a less developed state) in other conditions.

5. The action of the pancreas may be exerted in the direction either of supplying a substance necessary for the assimilation of sugar by the cells of the body or in that of counteracting a poison which in some way causes accumulation of sugar in the blood. There is little or no evidence in favour of the former possibility; in favour of the latter there are the results of experimental intoxication with phloridzin, with suprarenal extract, and with other substances, and a few inconclusive results obtained by injection of secretions derived from diabetic patients.

6. We are not yet in a position to state with any certainty what tissue in the body gives rise to the sugar formed in diabetes. The theoretical possibility that sugar may be derived from fat is supported by certain observations which prove that a serious disturbance of the adipose tissue exists in diabetes. Further, if this hypothesis be admissible a certain unity will be introduced into our conception of diabetes, the phenomena of which will be explicable as manifestations of a single process occurring in a single tissue.

7. Lastly, glycosuria as opposed to diabetes may be due to mere excess of sugar poured into the blood from the alimentary canal in excess of what the system is capable of assimilating; or it may be due to causes acting analogously to the diabetic puncture of Claude Bernard and leading to a discharge of sugar by the liver from its stores of glycogen.

If the views here set forth are correct it follows that in its earliest stage the diabetic process may constitute rather a predisposing cause of glycosuria than the actual cause of the phenomenon, since the breaking down of the tissue-cells into sugar is at first not more than sufficient to saturate the sugar-assimilating powers of the system. At this stage a slight increase of saccharine food will produce glycosuria—an increase which in a normal person would not have this effect. Similarly a slight nervous shock sufficient to cause the liberation of only a comparatively small quantity of glycogen from the liver would also augment the sugar present in the blood above the point at which it appears in the urine. In such a way the onset of true diabetes might be ascribed to a shock when in reality it was previously existent but unnoticed. As far as definition is possible, then, diabetes might be defined as an increased internal dissociation of tissue (possibly fat) into sugar, caused by a toxic substance which is produced in the course of normal metabolism and which is normally neutralised by the pancreas.

I venture to think that such an explanation harmonises better than what I may call the alimentary hypothesis with the trend of opinion in the matter of treatment. A comparatively few years ago, on the supposition that the sugar present was the poison at work, it was customary to put patients upon a severely restricted diet and to gauge the progress of the case entirely by the fluctuations in the amount of sugar present in the urine. It is now recognised that such a strict diet as was formerly fashionable is harmful to the sufferer and may even lead to an early appearance of coma, Indeed, the amount of sugar present in the urine is but a fallacious guide in estimating the condition of a patient. It is, perhaps, a criterion of some value when a patient first comes for treatment, as showing the stage which the case has reached and the amount of glycosuria which persists when the patient is on a restricted diet is some measure of the severity of the disease; but *a patient taking some carbohydrate food and excreting* more sugar may be in a better condition than one on a strict diet excreting a much smaller quantity. Nevertheless, we can hardly doubt that the presence of more than a certain percentage of sugar in the blood must by altering the density of the fluid, if not also in other ways, be detrimental to the organism; and we remain in presence of the old difficulty, how to feed the patient adequately and yet diminish the amount of sugar in the circulation. Nothing seems more certain with regard to the treatment of diabetes than that each patient must be a law to himself and that no general rule can be laid down for guidance. In some cases more and in others less carbohydrate food can be tolerated.

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[illegible] and Gentlemen, for your patience in listening to these lectures and can only express my sincere regret that I have not been able to acquit myself more worthily of the responsible task which you did me the high honour of intrusting to me.

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GALL-STONES AND CANCER.

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THE relation between gall-stones and carcinoma of the gall-bladder has given rise to much discussion in the past, and lately interest in the subject has been revived by the Bradshaw lecture on the Treatment of Cancer and by the subsequent correspondence. The point is of great importance in reference to surgical practice, and I trust that no apology is needed for the publication of the following observations which may help in the elucidation of the matter. This paper makes no pretence to be an exhaustive discussion of the subject but merely gives a brief account of a series of interesting cases that have occurred recently in the post-mortem room of the London Hospital and suggests certain conclusions that seem deducible therefrom. The figures are based upon the pathological records for the last 26 months, a period which coincides with the working of a new and *more accurate system of registration. Increasing interest* led me to examine the surgical registers also for the same period; but though I have ventured to touch upon the surgical as well as the pathological aspects of the question, my point of view has been essentially that of the morbid anatomist and any suggestions with regard to surgical practice are made with diffidence in the consciousness of trespass.

I must express my great indebtedness to the members of the surgical staff of the London Hospital for their kindness in permitting me to make mention of the cases under their charge.

PATHOLOGICAL ASPECTS.

1. *Frequency of gall-stones.*—In 2180 consecutive complete necropsies there were 33 cases in which gall-stones were either found in the gall-bladder at the post-mortem examination or had been removed by operation at a short interval before the patient's death. The low percentage proportion (1·5 per cent.) as compared with several similar series is probably explicable by the very large number of deaths occurring in the first three decades; for while Conradi[1] found gall-stones in 2·4 per cent. of 4000 necropsies on adults, Peters[2] found stones in only 0·62 per cent. of subjects under 30 years of age. In the present case it did not seem profitable to calculate the relative incidence at different ages, for the main interest lies in the absolute figures. In 17 of the 33 cases the gall-stones were "latent" and were discovered only at the necropsy. In the remaining 16 cases gall-stones and complications caused thereby were

[illegible] *ssociated with the presence*
[illegible] "latent" cases the wall of the gall-bladder was not thickened and its mucous membrane appeared perfectly healthy. No microscopical examination was made. In the remaining case the wall of the gall-bladder was thickened, shrunken, and closely moulded over three large rough gall-stones, so that no cavity remained. Microscopical examination of the wall showed carcinoma. (*b*) Of the 16 cases in which gall-stones produced *symptoms, in one case the* gall-bladder had been removed for carcinoma shortly before the patient's death. In three cases the condition was pronounced to be carcinomatous on the post-mortem table; in two instances the opinion was confirmed by microscopical examination; in the remaining instance the macroscopic appearance of the growth was such as to satisfy competent pathologists of its malignant nature. In 12 cases the wall of the gall-bladder presented an appearance which at the time of the necropsy was described as "chronic inflammatory thickening." In seven of these cases, unfortunately, no microscopical examination was made but in every one of the remaining five cases subsequent histological investigation showed the presence of carcinoma.

3. *Association of carcinoma with gall-stones.*—From the facts just stated it appears that carcinoma of the gall-bladder was found: (1) in 30 per cent. (10 in 33) of all cases of gall-stones; (2) in 56 per cent. (9 in 16) of all cases where gall-stones had caused symptoms during life; and (3) in 58·8 per cent. (10 in 17) of all cases in which at the necropsy the wall of the gall-bladder showed "inflammatory thickening." These figures are sufficiently startling but there can be no doubt that they understate the true proportion. It should be noted particularly that in this calculation the seven cases which were not submitted to microscopical examination have all been reckoned as non-cancerous, although to the naked eye they presented an appearance exactly similar to that of the five cases which were examined and proved to be carcinomatous. Since I began in all such cases to examine the wall of the gall-bladder as a matter of routine I have in no instance failed to find indubitable carcinoma; hence I do not hesitate to suggest that had all the cases been examined the percentage showing cancerous change would have been very much nearer 100 than 58.

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[1] Nothnagel's Encyclopædia, English edition, Diseases of Liver, Pancreas, and Suprarenal Glands, p. 548.

[2] Op. cit., p. 546.

MICROSCOPICAL APPEARANCE OF THE WALL OF THE GALL-BLADDER IN SIX OF THE CASES OF CARCINOMA.

(From Micro-Photographs by Mr. E. Wilson of the Photographic Department of the London Hospital.)

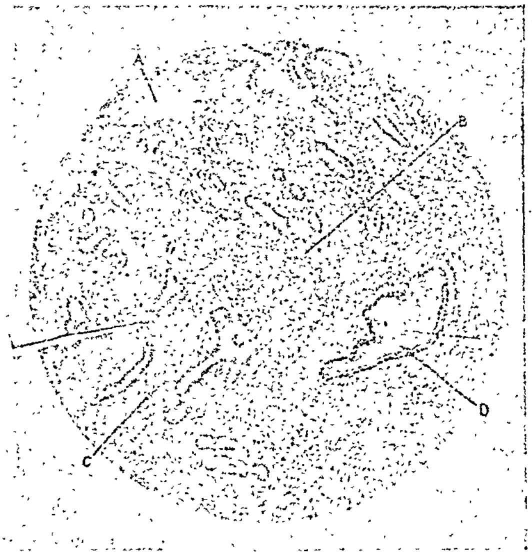

FIG. 1.—Columnar-celled carcinoma. A, Lumen of gall-bladder. B, Muscle bundle. C, Dense connective tissue. D, Irregular alveolus lined by columnar cells.

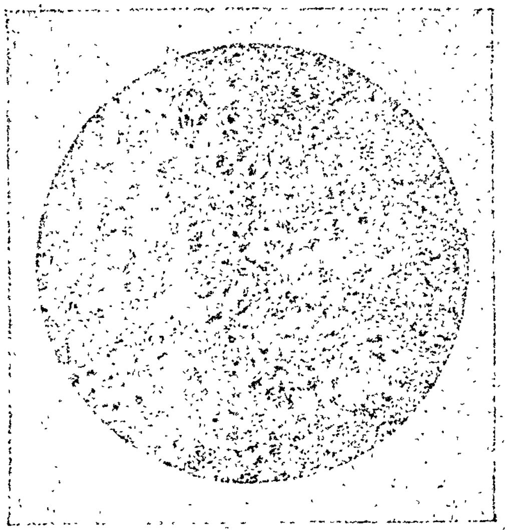

FIG. 2.—Scirrhous carcinoma.

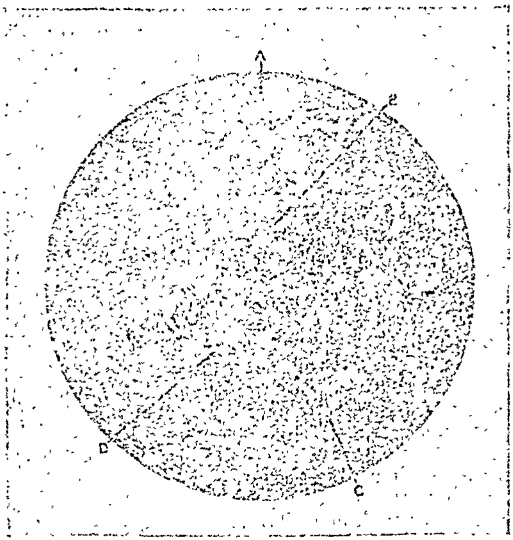

FIG. 3.—Cubical-celled carcinoma. A, Lumen of gall-bladder. B, Remains of atrophic muscular coat. C, Fibrous tissue. D, Alveolus lined by low cubical cells and devoid of basement membrane.

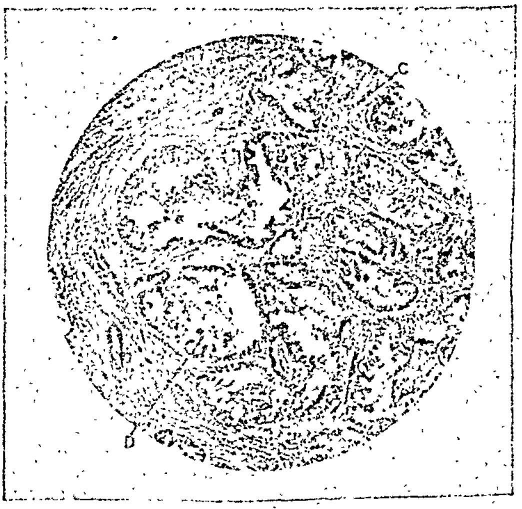

FIG. 4.—Columnar-celled carcinoma. C, Thick strand of dense fibrous tissue. D, Alveolus lined by columnar cells.

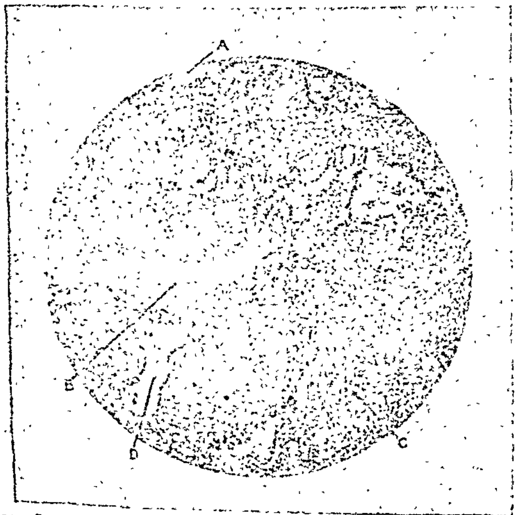

FIG. 5.—Columnar-celled carcinoma. A, Lumen of gall-bladder. B, Muscle bundle. C, Fibrous stroma. D, Alveolus lined by columnar cells.

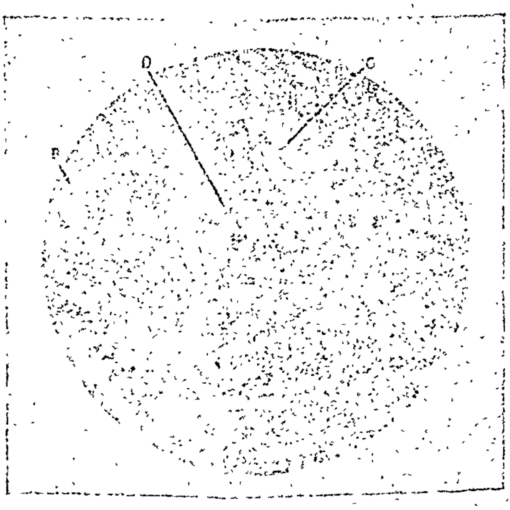

FIG. 6.—Cubical-celled carcinoma. B, Muscle bundle. C, Very dense fibrous tissue. D, Alveolus lined by cubical epithelium.

4. *Causal relation between gall-stones and carcinoma.*—This question is excellently discussed in Rolleston's recently published monograph on "Diseases of the Liver."[3] It is enough here to say that most authorities now agree in regarding gall-stones as cause and carcinoma as effect. The present series of cases lends strong support to this view of the relation if regard be paid to the following considerations: 1. In two cases symptoms attributable to the presence of gall-stones were of long duration. 2. In five other cases considerable fibrous thickening of the wall of the gall-bladder, in itself evidence of long-continued irritation, was associated with a very early stage of carcinoma. 3 In reference to the other cases it is to be noted that, while prolonged symptoms are valuable evidence, brief duration or absence of symptoms is of little importance, for it is notorious that gall-stones may be absolutely latent throughout.

It occasionally happens that no gall-stones are found in cases of carcinoma of the gall-bladder and this occurred in two instances during this period at the London Hospital. In one case, that of a woman, aged 61 years, it was impossible to determine accurately whether the growth had originated in the gall-bladder or the liver; the other case was that of a man, aged 70 years, who died very soon after admission in consequence of a street accident, so that there was no opportunity of inquiring for a possible history of previous biliary colic. In all such cases it must be remembered that absence of gall-stones at the necropsy is not positive evidence that the gall-bladder has never contained a stone and while it is conceivable that carcinoma of the gall bladder may occasionally arise apart from irritation caused by gall-stones there seems to be nothing in the two cases quoted to give unequivocal support to such a view.

In reference to the development of carcinoma it is an interesting point that of the 33 cases of gall-stones, in 16 the gall-bladders contained smooth stones and their walls were thin and healthy. In 17 (ten at least of which were carcinomatous) there was evidence of chronic inflammatory change in the wall of the gall-bladder and in the majority of these cases the calculi were rough; and these facts seem to suggest that the mere presence of gall-stones is insufficient to set up carcinomatous change and that some additional factor is necessary, such as: (1) a rough calculus, causing continued irritation; (2) infective cholecystitis, with or without the formation of pus; or (3) a combination of these conditions.

SURGICAL ASPECTS.

During the period under review abdominal section was done on 61 occasions because of the presence of stones in the gall-bladder and complications arising therefrom and in one additional case the patient's condition was such as to render operative interference hopeless. 17 of these patients died; in four cases a post-mortem examination was not permitted; in four cases a necropsy was made but the wall of the gall-bladder was not examined by the microscope, in nine cases there was carcinoma of the gall-bladder. 45 patients recovered; in two of these cases carcinoma was found in association with gall-stones and the gall-bladder was removed; of the remaining 43 cases the majority showed hydrops or empyema of the gall bladder and in no instance, so far as could be determined on the operating table, was there more than a simple inflammatory thickening of the wall of the gall bladder.

In view of the post-mortem findings already related it seems probable that some of these patients already had carcinoma of the gall-bladder in a stage too early for recognition by the naked eye; and I hope shortly to trace the after-history of these cases, though such a task is difficult and often disappointing in a hospital which serves a widespread and shifting population. It follows that of 62 patients in whom operation was called for owing to the presence of stones in the gall-bladder 11 (nearly 18 per cent) were shown either at the time of operation or by post-mortem examination to have carcinoma of the gall-bladder. And here I must emphasise the point already mentioned that these figures are minimal and in all probability are far below the true percentage ratio, for in this estimate every case in which a full examination was impracticable or was omitted has been accounted innocent, whereas every case that was submitted to a complete investigation proved to be carcinomatous.

The word "pre-cancerous" is in fashion at present and undoubtedly it has done good service in drawing general attention to the intimate connexion which exists between [illegible] development of carcinoma, not [illegible] also of the breast, the tongue, [illegible] But an indiscriminating use of the word may actually be a bar to progress and lead one to prejudge the issue in cases which are admittedly doubtful, and it would be at once more useful and more accurate to apply the term not to this or that diseased tissue which may or [illegible] easy to remove a piece of tissue for histological examination, it may be argued that the word "pre cancerous" is a convenient label for cases on the borderland between inflammatory hyperp[illegible] conventional use, tho[illegible] it be borne in mind [illegible]wen." But in the case[illegible]dinary investigation is impracticable the only recognisable "pre-cancerous" condition—if that word is to have any helpful significance—is the presence of gall stones in the bladder, and in view of the very frequent association of gall-stones with carcinoma and of the impossibility of recognising the early stages of carcinoma at the time of operation, I suggest that it would be sound practice, wherever it is surgically feasible and no obstruction of the common duct exists, to remove the gall bladder in all cases where "chronic inflammatory thickening" is found in association with gall-stones[4] There is here no possible objection on the score of mutilation such as might deter one from making a similar proposal with reference to the tongue and possibly also the female breast, and the gall bladder, like the appendix cæci, though doubtless serving some useful purpose in the human organism, must still be considered rather a luxury than a necessity of existence. I am conscious of the danger of drawing inferences from a somewhat limited experience and it may be that extended investigation will show that mine has been unusual, but should these conclusions be substantiated I would urge that cholecystectomy should be done at the earliest possible moment, not only on the general

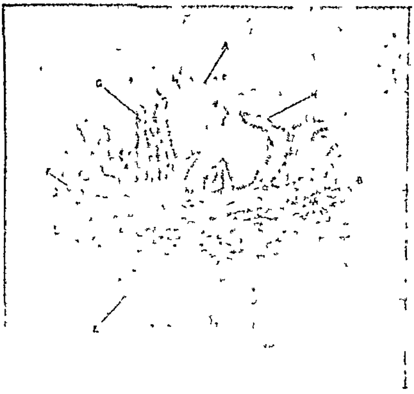

FIG 7—A semi diagrammatic representation of the normal gall bladder from a woman aged 53 years. It is introduced for comparison with the micro photographs of the cases of early cancerous change A, Lumen of the [illegible]

principle that prevention is better—and easier—than cure but especially because of the notoriously high mortality that follows operative measures even in early and still eradicable cancer of this organ—a point that is emphasised by the present series wherein of 11 patients with carcinoma who were submitted to operation no less than nine succumbed.

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[3] Page 627 et seq

[4] A minor but not unimportant consideration is that removal would do away with the need of drainage and prevent the possibility of a biliary fistula remaining

Conclusions.—1. The association between carcinoma of the gall-bladder and gall-stones is very close. 2. Gall-stones may be looked upon as the determining cause of cancer of the gall-bladder. 3. Thickening of the wall of the gall-bladder is presumptive evidence of carcinomatous change. 4. Cholecystectomy should be performed whenever possible if any thickening of the wall of the gall-bladder be found at the time of operation.

Abstracts of eight cases of carcinoma of the gall-bladder which were examined by the writer, micro-photographs being appended in six of the cases.

CASE 1 (Fig. 1).—Female, aged 54 years. She had had several attacks of colic, each followed by transient jaundice, during the last nine months of life. At the operation three large stones were removed from the common duct. The gall-bladder was opened and drained. Death ensued in a few hours. At the post-mortem examination there was dilatation of the common and the cystic ducts. The cavity of the gall-bladder was diminished and its wall was thick and fibrous.

CASE 2 (Fig. 2).—Female, aged 64 years. A history of vomiting, increasing constipation, and pain in the right hypochondriac region for six weeks was obtained. No operation was performed. At the post-mortem examination 45 stones were found in the gall-bladder and one in the cystic duct. Near the neck of the gall-bladder was a nodule of firm growth which had begun to invade the liver.

CASE 3 (Fig. 3).—Male, aged 43 years. There was a history of acute onset of colic, with jaundice and enlargement of the gall-bladder Cholecystotomy was performed and numerous stones were removed. Intractable vomiting supervened and death followed speedily. At the post-mortem examination the gall-bladder was dilated and its wall was fibrosed.

CASE 4 (Fig. 4).—Female, aged 61 years. She had had attacks of colic at intervals for five years. At the operation the gall-bladder was opened and many stones were removed. Death ensued five days afterwards. At the post-mortem examination a mass of growth was found projecting into the cavity of the gall-bladder at the fundus, and the greater part of the wall was infiltrated.

CASE 5.—Male, aged 60 years. There was a history of a transient attack of jaundice two years before death, with subsequent passage of a gall-stone by the anus. Severe colic and vomiting occurred 20 months later, followed by jaundice, which persisted. At the operation a stone was removed from the common duct. At the necropsy the gall-bladder was represented by a small cavity with greatly thickened fibrous wall, closely adherent to the surrounding structures. The microscopic section showed early cancerous change.

CASE 6.—Female, aged 43 years. A history of illness of one year's duration, with symptoms suggesting pyloric obstruction, was obtained. At the operation the stomach was found to be greatly dilated and there were dense cicatricial adhesions just beyond the pyloric ring. Posterior gastro-jejunostomy was performed. At the necropsy the gall-bladder contained several large gall-stones and its wall was indurated and enormously thickened. The mass was adherent to the first part of the duodenum and caused great narrowing of its lumen. The microscopic section showed early cancerous change.

CASE 7 (Fig. 5).—Female, aged 51 years. A history of attacks of colic and vomiting for six months was given. There was a palpable mass in the region of the gall-bladder. Exploratory abdominal section showed that operative treatment was impossible. At the necropsy the gall bladder was replaced by a large mass of indubitable new growth in which were several gall-stones.

CASE 8 (Fig. 6).—Female, aged 46 years. There was a history of attacks of abdominal pain and vomiting for several months, followed by
of the gall-bladder. At the operation
ontain pus and numerous gall-stones
all at the fundus was a fungating mass
was performed. Death was due to

London Hospital, E.

THREE CASES ILLUSTRATING THE CONDITION OF THE SMALL INTESTINE SOME YEARS AFTER EXTENSIVE ENTERECTOMIES.[1]

BY ARTHUR E. J. BARKER, F.R.C.S. ENG.,
SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

THERE must be few surgeons now who do not recognise the peculiarly disastrous effects of paralysis of the bowel in advanced intestinal obstruction. These make themselves evident to the operator in many ways before, during, and after the relief of the obstruction, and are unfortunately so often seen that they require no comment here. But few of us are likely to have many opportunities of seeing the effects of this paresis on the *living* gut *years* after the relief of severe obstruction. Three such opportunities have fallen to my lot quite recently and it seems desirable that they should be put on record, emphasising, as they do, some points of fundamental importance in the treatment of acute intestinal obstruction.

The two first patients concerned were both women. They were admitted some years ago for gangrenous femoral herniæ and in both I was obliged to resect long tracts of small intestine in order to obtain relatively sound tissue for the anastomosis. Both made a satisfactory recovery from these operations but were readmitted in October, 1904, for operations in the course of which it was possible to examine the original seat of the enterectomies. In both it was most interesting and instructive to observe that, though the communication between the two portions of the bowel was perfect and as wide as possible, the afferent or proximal portion still showed unmistakeable signs that it had not yet recovered its former tone as contrasted with the efferent or distal portion which was normal. The significance of this observation appears to me very great both from a medical and a surgical point of view and so far as I know has not yet attracted attention at home or abroad.

A description of the first operation in each case has already been published and it is only necessary here to state that, in the first, 18 inches of small gut were removed in June, 1899, on account of a gangrenous femoral hernia. This was done through the femoral ring, Poupart's ligament being divided to permit of the reduction of the anastomosed bowel and ligatured mesentery into the abdomen. The junction was "end-to-end." In the second case, also of gangrenous femoral hernia but in a much graver condition, the gangrenous loop was on Feb. 23rd, 1903, cut away below the femoral ring and then the ligatured ends were passed into the abdomen and brought out through a median incision where six and a half feet of damaged small intestine were taken away from the proximal portion and a *lateral* anastomosis was made.

Case 1 was readmitted on Oct. 24th, 1904, for the radical cure of double hernia—*i.e.*, *five and a half years after* the enterectomy. A large femoral hernia was found to exist on the left side in the seat of the first operation and a moderate-sized inguinal hernia on the right The patient was very stout. The left hernia contained much intestine the movements of which could be seen through the thin coverings and was obviously due to the weakening of Poupart's ligament by its division in the earlier operation. On Oct. 27th the usual operation was done for the radical cure of this hernia.

When the sac was opened I took the opportunity of examining the contained bowel before it was reduced in the hope of finding the anastomosis. Fortunately, it was there and its condition could be demonstrated to a large number of those present in the operating theatre. When drawn forward and laid on a layer of white gauze we could see that the two portions lay accurately in line and that the junction was as smooth as the rest of the bowel and without a trace of adhesion to any other structure. It was marked by faint white streaks indicating the seat of the sutures all of which had completely disappeared. There was not the slightest sign of contraction or narrowing. But what struck us all most forcibly was that all the bowel distal to the anastomosis was in a state of very active vermicular movement and was contracted to a small size while that above the junction was smooth, sluggish, somewhat thinner, and of considerably larger lumen than that below. I drew the coil forward and stretched it gently but this made no difference in the relative sizes of the two portions. It was, in short, evident that the original paralysis of the bowel above the obstruction had left behind it a certain want of tone in the muscular wall of the proximal portion or blunted nervous irritability. The only other trace of the original operation was a tiny adhesion of an adjacent coil to the mesentery close by which I did not think it worth while to divide. After clearing up these points of interest the bowel was reduced and the radical cure was completed. The other inguinal hernia was operated on a week later on which occasion the first was found blamelessly healed per primam. The patient left hospital well on Nov. 26th.

Case 2 was readmitted on Oct. 14th, 1904, suffering from intestinal obstruction of some days' standing. Suspecting a band of adhesion from the former operation in February, 1903, I opened the abdomen above the median scar and found several very firm adhesions between the stump of the mesentery and the lower end of the scar. Round these

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[1] A paper read at the Clinical Society of London on March 24th, 1905.

adhesions some coils were kinked These were released and I drew out the intestine and obtained a good view of the old lateral anastomosis of 21 months before Here too, it was extremely interesting to note that though the opening between the two portions was widely patent the proximal, as far up as it was exposed, was of considerably larger size than the distal Both were contractile but the lower more so than the upper Several adhesions were left undisturbed and the abdomen was closed Convalescence was uneventful and the patient left hospital quite well on Nov 7th

These two observations made *intra vitam* on patients suffering from no general disease and quite healthy at the time except for the local condition, fill up to a certain extent a gap in our knowledge as to the changes which take place in an intestine above an acute obstruction, and as to the *period during which these effects may remain after the latter* has been relieved It might at first sight appear almost incredible that evidence of want of tone in the bowel should exist several years after the cause had been removed But we see the same thing elsewhere frequently For instance who does not know the cold congested appearance of a limb which perhaps months or even years before has been the seat of some inflammatory septic condition such as erysipelas In this case the tissues have been saturated with toxins just as the walls of the intestines have been and the result has been atony of the coats of the vessels of the

even paræsthesia

the distal portion of

nergetically under the

the proximal part up

to the line of anastomosis was sluggish and almost quite indifferent to the same stimulus And when we come to reflect upon what actually takes place in the walls of the intestine above an acute strangulation we must admit that there is little cause for wonder if the *effects should last for a long* time Should the obstruction remain unrelieved for long we all know the dilatation of the gut above which follows accompanied at first by increased peristalsis but terminating before long in paresis or complete paralysis This paralysis is probably not entirely due to exhaustion of the muscular coats from overstrain but is the result of the saturation of all the tunics of the bowel with toxins developed in the fermenting contents That this is so seems to me proven by the fact which every surgeon must have observed over and over again—i e , that when a bowel is examined above a bad obstruction it will be found in many cases œdematous for several feet on the proximal side of the strangulation This need not be due to the presence of ulceration at the point This condition, which is so common in the bowel just above an obstruction and for a foot or two upwards, might explain the œdema locally But far above this the œdema extends where no breach of surface can be detected, at all events with the naked eye

In Case 2 I found œdema more than six feet above the strangulation when I was making the anastomosis at that point We see, also further evidence in a submucous ecchymosis associated with the œdema In another case, where I removed five and a half feet of small intestine for acute strangulation the œdema was so marked in the proximal portion while the "end to end" anastomosis was being made that I was in serious doubt as to whether the vitality of the bowel was sufficient for repair Happily it proved to be so and the patient made an excellent and uninterrupted recovery That such toxins are intensely irritating on other surfaces is well seen on the skin soon after an artificial anus has been made to relieve a bowel damaged by acute obstruction In a case recently operated on for this condition the ulceration of nearly the whole of the abdominal surface was the most formidable complication in the subsequent treatment of the case Again, the œdema is not seen in the earlier stages of acute obstruction before the ferment toxins are developed in the retained contents but it is found in neglected cases in increased intensity and extent in proportion to the duration of the obstruction and possibly also in relation to the quality of the aliment previously given to the patient But though I have been for years alive to these changes in the bowel wall and have planned my resections and "short circuit" operations with due regard to them I confess I was hardly prepared to find evidence of more or less paresis of the proximal part some years after the obstruction had been relieved

This has all to be taken into account also in cases where we elect to perform a short circuit round an obstruction as Case 3 shows, *which has come under notice since this* paper was sent in to the society This was a case of a man, aged 29 years who was admitted into hospital two years ago for acute obstruction grafted on a chronic condition which we diagnosed to be probably cancerous in the hepatic flexure of the colon He had stercoraceous vomiting and much distension &c I opened the abdomen below the navel and found greatly distended small bowel This was slit open over a basin and gave exit to large quantities of gas and fluid fæces It was then possible to explore further and I found the cæcum and ascending colon distended and the descending colon and sigmoid flexure empty and shrunken The obstruction, therefore, was obviously between the two regions I then united the lower part of the ileum to the sigmoid flexure side to side and closed *the evacuation opening Recovery followed but the man would* not stop in hospital for the resection of the growth but promised to return as soon as he had arranged his business affairs However, he did not appear until about three weeks ago When I opened the abdomen last Thursday week the growth was found too extensive and fixed under the liver to justify removal and I closed the wound But before doing so the "side to side' junction was examined and the place where the evacuation opening had been made and closed Both were in perfect condition no traces of the black thread sutures being seen *and not* the smallest suspicion of adhesions to surrounding parts where the bowel had been stitched and manipulated , all was smooth over the white lined cicatrices Nevertheless, as in the other cases, the proximal and in this case the distal portion between the anastomosis and the cæcum about eight or ten inches were still in a state of atony and contrated markedly with the upper part of the ileum and jejunum which could be seen contracting in active vermicular action The man s health had been excellent since *the first operation and his bowels quite regular* and motions normal Incidentally I may express the regret that this poor fellow did not redeem his promise of returning for the removal of the growth before it grew too extensive and fixed for excision For he is still in good condition, though now losing colour and strength from generalisation and complains of nothing else

When we find such changes in the intestines as those just described even years after the cases have been relieved we are more than ever *driven to the conclusion that in* acute strangulation we must operate before they can have had time to develop And if this be impossible we must not hesitate where resection is necessary to remove large tracts of bowel in order to get well above the paralysed portion, saturated as it is with toxins and so devitalised In another respect the first two cases offer us a valuable hint by contrast In Case 1 the resection was performed through the femoral ring and the difficulty of doing so was well exemplified It was not so much the "end to end ' suture which gave trouble though this is much easier through an abdominal wound *But when the mesentery corresponding* to the 18 inches of resected bowel had been tied off and sutured side to side a mass was formed of such a size that it was impossible without the exertion of more force than the sutured bowel would stand to reduce it through the femoral ring I was therefore obliged to enlarge the opening by dividing Poupart s ligament in order to get it back The result of this was a large femoral hernia in course of time Taught by this I determined in the next case to cut away the gangrenous loop after tying the bowel above and below and then to pass the stumps carefully covered with gauze into the abdomen and then out again through a median incision in the abdominal wall for the performance of the extensive enterectomy (six and a half feet) which was necessary Here of course, there was no trouble with the mesentery in slipping it under Poupart's ligament and the femoral opening could be closed by a few stitches The result is that up to the present now more than two years there is no trace of hernia which was so marked in Case 1 This procedure of suturing the stumps and returning the bowel after removal of the gangrenous loop and performance of the rest of the enterectomy through a median incision appears to me the typical method of dealing with the condition

This paper is a natural sequel to some papers on Enterectomy for Gangrenous *Hernia published in* THE LANCET in 1903[2]

Harley street W

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[2] THE LANCET May 30th (p 1495) and June 6th (p 1576) 1903

A FURTHER NOTE ON THE RELATION BETWEEN VARIOUS ATMOSPHERIC CONDITIONS AND THE OCCURRENCE OF CEREBRAL HÆMORRHAGE.

By JAMES W. RUSSELL, M.A., M.D. CANTAB., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE BIRMINGHAM GENERAL HOSPITAL.

IN THE LANCET of Jan. 28th, p. 222, I tried to discover whether any positive evidence could be obtained in favour of the suggested influence of variations in atmospheric pressure and temperature in determining the onset of cerebral hæmorrhage, with the result that in a series of 128 consecutive cases admitted into the Birmingham General Hospital five out of every nine were found to occur on days on which the barometric pressure was above the average. Temperature was not found to exercise any influence but a large preponderance of cases occurred on days on which a wind pressure below the average was recorded. In a letter to THE LANCET of Feb. 4th, p. 322, Dr. W. H. Symons pointed out that the inequalities shown by my figures would be satisfactorily explained if there existed an actual preponderance of days of atmospheric pressure above the average in the years involved in the inquiry. This very obvious explanation had not occurred to me and on putting it to the test I find that it completely accounts for the excess of cases observed not only on days of high barometric pressure but also on days of low wind pressure. The point is not one of great importance, as the evidence obtained was at most inconclusive; but as my figures are, so far as I know, the only ones existing on the subject I feel bound to correct the inferences tentatively drawn from them. I have the less regret in doing so as my paper was not written with any desire to make out a case in favour of the suggested connexion; and that the present results are far more in accord with physiological probabilities

In the 12 years under examination there were 4377 days on which the *atmospheric pressure was above the average as* compared with 2043 days when a pressure below the average was recorded. This preponderance of days of higher pressure would account for the occurrence of 68 out of my 128 cases on those days, leaving 60 for days of pressure below the average level. The actual numbers obtained were 71 and 57 respectively, and it therefore seems clear that the excess of cases occurring on days of higher pressure is entirely accounted for by the larger number of those days existing in the years under examination, and that my cases afford no evidence in favour of the suggested influence of high barometric pressure in causing cerebral hæmorrhage

The figures obtained with regard to variations in pressure do not correspond quite so closely. On taking the pressure of each day in relation to that of the days preceding and following it, and using the same symbols as in my former paper, I get the following results.—

	<>	<	>	><
Actual number of days in the 12 years	988	1148	1176	971
Corresponding proportion for 128 cases	30	34	35	29
Actual distribution of cases as published in former paper	29	42	28	29

It appears, therefore, that a small excess of cases occurred in the course of a steadily rising barometer beyond that accounted for by the preponderance of days with that arrangement. It is hardly, however, large enough to carry much weight as evidence of a causative effect.

In the matter of temperature the days are very evenly distributed as regards the average. Thus in the months concerned in one-third of the total number of the cases there were 334 days on which the temperature was above the average maximum for the month, and 335 on which it was below the average. I did not, therefore, consider it worth while to continue the calculation, and the results of my former figures, which showed no causative effect of temperature, may be taken as correct. The apparent effects of a low wind pressure are similarly explained by the large excess of days with a pressure below the average. In the 12 years concerned there were 2973 days of low, as compared with 1343 days of high, pressure. This gives a distribution in 128 cases of 88 and 40 respectively. The actual figures obtained were 92 and 36, a sufficiently close approximation.

It thus seems to be established that actual height of barometric pressure, temperature, or wind pressure exercises no influence in determining the onset of attacks of cerebral hæmorrhage.

Birmingham.

PLAGUE IN CATS.

By WILLIAM HUNTER, M.B., C.M. ABERD.,
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THE writings of past ages tell us that during epidemics of plague domestic pets were not spared the disease. It is only within recent years, however, that the occurrence of plague in animals such as cats, which are intimately associated with man, has attracted attention. In fact, until the question of rat plague was raised the presence of plague in animals was practically lost sight of and regarded of no significance in reference to the spread of the disease. With the knowledge of the presence of widespread rat plague and the fact that cats frequently devour these animals, the possible rôle played by cats in the dissemination of plague amongst human beings would appear to be of importance. Few accounts of natural plague infection in cats are to hand. The various plague commissions make mere mention of cat plague. They regard these animals as only slightly susceptible to the disease. In consequence they conclude that so far as the spread of plague is concerned cats are of no great importance.

Such an answer to the question of plague in cats is only partly true. Cats, when compared with many other animals, do appear relatively insusceptible. Their importance in the dissemination of plague, however, is underrated when the subject is viewed in the light of recent experience. The disease in cats is rare but the possibility of the occurrence of plague in domestic pets in plague-infected districts must not be [illegible] duced plague in cats would a [illegible] The disease can be induced but much depends upon the method of incorporation of the virus. The German Plague Commission reported upon the effects of cutaneous and subcutaneous inoculation of these animals. Beyond a slight febrile reaction nothing definite was obtained. All the cats recovered. The commission concluded that cats were relatively insusceptible to plague. The results of Albrecht and Ghon were more definite. They fed cats on plague-infected material. Several of the animals died as the result of plague infection. The type of disease reproduced was septicæmic. In one or two instances a bubo was found in the submaxillary region. Kolle also fed cats with cultures of plague. Several of the animals died from plague. Wilm, in his report on plague, fed two cats with pieces of a plague bubo. The animals were sick for several days. Great emaciation of the cats was noted. Ultimately both animals recovered.

From these investigations on experimental plague infection in cats it is evident that infection per os gives the most constant results. By this method cats would appear to contract the disease. The question of a lethal termination probably depends upon the virulence of the infecting material used for purposes of inducing the infection. As regards spontaneous plague infection in cats, extremely little would appear to be known. The Indian Plague Commission simply notes the fact and dismisses it in a sentence. In Sydney, Ashburton Thompson has reported the presence of plague infection in cats. He draws attention to the dangers attached to such a focus of infection.

An excellent opportunity of studying spontaneous plague infection in cats occurred recently in Hong-Kong. The history of the epizootic is the following. During the systematic collection of rats, dead and alive, in Kowloon for bacteriological examination many of those caught in the godowns were found to be plague infected. A week or two after rat plague had been found the servants of the Godown Company reported the death of several of their cats which were kept on the rat-infected premises. The bodies of these cats were sent to me for bacteriological examination. This was carried out as completely as possible, the morphological and cultural tests being typical of the bacillus pestis. The stalactite test was also positive. The cat mortality increased. I requested that all cats, sick or dead, should be forwarded to me. The sick cats were kept under observation in isolation. Experiments were made in regard to the modes of infection in cats and the symptoms of the disease were noted as carefully as possible. My investigations showed that cutaneous and subcutaneous inoculation do not give definite results. Feeding cats with plague buboes and pieces of human spleen crowded with plague bacilli give more or less constant results. The following experiments were undertaken.

Cat No. 1.—The animal was healthy and was kept under observation for at least 14 days. It was inoculated subcutaneously with one cubic centimetre of emulsion of plague bacilli on agar. After 24 hours the previously normal temperature rose to 102° F. The animal refused food. A doughy swelling occupied the site of inoculation. After 72 hours, the temperature being 103°, the animal had vomiting and diarrh[illegible] size but now felt [illegible] were found in the [illegible] from a considerabl[illegible] favourably. The swelling developed into an abscess containing abundant staphylococci but no plague bacilli could be found.

[illegible] e as in No. 1. [illegible] a large femoral [illegible] as decidedly ill. [illegible] diarrhœa. The [illegible] nwards the condition became aggravated; the temperature was irregular and maintained about 102°-103°. The abdomen was distended and tender to touch. The diarrhœa continued to the last. No tenderness was noted in the axillæ or groins. Emaciation was also a marked feature. Death took place in seven days. The fæces were rubbed into the shaved abdomen of a guinea-pig. This animal died from plague in four days. A post-mortem examination was made. There was great congestion of all organs and tissues. Hæmorrhages of [illegible] mucous membrane showed great congestion, swelling, and slight erosion. Petechiæ were scattered throughout its entire length. The solitary follicles were enlarged and in some parts of the gut the condition resembled severe follicular enteritis. Plague bacilli were found throughout the body. The organism was isolated and subjected to the well-known tests.

[illegible] its were not made owing [illegible] godowns which I had at [illegible] of these animals I found that plague may be either acute or chronic. The following is a *résumé* of my results:—

Acute cat plague.—Symptoms: These are usually present within 24 hours. Food is refused. The hair of the animal becomes ruffled. Diarrhœa and vomiting are among the early symptoms. Weight is lost rapidly. The abdomen is distended and often tender to touch. Towards the end of the disease great weakness and even paralysis of the extremities are present. Death usually occurs in from two to six days.

Post-mortem appearances.—Bubonic swellings may be found, especially about the neck and the mesentery. The lymphatic glands in general are enlarged and show marked cortical injection. The general condition throughout the [illegible] The stomach is congested, particularly on its mucous surface. The latter also shows the presence of innumerable [illegible] e mortem [illegible] n general [illegible] until the ileum was reached. This part of the gut was the seat of many small hæmorrhages. The mucous surface was red and thickened. The latter was chiefly due to œdema. The solitary follicles were visible, being pin-head in size and greyish-yellow in colour. Small areas of necrosis were present [illegible] containing myriads of plague bacilli. The type of disease was in all instances septicæmic but special tendency was shown on the part of the plague bacilli to collect in the lymphatic apparatus.

Chronic cat plague.—The most prominent symptom is great emaciation. Buboes may be found in various situations of the body, especially about the neck. These are chronic in growth and are a[illegible] ing infiltration. [illegible] charging thick or [illegible] mouths. The con[illegible] marasmus."

The following conclusions appear to be justified from the various observations and experiments on plague-infected cats. 1. Cats suffer from plague. 2. The disease may be acute or chronic. 3. The ty[illegible] 4. These animals may occas[illegible] 5. In [illegible] in cats [illegible] iew. 6. In plague-infected areas cats probably become infected through plague rats and mice which they devour as food.

Hong-Kong.

SUPPURATIVE PERIOSTITIS FOLLOWING TYPHOID FEVER.

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AND

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SUPERINTENDENT OF THE CLINICAL LABORATORY AND DEMONSTRATOR OF CLINICAL PATHOLOGY, ST. THOMAS'S HOSPITAL; ERASMUS WILSON LECTURER, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THERE are now many instances of the occurrence of bone lesions after typhoid fever in the discharge from which the bacillus typhosus has been demonstrated. There are some unusual features in the following case which make it of exceptional interest. Most of those recorded have been affections of the tibiæ or ribs and the extent of bone involved has not been so extensive as here. It is unusual, also, to have an inflammatory attack of the bone which has arisen and subsided at a time when the bacilli would presumably be more active than at a later date. It is also noteworthy that although the periosteum was completely separated from the bone for some distance up the shaft and in the whole circumference the recovery of the limb without necrosis of bone has apparently been assured.

The patient was admitted into the Leopold ward of St. Thomas's Hospital on Oct. 28th, 1904, and was discharged on *Dec.* 21st, 1905. (The following is taken from the notes by Mr. Finch.) The patient was in the George ward, under the care of Dr. Hector W. G. Mackenzie, from July 7th to Sept. 10th, 190[illegible] illness had commenced on June [illegible] ing, and pain in the back and ab[illegible] ptoms of perforation developed at 1.30 P.M. Abdominal section was performed at 7.15 P.M. and a perforation of the ileum was sutured by Mr. Battle. The patient was readmitted on Sept. 18th for pain in the right femur and knee; this was treated with iodide of potassium and local applications and he was able to leave the hospital in about three weeks. Since that time he had remained well, but was readmitted some months after for pain in the abdomen which followed a slip whilst carrying a sack of coals. The present illness began four weeks before admission with pain in the lower half of the right femur. This pain was of a gnawing character, sometimes shooting down the leg; it was worse at night and kept the patient awake.

On admission the lower third of the right femur was uniformly enlarged and was extremely tender on pressure. The skin in front of the thigh in this situation was red from the application of mustard poultices before he came to the hospital. His temperature was 102·2° F. There was no evidence of syphilis in any part, the glands in both groins were easily felt, and there were a few scars on the legs, but these presented nothing characteristic. Skiagrams showed thickening of the lower half of the femur. On Nov. 3rd the pain was stated to be somewhat better than on admission; the patient perspired freely at night, whilst the temperature varied from 100° to 101° in the day. He had required chloralamide to make him sleep. Iodide of potassium in increasing doses was given without any benefit. Severe pain continued and the temperature remained elevated, not below 99° in the morning or above 101° in the evening. No apparent change had taken place in the condition of the bone which continued to be extremely tender and uniformly enlarged. On the 16th an incision was made on the outer side of the thigh above the knee. Thickened periosteum was incised and thick yellow pus immediately sprang into the wound. The periosteum was separated from the shaft all round and the bone was generally roughened where exposed. The operation wound was drained and the pain was quickly relieved by the incision. When the patient left the hospital the wound was soundly healed and he has now resumed his work.

Bacteriological report.—A culture tube of broth was inoculated with the pus from the periosteal abscess and incubated at 37° C. for 24 hours. Marked turbidity and a slight flocculent deposit in the culture tube were observed at the end of the first 20 hours. Film preparations were made from the culture and were stained by Gram's method. Short thin bacilli, which were Gram negative, were seen in the films. The original culture was now plated on the surface of jelly by the stroke method. Large numbers of pale bluish-white colonies with an irregular margin, and gradually sloping from the centre towards the periphery, were seen on the surface of this medium at the end of 24 hours at 22° C. These colonies were found to be similar in most respects at the end of 48 hours. We consider this to be a fact of very great importance, as although the surface colonies of certain strains of the colon bacillus are very similar to the colonies of the bacillus typhosus yet the surface colonies at the end of 48 hours are quite different, owing to the much more rapid growth of the colon bacillus. The surface colonies of the colon bacillus at the end of 48 hours are much denser and darker than the typhoid colonies, the irregular margin is much more opaque, and the colonies instead of gradually sloping from the centre towards the periphery, as in the case of the bacillus typhosus, terminate abruptly and thus give quite a different appearance to that which is seen at the end of 24 hours. Numerous colonies from the surface of three gelatin plates were emulsified in 0·85 per cent. solution of normal saline and the emulsions were then tested with positive typhoid serum. The bacilli from each colony were found to be actively motile, while on the addition of typhoid serum, using a dilution of 1 in 50, complete loss of motility and complete "tight" agglutination were obtained in the case of every colony which was examined. The agglutination of the bacilli and the complete loss of motility took place immediately. We consider this means of examining colonies of suspected typhoid bacilli to be of the utmost value as we have never seen agglutination of the bacillus coli with positive typhoid serum such as occurs in the case of the bacillus typhosus, or even with dilutions of 1 in 10, although we have examined some hundreds of strains of the colon bacillus chiefly obtained from the peritoneal cavity. It must be remembered that by this means valuable information can be obtained at the end of 24 hours regarding the nature of a suspected bacillus. Three of the surface colonies from the jelly plates were subcultured into broth and afterwards large numbers of tubes of various media were inoculated from these broth tubes.

The following are the cultural characteristics of this bacillus:—

Agar.—Pale streak with a slightly irregular margin and moist surface. The streak became more opaque and the growth more extensive as time advanced.

Glycerine agar.—Very similar to the growth on agar.

Glucose agar shake.—There was no gas production at the end of one month's growth at 37° C.

Gelatin slant.—Slight pale bluish white streak with a feathery edge was seen at the end of 24 hours' growth.

Neutral red jelly.—Appearances of growth similar to those seen on jelly. No alteration of colour and no liquefaction of the medium had appeared at the end of one month.

Glucose jelly shake.—No gas formation had occurred at the end of one month's incubation.

Litmus mannite jelly shake, litmus cane sugar jelly shake, litmus maltose jelly shake, and litmus lactose jelly shake at 22° C.—The colour of the litmus was unaltered and there was no gas production.

Litmus milk.—This medium was acidified at the end of three days' growth at 37° C., but the milk was not even thickened at the end of one month.

Milk.—Unchanged.

Potato.—Very slight moist pale growth formed on the surface of potato in 48 hours, but it never increased.

Peptone water.—No indol production at the end of 14 days.

Neutral red broth.—A good growth was seen in this medium but there was no alteration of colour at the end of one month.

Glucose broth (anaerobically).—Good growth without any production of gas.

McConkey's medium.—Sodium-taurocholate-litmus-glucose broth culture tubes were inoculated with the bacillus in question and then incubated anaerobically at 42° C. The medium was acidified in 48 hours but there was no evidence of any gas formation.

Agglutination tests.—With positive typhoid serum. Dilutions 1 in 20 and 1 in 50: complete loss of motility and complete "tight" agglutination occurred immediately with each dilution. Dilution 1 in 100: similar result at the end of 30 minutes. With patient's serum. Dilution 1 in 20: diffuse loose clumping and slight loss of motility in 30 minutes. Dilution 1 in 50: very slight loose clumping and very slight loss of motility at the end of 30 minutes.

Professor W. Osler[1] mentions that six cases of "bone lesions" came under his notice among the sequelæ of typhoid fever in the course of one year. In this country, however, bone lesions directly due to the typhoid bacillus appear to be rare. In Keen's monograph on the surgical complications and sequelæ of typhoid fever he gives the bacteriological report of 51 cases of the bone lesions of typhoid fever. In 38 instances the bacillus typhosus was recovered, while in 13 examples the more common pyogenic organisms were found. The case which we have described is of considerable interest owing to the fact that the bone abscess contained the typhoid bacillus in pure culture more than two years after an acute attack of typhoid fever. There is only one other point to which we wish to draw attention—viz., the agglutinative property of the patient's serum. Mr. H. S. D. Browne and Dr. K. E. Crompton,[2] working in the clinical laboratory of St. Thomas's Hospital, found that out of a total of 68 cases only three gave a positive reaction—i.e., complete loss of motility and large tight agglutinations within a period of 30 minutes with dilutions of 1 in 20 and 1 in 50, while of these three cases the patient's serum in one instance was obtained two months after the acute illness had subsided. These authors mention that if they had considered a dilution of 1 in 10 to be a positive reaction then their sum total of positive cases would have amounted to 11, but they very wisely refrain from including such low dilutions amongst their positive results. Fison[3] has stated that he has obtained a positive reaction with dilutions of 1 in 2 and 1 in 9 in 18 out of a total of 21 cases examined three months to eight years after the primary illness. Rénard[4] examined 104 cases, 35 of which gave positive reactions, in five instances 20 years after the attack. This observer, however, was content with a dilution of 1 in 10, except in one of his cases in which a dilution of 1 in 40 was employed. Dr. C. G. Seligmann[5] failed to obtain a positive reaction, even with a low dilution of 1 in 20, in Dr. H. C. Jonas's case of multiple typhoid abscesses two years after the original attack. It must be quite obvious, however, that although positive reactions with such low dilutions may be of some interest they cannot be of the slightest practical value. Mr. Browne and Dr. Crompton have definitely shown that it is quite the exception for the true positive typhoid agglutinative reaction to last for more than a short period after the acute illness has subsided, and that it does not remain for months or even years afterwards, as is so often incorrectly taught. Our own experience is in accordance with the views of these observers.

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[1] The Principles and Practice of Medicine, fourth edition, 1901.

[2] Note on the Persistence of the Gruber-Widal Reaction in Convalescence from Typhoid Fever, The Lancet, June 27th, 1903, p. 1798.

[3] Brit. Med. Jour., July 31st, 1897.

[4] Thèse de Paris, 1902.

[5] The Lancet, Oct. 4th, 1902, p. 931.

A CEREBRO-SPINAL MANOMETER.[1]

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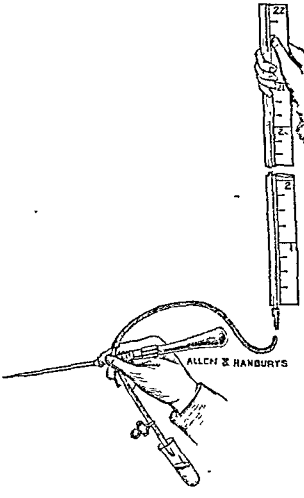
I WAS led to devise this simple instrument for measuring the cerebro-spinal pressure by the freedom with which many authors have invoked an excess of intracranial tension as the explanation of various clinical phenomena without any measurement of that pressure.

The following is a description of the instrument with an abstract of as much of the results of about 50 clinical cases as space will allow. It will be seen that the instrument is easy and safe in application and that the diagnostic and therapeutic results have often been surprisingly good. I had believed myself first in the field, but I find that Professor Krönig of Berlin has invented a more complicated instrument for the same purpose.

The instrument consists of the lumbar puncture needle, which is adapted [illegible] handle which is detachable. The three hollow needles supplied are suitable for children, large or small adults. These needles are all tempered as tough as possible, so that the risk of their breaking *in situ* is avoided. Included in the case is a hydrometer for measuring the specific gravity of small quantities of the cerebro-spinal fluid. T[illegible] the whole apparatus is [illegible] dish of boiled water. [illegible] knees drawn up and the back arched. The head and spinal column must be approximately horizontal. In uncontrollable patients it is very helpful to pass a long strap beneath the knees and round the shoulders. This arches the spine and renders struggling quite futile. In nervous patients a little cocaine beneath the skin and a little more near the bone is recommended but the pain is not great, being about equal to that of aspiration of the chest.



The skin is carefully cleansed and the needle is introduced at the level of the iliac crests half an inch below and external to a vertebral spine. The spinal cord terminates several inches above this point. The needle is pushed in with a slightly upward tilt. If bone is struck the direction must be slightly altered until the firm soft resistance of the ligamentum flavum is encountered. Once past this no further resistance is felt and the point of the needle finds itself free in the lake of cerebro-spinal fluid amongst the cauda equina. Cerebro-spinal fluid now runs up the manometer tubing (the exit tube having been previously clamped) and its pressure can be read off. Sometimes the cerebro-spinal fluid requires a little coaxing, by milking or pinching the rubber tube before it will flow into the manometer. Forcible aspiration, as by a syringe, should never be employed. Fluid can now be allowed to trickle from the exit tube by removing its clamp and clamping the manometer tube. The needle is withdrawn when the pressure is sufficiently reduced or the requisite amount of fluid has trickled out. An ounce or an ounce and a half is frequently withdrawn and usually leaves the pressure about zero. The fluid is set aside to see if it clots and is examined by the hydrometer, the microscope, or other means.

In children the operation is easy but in an average man the needle has to traverse three inches of flesh, so that one must be prepared for a little patient probing in difficult cases. Rigid asepsis is of course imperative but I have never seen any septic troubles and the fluid will keep in a test tube a surprisingly long time without obvious decomposition. The apparatus shows clearly the oscillations in cerebro-spinal pressure produced by the pulse and respirations. In fact, one has the whole central nervous system in a perfect natural bony plethysmograph.

T[illegible] to the Hull branch of the [illegible] space now only allows a selection of the more noteworthy cases.

CASE 1.—The patient was a boy, aged 13 years, who three weeks previously had been knocked on the head with a bat. For a week he lay in the hospital in a drowsy, apathetic condition, with headache, facial twitchings, and occasional vomiting. The morning after half an ounce of cerebro-spinal fluid had been withdrawn he was transformed into a bright and cheerful boy. His pressure was ten inches, which is higher than normal (from three to eight inches).

CASE 2. *Pontine* [illegible] Lumbar puncture w[illegible] only completed when the last few respirations were being taken. The pulse continued a good deal later. The fluid was *pink* and the pressure was eight and a half inches. Three drachms were withdrawn, reducing the pressure to five inches. This pressure was sustained after death with no sign of diminution after several minutes. I attribute this to the engorged condition of the venous system. The pink fluid was a valuable diagnostic guide to the apoplectic origin of the coma; this was verified post mortem.

CASE 3. *Concussion*.—The patient was a boy, aged eight years. The case was diagnosed as fractured base; the fluid, however, was colourless and the pressure was only six and a half inches, which corrected the diagnosis into *concussion*. He was much better after th[illegible]

CASE 5. *Fractured base* [illegible] patient was a man, aged 54 y[illegible] ear and nose. Lumbar puncture on the eleventh day gave a pressure of seven inches only but the fluid was slightly turbid and *clotted* on standing. This gave a diagnosis of meningitis which was only a suspicion otherwise and which was confirmed by subsequent symptoms and by post-mortem examination. On the thirteenth day the pressure appeared to rise quickly from two and a half to ten inches, owing to fright from a little pool of burning ether which was accidentally lighted near the patient's nose. He was semi-conscious at the time.

CASE 10. *Cerebral thrombosis*.—The patient was a man, aged 57 years, who for a week had been developing left hemiparesis with severe headache. Three days later he was comatose and seemed to be dying, with a slow feeble pulse. With strychnine and two lumbar punctures (three drachms each) he soon recovered consciousness and could talk in three weeks and walk in two months. His recovery seemed remarkable.

CASE 11. *Pneumonia*.—The patient was a man, aged [illegible]0 years, with intense toxæmia and violent delirium. One ounce of clear fluid was withdrawn, reducing the high pressure of from 12 to 18 inches down to three inches. No improvement followed. The high pressure in this case was doubtless due to the distended right heart and veins.

CASE 14. *Fractured vault*.—The patient was a child, aged five years. As the clot was extra-dural the cerebro-spinal fluid was not blood-stained. No benefit ensued.

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[1] Made by Messrs. Allen and Hanburys, Limited, 48, Wigmore-street, London, W.

Case 15. *Acute tuberculous meningitis.*—The patient was a child, aged one year. Lumbar puncture was performed for vomiting and convulsions. The pressure was 13 inches and the fluid was clear. There was very marked improvement for two days. Puncture was repeated on the sixth day when the pressure had again risen to 12 inches. Improvement was now very transient. Diagnosis was verified post mortem. This was my first measurement of cerebro-spinal pressure (February, 1903).

Case 16. *Chronic hydrocephalus.*—No fluid was obtainable in this case (a child, aged three years), the cranial cavity evidently being shut off.

Case 17. *Cerebral tumour.*—The patient was a man, aged 45 years. There was a history of pains in the back of the head and neck for three months, together with vomiting and early optic neuritis. Here again, lumbar puncture yielded only a few drops of clear fluid. The pressure was not measureable even on coughing or sitting upright. The probable explanation of this is a sub-tentorial tumour pressing down the cervical medulla and cerebellum into the funnel-shaped foramen magnum. If this be the true explanation lumbar puncture gives a new and useful localising sign in this case. (Since the above was written the necropsy has shown a tumour, as large as a pigeon's egg, in the right lobe of the cerebellum.)

Case 20. *Pontine apoplexy.*—The patient was a man, aged 45 years. Here again no fluid could be obtained except a few drops at a pressure of nine inches. Post-mortem examination showed a clot in the pons as large as a walnut which had clearly corked off the cerebral from the spinal cavity. Expansion upwards was prevented by the strong tentorium cerebelli.

Case 21. *Double optic neuritis.*—The patient was a healthy boy, aged ten years. A history of one month's failing vision was obtained without any assignable cause. There were practically no headaches or vomiting. The cerebro-spinal pressure was very high, exceeding 16 inches, which was then the limit of the manometer. After one and a half drachms had been withdrawn it was still 15 inches. The boy was thoroughly at his ease during the process so I tried the effect of mental arithmetic. This first increased the pressure about an inch and then lowered it one and a half inches; grasping with both hands raised the pressure two and a half inches. As usual in a high-pressure case, the oscillation of the pulse was well marked and the respiratory wave was scarcely seen. 11 drachms of fluid were withdrawn, reducing the pressure to four and a half inches. The puncture was repeated in ten days when the pressure was two inches and only half a drachm of fluid could be withdrawn. The punctures appeared to have no effect on the steady downward progress of his vision. He vomited six and 18 hours after the puncture and had a trifling headache. Nine months later the father told me that the boy was well and cheerful but had nocturnal incontinence and slightly impaired memory. He could see a man 200 yards away and his vision was better after an aperient. This case suggests the possibility of disease of cerebro-spinal high tension analogous to glaucoma in the ocular cavity.

Case 22. *Fractured base.*—The patient was a man, aged 76 years. It was a severe and undoubted case. The pressure was four and a quarter inches. The fluid was pink. Recovery was complete.

Case 23. *Fractured base.*—The patient, aged 19 years, was comatose. The pressure was from 10 to 13 inches and was reduced to five by withdrawing one and a half ounces of *pink* fluid, after which the pulse was less turbulent. Recovery was rapid and complete.

Case 24. *Severe chorea.*—The patient was aged 22 years. There was decided benefit from the puncture. The pressure was normal.

Case 25. *Concussion.*—The patient was aged eight years. Vomiting, teeth-grinding, twitching, and speechlessness were present. Complete recovery followed a few hours after puncture (one drachm) The pressure was normal.

Case 26. *Tuberculous meningitis.*—The pressure was 19½ inches. The child slept well after puncture—a common result. Improvement was transient.

Case 27. *Uræmic convulsions with total blindness.*—The patient was a middle-aged man. The convulsions were relieved by venesection but the coma remained. Lumbar puncture under chloroform was performed by Dr. Carter. The pressure was high (16½ inches). On the next morning the man was quite conscious and had recovered much of his eyesight. Dr. W. C. Rockliffe, our ophthalmic surgeon, examined the eyes and found very marked optic neuritis. He was much impressed by the extent and rapidity of the recovery of vision. A second puncture produced no further increase of vision.

Case 28. *Anomalous cerebellar ataxia.*—The patient was a man, aged 35 years, with a history of pain, numbness, and feeble gait for six years, and a strong family history of adolescent paralysis. The diagnosis was obscure. Extraordinary improvement followed after withdrawing one ounce of fluid at normal pressure, suggesting functional disease. He was at work six months later, quite well.

Case 29. *Acute tuberculous meningitis.*—The patient was a child, aged seven years, who three months previously I had seen operated on for undoubted tuberculous peritonitis. The child was admitted for acute periostitis of the ankle. No pus was found on incision. Five days later the child had a severe clonic convulsion lasting for two hours, preceded by several days of irritability and sulkiness. The fit ceased 15 minutes after lumbar puncture, which showed a pressure of 15½ inches. Four days later, vision, which apparently had been totally lost since about the time of the fit, was returning. Five months later the mother tells me the child's health is normal in every respect. I have to thank Mr. G. A. Carter for a careful report of this striking case which occurred in my absence.

Negative cases.—The cases where lumbar puncture produced little or no result included Ménière's disease (severe and senile case), alcoholic neuritis and myelitis, neurasthenia, miliary tuberculosis, chronic headache, and gastric tabetic crises. The amount of fluid withdrawn was usually between half an ounce and one and a half ounces and the pressure varied between zero and 18 inches of water.

Conclusions.—The following points appear to be suggested by the above cases:—

1. The therapeutic effect of lumbar puncture is, I think, often greater than it is given credit for. This is difficult to prove or to explain (and hence to believe) but the following may be factors: (*a*) excessive tension is reduced; (*b*) the brain is washed by fresh fluid secreted in place of that withdrawn; (*c*) a temporary cerebral hyperæmia is produced by the blood-vessels dilating to take the room of the fluid withdrawn until a new supply is secreted, or, conversely, a cerebral anæmia due to excessive intracranial pressure may be arrested; and (*d*) a substantial *change* of cerebral environment is produced of which nature may sometimes be able to take advantage.

2. Lumbar puncture has been performed about 60 times with this instrument without any ill-effects, so that the risk is not great, and the further exploration of this therapeutic field is justified.

3. Valuable diagnostic information is often afforded. (*a*) Pink fluid indicates cerebral hæmorrhage, fractured skull (with injury to the dura mater), or severe superficial cerebral laceration (with rupture of the pia mater). Except for the first few drops the fluid is very seldom blood-stained from trauma by the needle with this instrument. (*b*) A faint "spider's web" clot after standing several hours points strongly to meningitis. (*c*) Cytological, bacteriological, or inoculation experiments may give the diagnosis. (*d*) Occlusion of the cerebral from the spinal cavities may be diagnosed (see Cases 16, 17, 20) and this may localise a sub-tentorial tumour (Case 17).

4. In apoplexy, lumbar puncture is conceivably justifiable when the pressure is found to be very high, provided that the pressure is slowly reduced to half its value, not too soon after the occurrence of the hæmorrhage. But if this treatment should be found to be justifiable with a manometer, it would certainly be dangerous without one.

5. Case 12 suggests the possible existence of a disease in the cerebro-spinal cavity analogous to glaucoma in the ocular cavity—that is, a disease of high pressure due to obstructed outflow of secretion. There are many cases of neuritis and atrophy of the optic nerve which still require an explanation.

6. Lumbar puncture is said to be dangerous in cerebral tumour. The sitting-up position advised by some French and German authorities has serious theoretical risks.

7. Credit for therapeutic effects is hard to allocate, but surprisingly good results followed lumbar puncture in fractured base (Cases 22, 23), concussion (Cases 3, 25), post-traumatic cerebral condition (Case 1), cerebral thrombosis (Case 10), very severe chorea (Case 24), uræmic coma and

optic neuritis (Case 2), anomalous ataxia case (Case 28), and tuberculous meningitis (very early stage) (Case 29).

8. Hence, I think that lumbar puncture should be tried as a therapeutic effort in a variety of cerebral conditions which are not hopeless but which are stationary or retrocedent under ordinary treatment. Also that the cerebro-spinal pressure should be measured in every case of lumbar puncture for the present.

This investigation would have been impossible without the kindness of the honorary and resident staff of the Hull Royal Infirmary. My sincere thanks are therefore due to Dr. G. F. Elliott, Dr. Frank Nicholson, Dr. E. O. Daly, Mr. E. H. Howlett, Dr. D. Lowson, Dr. Rockliffe, Mr. E. Harrison, Mr. A. G. Francis, Mr. Guy B. Nicholson, and Mr. Carter; also to Sir Victor Horsley.

Hull.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Malarial Affection of a Joint.—Intermittent Hydrops of the Joints.—Hydronephrosis due to Moveable Kidney.

A MEETING of this society was held on April 14th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Professor HOWARD MARSH communicated a case of Affection of a Joint possibly due to Malaria. The patient was a man aged 38 years, in whom there was a history of syphilis and who had lived abroad and contracted malaria. In April, 1903, his knee became the seat of severe pain but without swelling or loss of movement. When first seen in December, 1903, the joint appeared natural but the muscles were very much wasted and were so weak that he was unable to raise his heel from the bed. He complained of agonising pain from his hip to his ankle. Every evening the joint became considerably swollen and measured one and a half inches more than the other, the swelling having a remarkably globular appearance. There was no fluid in the joint and the swelling seemed due to vascular turgescence of the synovial membrane. The patient stated that the joint swelled up in this manner every evening and then gradually returned to its natural size. After the administration of quinine in ten-grain doses twice a day for four days the attacks of swelling had disappeared and the patient recovered muscular power in the limb so rapidly that in three weeks he was able to walk three or four miles without any bad result. Six months later he had a patch of swelling covered by overwa [illegible] ernal malleolus, [illegible] d by quinine. [illegible] and no parasites were found, but on account of the periodicity of the swelling of the knee recurring at intervals of 24 hours, and that it was attended with severe neuralgic pain and relieved by quinine, Professor Marsh believed it was possible that these symptoms were due to malaria and referred to the "brow ague," neuralgiæ, and other symptoms occurring in malarial subjects.—Sir PATRICK MANSON remarked that Professor Marsh's case had again raised a question which had been often discussed but never settled—namely, [illegible] and, secondly, as a condition due to the lowered vitality caused by the malaria. Thus syphilitic or other poisons produced a greater effect in a person who had had malaria [illegible] see [illegible] due [illegible] ch was common to many con- [illegible] septic fevers. In malaria the [illegible] tertian or quartan. Moreover, in this case the exacerbation of symptoms had been in the evening, which was a common event in syphilis but rare in malaria; the typical feature of malarial symptoms was their occurrence before midday. There were no other manifestations of malaria, such as fever and enlargement of the spleen. He paid less attention to the absence of the malarial parasite from the blood, for quinine had been previously administered; it would have been more useful to examine the blood before this administration. He would like to know how recently the patient had been exposed to malarial infection, for in his experience no active evidences of malaria ever occurred after three years at the utmost from such possible infection. He referred to various conditions that had been termed irregular malaria, notably periodic nervous, cutaneous, and gastric symptoms. He did not know of any that had had the two great malarial tests applied to them—namely, finding of the parasite and observance of the malarial periodicity, though he referred to two cases of urticaria which were probably malarial on account of their clinical features. The malarial parasite undoubtedly had a predilection for certain organs but he doubted if the joints should be included among them.—Lieutenant Colonel T. R. MULRONEY, I.M.S., had seen many cases of malaria complicated by syphilis, the manifestations of which were more decided than in non-malarious subjects and were [illegible] of potassiu [illegible] a case wh [illegible] Professor M [illegible] elapsed since the man had been abroad.

Professor MARSH also made a communication on three cases of Intermittent Hydrops of the Joints occurring in a woman aged 28 years, a man aged 42 years, and a boy aged 12 years. These three cases were in all their essential features very similar to each other. The effusion in the joints returned with remarkable periodicity: in two every 14 days and in one every 12 days. In all the local condition—mere increase of synovial fluid—was the same. In all, the joints in the intervals seemed normal. These cases were typical instances of the usual form of intermittent hydrops of the joints and they closely resembled those which were observed or recorded by Dr. E. J. Brackett and Dr. F. I. Cotton.[1] In these examples the periodicity was always marked but the interval between the attacks varied in different individuals from three or four days to 30 days or more, the most frequent interval being 14 days. In several instances the attacks continued for three, four, or even more years. Some cases after showing definite periodicity lost this feature and the attacks became irregular both as to the time of their recurrence and their severity. The pathology of this affection was not known. It might be that under the influence of some ca [illegible] disturbance led to synov [illegible] In regard to treatment, [illegible] appeared to be useful. [illegible] ing on their own accoun [illegible] errors in practice, for [illegible] well suggest the presenc [illegible] fringe for which a useless operation might be performed.—Mr. F. O. WALLIS expressed the belief that such cases as those now described by Professor Marsh were due to some micro organism or its toxin and thought it would be interesting to know the results of a series of cultures taken from the fluid in the joint. He had opened and washed out the affected joint in one case with advantage.—Dr. F. J. POYNTON pointed out that micro-organisms in affections of the joints were commonly confined to the subendothelial layer and were rarely found in the fluid. He was not of opinion that the cases described were of microbic origin but rather of the nature of an œdema or an urticaria. It was, however, well known that the subcutaneous injection of certain toxic and antitoxic sera, such as those of diphtheria and tetanus, could produce synovial effusion. Had urticarial or erythematous lesions been observed in Professor Marsh's cases.—Dr. F. W. FORBES-ROSS thought that the effusion was probably a serous hæmorrhage into the joint, due to a diminution in the coagulability of the blood. Malaria was known to predispose to this condition and œdema often occurred in such subjects after the administration of mercury.—The PRESIDENT asked on what grounds arsenic had been given.—Professor MARSH said that those who had seen many of these cases recommended arsenic but some cases did not improve with it, whereas most cases spontaneously improved. He did not think that the condition was of infective origin, for there was no structural alteration of the joints, even after repeated attacks. He had not examined the synovial fluid or the blood in his cases. Dr. A. E. Garrod had told him of three cases which he had seen, two of which were the direct sequelæ of gonorrhœal rheumatism.

Mr. F. J. STEWARD communicated two cases of Hydronephrosis due to Moveable Kidney. These two cases were brought forward on account of the marked degree of hydronephrosis caused solely by the undue mobility of the kidney which resulted in the formation of a sharp kink in the upper part of the ureter, as described by Gigon in 1856. The first case was that of a young woman, aged 20 years, who had had attacks of pain in the right loin for eight weeks before admission to Guy's Hospital in February, 1900. A large, freely moveable, fluctuating tumour was found in the right loin. The tumour varied somewhat in tenseness but never disappeared, the pain being worse when the tumour was most tense. The tumour was explored through a lumbar incision and found to be a large hydronephrosis caused by a sharp bend in the upper part of the ureter which was easily straightened out by pushing the kidney up into its normal position. The kidney was fixed by silk sutures to the parietes and the wound was closed. The patient had no further pain and the average daily excretion of urea increased from 167 grains to 277 grains. On examination nine months later the tumour was found to be markedly smaller but it had not disappeared. The second case was that of a girl, aged 18 years, who was admitted into Guy's Hospital 16 weeks after a right-sided hydronephrosis had been opened and drained. The cause of the condition was found, as in Case 1, to be a kink of the upper part of the ureter which was straightened out by pushing the kidney upwards. The kidney and the upper part of the ureter were fixed to the parietes and a catheter was passed down the ureter from the old drainage opening in the convex border of the kidney. Six months later there was no return of the hydronephrosis and the kidney remained firmly fixed in its normal position.—Mr. R. Clement Lucas referred to four cases which he had recorded at the meeting of the British Medical Association in 1891, in all of which a moveable kidney had terminated in hydronephrosis. In all there had been intermittent attacks of very severe pain from time to time and these symptoms indicated a kinking and blocking of the ureter. Sometimes the conditions could be cured by fixing the kidney in its proper position but in one case he had watched the gradual destruction of the kidney. In another case the condition was cured for some years by a pregnancy but some years later considerable trouble arose from the formation of pyonephrosis. The kidney often became fixed in the wrong situation, with the result that recurrence took place.—Mr. William Turner related the details of a similar case on which he had operated recently. He speculated as to the mode of infection that converted a hydronephrosis into a pyonephrosis.—Dr. Forbes-Ross pointed out the importance of the direction in which the kidney subsequently shrank. As they could not foretell this direction would it not be better to examine the opposite kidney by laparotomy and then remove the hydronephrotic kidney if the other was healthy?—Mr. Steward replied.

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[1] Boston Medical and Surgical Journal, vol. cxlv., 1901.

LIVERPOOL MEDICAL INSTITUTION.

Aspiration of the Chest.—Paramyoclonus Multiplex.—Hæmorrhage due to High Arterial Tension.—Floating Kidney.—Prognosis in Pulmonary Tuberculosis.

A meeting of this society was held on April 13th, Dr. James Barr, the President, being in the chair.

Dr. William Williams demonstrated an improved method of Aspiration of the Chest.

Dr. J. C. M. Given related a case of Paramyoclonus Multiplex occurring in a man, aged 21 years. The contractions were unilateral in distribution, affecting mainly the muscles of the forearm, the leg, and the abdomen on the left side. The patient's mother had suffered from chorea gravidarum whilst pregnant with this child. He had had two severe accidents at long intervals to which he attributed the commencement and the increase of the disease. The administration of $\frac{1}{100}$th of a grain of hyoscine hydrobromate twice daily had been followed by distinct improvement.—The President, Dr. T. R. Glynn, and Mr. R. C. Dun discussed the case.

Dr. A C Wilson related five cases of Hæmorrhage apparently due to High Arterial Tension. Case 1 was that of a youth, 20 years of age, who from early childhood had been subject to bleedings from the nose. During one week he had two severe attacks of hæmatemesis. The radial pulse denoted high arterial tension and there was no pain or tenderness over the epigastrium suggestive of gastric ulcer. The patient quickly improved on taking large doses of perchloride of iron. Case 2 was that of an elderly woman the subject of arterio-sclerosis. She was suddenly seized with dizziness and her congested face and slow high-tension pulse threatened an attack of apoplexy. Fortunately this was averted by profuse bleeding from the nose. Case 3 was one of cerebral hæmorrhage which occurred in a man, 38 years of age. There were aphasia and paralysis of the right side. He gradually made a complete recovery. Case 4 was that of a female, 45 years of age, who for the last 17 years had had attacks of hæmoptysis, at one time thought to be due to pulmonary tuberculosis. Her general health was excellent; the sputum did not contain tubercle bacilli. Case 5 also was a case of hæmoptysis. The patient, a man, 48 years of age, had for six years been subject to slight attacks of bleeding. There were no physical signs of pulmonary tuberculosis and the sputum did not contain tubercle bacilli.—The cases were discussed by Dr. Given, Mr. Rushton Parker, Dr. Glynn, and Dr. John Hay.

Dr. Charles Pinkerton related a case of Floating Kidney in which the symptoms closely resembled those due to gall-stones. The patient was a married woman, 38 years of age, who during the last 18 months had 12 attacks of great pain in the right side with sickness followed by jaundice. She had lost four stones in weight during that time. Physical examination revealed a floating kidney and a dilated stomach. A belt for the kidney was ordered but before it arrived she had another attack, a typical Dietl's crisis, attended, however, by jaundice. After wearing the belt she rapidly gained in health and weight and had remained perfectly free from all attacks since.—Dr. T. R. Bradshaw referred to a case the converse of this in which a woman had a freely moveable kidney and hepatic pains but an operation for the removal of gall-stones completely cured her.

Dr. R. J. M. Buchanan read a paper on the Prognosis in Pulmonary Tuberculosis. The pulmonary infection was peculiar, affecting as it did organs which lent themselves, by structure, vascularity, mobility, and communication with the exterior, to easy dissemination and secondary infections. The difficulties of prognosis were very great and the clinical course of the disease was full of surprises. It was pointed out how dangerous it was to relate closely the pathological and clinical stages in forming a prognosis and reference was made to the post-mortem proofs of the spontaneous curability of pulmonary tuberculosis. The question of predisposition, acquired or hereditary, was discussed. In reference to the latter it was considered that evidence was gradually accruing in support of a less gloomy view being taken of the prognosis in such cases and that an inherited predisposition was general rather than specific to tubercle. The value of physical signs was fully considered—cough, hæmoptysis, mixed infections, and complications. The value of constitutional symptoms as prognostic factors was discussed at length, with special reference to the temperature, nutrition, and circulation. In reference to the duration and course of the disease difficulties arose in obtaining the exact date of incidence. In conclusion, he advocated that the prognosis in pulmonary tuberculosis should be based upon a careful study and estimation of (1) the general constitutional condition of the patient; (2) the effects of the disease upon the body temperature, nutrition, and circulation; (3) a recognition of the extent of the lung involved and the ability of that left to carry on the respiratory process; and he said (4) that the above were the important factors and in comparison with them physical signs as they interpreted local pathological "stages" of the morbid process occupied a subordinate position. Valuable as might be their diagnostic importance they formed an untrustworthy basis for prognosis.—Dr. Nathan Raw said that the virulence of the infection and the resisting power of the tissues decided the fate of the person attacked. A predisposition to tuberculosis often made the prognosis unfavourable. Treatment commenced early and maintained under proper surroundings would of course favour arrest of the disease.—Dr. Hay said that an opinion based upon the physical signs always under-estimated the extent of the lesion. In forming an opinion as to the prognosis due consideration should always be given to the result of previous treatment.—Dr. W. B. Warrington, Dr. J. Hill Abram, Dr. Wilson, Mr. W. B. Bennett, and Mr. O. Bowen also took part in the discussion.

Forfarshire Medical Association.—A meeting of this society was held on April 7th in the School of Medicine, Dundee, Dr. James Orr (Tayport) being in the chair.—Dr. R. C. Buist read notes on three cases of Icterus Gravis or Grave Jaundice—terms which he used as meaning severe jaundice associated with unconsciousness The first patient was a woman who was at that time in the seventh month of her fifth pregnancy and who in a previous pregnancy had a transitory jaundice On admission to hospital she was in a state of coma and collapse, suffering from very marked jaundice vomiting, constipation, petechial hæmorrhages, and all the other symptoms described in acute yellow atrophy of the liver The liver dulness was greatly diminished, there was no leucin or tyrosin in the urine Two pints of normal saline solution were introduced into the left breast and five ounces of saline solution were given every two hours per rectum Calomel and mistura alba were given by the mouth After 24 hours, the bowels being still unmoved, a large soap and water enema was given, which proved effectual The saline enemata were continued for several days Under this treatment, in spite of the onset of premature labour, the patient made a complete recovery The second patient was a woman who with catarrhal jaundice of a few days' standing suddenly became unconscious and delirious The bowels were found to be overloaded and a sharp purge was quickly followed by recovery with no bad symptoms The third patient was also a woman who, while suffering from jaundice, suddenly developed grave symptoms similar to the first case No leucin or tyrosin was found in the urine Death took place on the seventh day after the onset of bad symptoms On post mortem examination the liver was found to be very small and shrunken, very soft and flabby, showing on the surface and section orange yellow patches The condition was without doubt one of acute yellow atrophy of the liver The chief point for consideration was, Could the first case be called one of that disease also and if so could the favourable ending be the result of the treatment? Dr Buist considered that both answers must be *in the affirmative* The condition being one of toxæmia the rational treatment was to dilute the toxin as much as possible and this was accomplished by the saline injections He mentioned that he could not agree with the usual statement that acute yellow atrophy was most common in pregnant women, he considered that both sexes were equally liable to be attacked by the disease and that early adult life was the commonest age —Professor J A C Kynoch who had seen the first case agreed that it was one of acute yellow atrophy —Dr J Mackie Whyte, Dr D M Greig, Dr W E Foggie, and others also took part in the discussion —Professor Kynoch read a paper entitled "A Retrospect of 100 Gynæcological Laparotomies' The cases were tabulated as follows ovariotomy, 54, extra uterine gestation, 10, fibromyomata, 11, tubal disease, seven, oophorectomy, seven, ventro fixation of prolapse three, *exploratory* operations, four, ventral hernia, two, and Cæsarean section, two Among these 100 cases there were nine deaths

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY —A meeting of this society was held on April 14th, Dr D Lloyd Roberts being in the chair —Dr J B Hellier (Leeds) narrated a case of Hæmorrhage into a Small Ovarian Cyst accompanied by flooding of 12 days duration during an inter menstrual period in a young unmarried patient —Dr G W Fitzgerald (Manchester) showed a Hæmatoma of the Broad Ligament which *occurred* in connexion with torsion of the Fallopian tube in a woman, aged 42 years, who had ceased to menstruate for some months —Dr W K Walls (Manchester) showed Three Uteri removed by Vaginal Hysterectomy for Cancer of the Body The indications for operation were hæmorrhage after the menopause, accompanied by enlargement of the corpus uteri It was possible to curette in these cases without finding any evidence of malignant disease and bleeding with enlargement after the menopause was sufficient to justify removal of the uterus —Dr F B Grimsdale (Liverpool) related a case of Intraperitoneal Rupture of the Bladder during the first stage of labour in a primipara A portion of the fundus of the bladder sloughed and on opening the abdomen a gallon of urine was removed from the peritoneal cavity The bruised portion of bladder, which was perforated in the centre, was excised and the wound was closed with fine silk The patient made an easy recovery —Dr A J Wallace (Liverpool) read a paper on Removal of the Cancerous Cervix by the Abdominal Route with Pelvic Dissection based on an experience of ten cases Beginning with the purely abdominal route he had been led to employ the combined operation in preference The uterus, adnexa, pelvic connective tissue, and glands were first freed by laparotomy and then extracted per vaginam Details of the ten cases were given Three operations were incomplete Out of the ten cases the iliac glands were cancerous in three and the right obturator gland in another In two cases the glands were diseased although the primary lesion was in an early stage The uterus being freely moveable and all signs of infiltration being absent, Dr Wallace considered that in properly selected cases the combined operation promised better chances of success than those afforded by the vaginal route —Sir W J Sinclair condemned the operation on the ground that cases which could not be dealt with by vaginal hysterectomy aided, if necessary, by paravaginal incision were not suitable for operative treatment at all The mortality of the operation under consideration was very high and many of the patients who recovered continued to suffer through urinary fistula —Dr H Briggs had not performed the operation He considered that any advance in operative technique should be made strictly on the lines of progress in general surgery —Dr A W W Lea pointed out that Sir W Sinclair was in the habit of treating by vaginal hysterectomy many cases of cervical carcinoma which would be regarded as inoperable by most gynæcologists

LARYNGOLOGICAL SOCIETY OF LONDON —A meeting of this society was held on April 7th under the presidency of Mr Charters J Symonds The following cases and specimens were shown —Dr H J Davis a case of (?) Traumatic Perforation of the Nasal Septum in a boy, aged 17 years, who was engaged in flour mills Epistaxis had followed the injury He also showed a piece of Blue Chalk, half an inch long, which had remained for three weeks impacted in the respiratory passage of a boy, aged 10 years Dyspnœa and bronchitis had supervened The chalk was dislodged and swallowed during laryngoscopic examination and was passed per rectum —Dr W Jobson Horne showed a case of Malignant Disease of the Larynx —Dr W H Kelson exhibited a case of Lingual Growth in a man aged 45 years Some doubt was expressed as to whether this was a papilloma or a thyro lingual cyst —Mr H L Lack exhibited a case of Deformity of the Hard Palate and Teeth due to nasal obstruction in a boy with facial paralysis, showing the factors in the causation of high arched palate —Dr L H Pegler showed a case of Broadening of the External Nose caused by tense symmetrical swellings attached to the cartilaginous septum He also exhibited an Obstinate Crusting and Pus Formation in a man, aged 40 years, shown for diagnosis Both turbinals had been removed —Mr Robinson showed a case of Angio fibroma of the Vocal Cord —The President exhibited a very interesting case of Angioma of the Larynx in a man, aged 34 years He also showed a woman aged 52 years, in whom the Larynx and Thyroid Gland had been Extirpated for Cancer, and also a case of Papilloma of the Larynx in a man, aged 30 years —Mr E B Wiggett showed a case of [illegible] Empyema cured by operation, and Dr H Tilley [illegible] was that of a woman, aged 31 [illegible] causing stenosis of the [illegible] It was thought to [illegible] econd case (one for diagnosis) was in a man, aged 64 years, with Recurrent Paralysis of the Right Vocal Cord and some difficulty in swallowing The right pupil was contracted and there were slight ptosis of the eyelid and wasting of the upper part of the right trapezius It was considered by some of the members present that the cause of the trouble was peripheral and not central —Dr J Donelan showed a man, aged 39 years with Lateral Ulceration of the Larynx There had been hoarseness for about two months but there was no history of syphilis

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SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN —A quarterly court of the directors of the above society was held at 11, Chandos street, London, W, on April 12th, Mr Christopher Heath, the President, being in the chair Three new members were elected The treasurer announced that a legacy of £250, duty free, had been received from the executors of the late Mrs Jane Begley One new widow and one orphan were granted relief at the rates of £50 and £12 per annum respectively The sum of £1293 had been paid in half-yearly grants in January to the annuitants of the charity 53 widows and 17 orphans are now on the books of the society The date of the annual general meeting was fixed for Monday, May 22nd, at 5 P M, at the offices of the society.

Reviews and Notices of Books.

International Clinics. Vol. II. Fourteenth Series, 1904. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia, U.S.A. London: J. B. Lippincott Co. 1904. Pp. 314.

THIS volume maintains the high standard of excellence which has characterised its predecessors. The first portion of the book is occupied with a series of communications on Diseases of Warm Climates. The first article is by Dr. C. F. Mason and is entitled "The Spread of Diseases by Insects, with Suggestions regarding Prophylaxis." The science of preventive medicine has made great advances during recent years and in no department have more far-reaching results been obtained than in the demonstration of the important part borne by certain insect pests in the spread of disease. Dr. Mason asserts that at the present time insects are known to spread the following diseases: yellow fever, malarial fever, filariasis, spotted fever, sleeping sickness, dengue, anthrax, cholera, plague, dysentery, epidemic diarrhœa, and tuberculosis. The part that insects play in disseminating the above diseases is fully recognised with regard to some of them, whilst in the case of others absolute proof is not yet forthcoming. The insects the culpability of which as carriers of disease has been established are the mosquito, the house-fly, the nagana or tsetse fly, and ticks, while fleas, lice, and especially bed-bugs are under strong suspicion. The fact that certain diseases require for continued existence the presence of a particular insect explains the geographical distribution and the seasonal prevalence of these diseases, which must be the same as those of the insect carriers. Dr. Mason draws attention to the important difference that exists in the action of the mosquito as an intermediate host in the case of yellow fever and malarial fever respectively. In the former the mosquito appears to be the permanent, and the human body the temporary, host of the pathogenic parasite; the disease lasts only a few days and is followed by immunity to further attacks. In malarial fever the patient is the permanent host and having once been infected may harbour the disease for years, and outbreaks may therefore occur outside the geographic range of the mosquito. These facts merit more notice than they have hitherto received. Dr. Mason's remarks on prophylaxis are also interesting. He mentions the results that have been obtained by the sanitary department in Havana since efforts have been made devoted to the extermination of the yellow fever mosquito. For more than two years no case of yellow fever has originated in Cuba and though the disease has repeatedly been brought there from other infected points it has not spread. Previously Cuba had not been free from yellow fever for about 150 years.

Amongst other articles in this section the following may be mentioned: Recent Progress in Tropical Medicine, by Dr. John McCrae; Sleeping Sickness, by Dr. C. Jarvis; and Liver Abscess and its Treatment, by Mr. James Cantlie. The article on Uncinariasis (ankylostomiasis) also contains a large amount of information concerning the genus uncinaria. The pathology, the symptomatology, and the treatment of the disease in human beings are also carefully considered.

In the section on Treatment will be found some contributions on the therapeutics of diseases of the cardiovascular system. Dr. J. B. Nichols (Washington) writes on the Etiology, Diagnosis, and Treatment of Arteriosclerosis. Dr. Nichols believes that physicians are apt to look upon the condition of arterio-sclerosis in a rather academic manner and that they often fail to realise the very important and practical influence which it exerts upon the system and the organs of the body. We cannot agree with this remark, for since the writings of Sir William Gull, Dr. H. Gawen Sutton, and others, general attention has always been given to the significance of hardened arteries and increased blood pressure. Dr. Nichols's remarks in general, however, are well worthy of perusal and study.

Amongst the other contributions to this volume we may mention the following: Osteomalacia, by Dr. George E. Malsbary; Intestinal Obstruction in Children, by Dr. C. J. Cumston; and Subparietal Injuries of the Kidney, by Dr. Miles F. Porter. We can recommend this volume as a most interesting one and as a valuable addition to the already extensive series of "International Clinics."

The Nervous Affections of the Heart. By GEORGE ALEXANDER GIBSON, M.D., D.Sc. Edin., F.R.C.P. Edin. London and Edinburgh: Young J. Pentland. 1904. Pp. 99.

THIS volume comprises the Morison lectures delivered before the Royal College of Physicians of Edinburgh in 1902 and 1903 and they are now reprinted from the *Edinburgh Medical Journal*, in which they were originally published. The first section consists of three lectures dealing with sensory disturbances of the heart from the clinical, pathological, and therapeutical aspects; the second section similarly is concerned with motor disturbances; and three lectures deal respectively with rate, rhythm, and force. The first lecture is prefaced by a very entertaining historical sketch of the various steps by which our present knowledge has been gained; this indicates a wide range of interesting reading, together with some happy guesses at the nature of the maladies of sundry distinguished persons. Dr. Gibson mildly rebukes Dr. Huchard for an attempt to associate the name of Rougnon with angina pectoris and objects to Professor Osler's recognition of the two varieties of true and false angina. The description of the phenomena of an attack of cardiac pain is written with considerable vivacity and due regard is paid to the alteration in the skin, the disturbance of digestion, and the modifications of the renal secretion. The lecture on pathology is mainly occupied with an account of the innervation of the heart, the description being materially assisted by numerous diagrams. Dr. Gibson speaks very enthusiastically of the results of therapeutic measures. He fearlessly asserts that "in not a few of the worst cases, even when death seems to stare the patient in the face, judicious treatment brings about recovery which may for several years remain unimpaired." The general line of treatment here advocated does not present any novelty although it will probably be useful to refer to it from time to time. With the second section upon motor disturbances we are once more entertained with references to the literature connected with the movements of the heart. The author in turn cites Homer, Lucretius, Horace, Isaiah, and Shakespeare. After a brief rest he refers to Aristotle, Herophilus, Rufus of Ephesus, Galen, and William Harvey; then there is another pause before we are hurried on to Laennec, Walshe, and Stokes. The subject of the lecture is then approached more seriously and bradycardia and tachycardia are considered. The two concluding lectures on rhythm and force are full of light entertainment as well as instruction. Dr. Gibson ranges far and wide in search of apposite illustrations and he does not lose sight of the main object of a lecturer, the judicious selection of a flavouring agent to make the mixture palatable. Of the influence of tobacco upon cardiac rhythm he says: "Certain forms of tobacco are almost innocuous, others are pestilential in the highest degree; and some of the tobaccos that have obtained a very great vogue on account of the literary romance thrown around them are without doubt the most deleterious of the whole series." These broad terms are not very helpful but the Scylla and Charybdis of a medical lecturer may be represented by professional etiquette, on the one hand, which forbids advertisement, and the legal aspect, on the other, which checks libellous identification, and between these two the lecturer must steer with difficulty and anxiety.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XXIV. Session 1903-04. London: J. and A. Churchill. 1904. Pp. li.—386. Price 12*s.* 6*d.* net.

THIS well-arranged work recording the Transactions of the British Ophthalmological Society during the last session contains many papers of interest. The presidential address delivered by Mr. John Tweedy dealt with the Relation of Ophthalmology to General Medicine and Surgery and to Public Health. He pointed out that there is a disposition amongst ophthalmologists to specialise to too great an extent, to split this branch of medicine into two departments—the optical and the medico-surgical—which tendency should be strongly resisted on the ground that "no one can safely and intelligently deal even with the optical defects of the eye unless he has an adequate knowledge not merely of the structure and diseases of the eye but of the varied relations of the eye to the whole organism." The book is arranged in a topographical manner, so that those who are interested in the cornea, the retina, or the orbit can turn to that section and read all the cases that have relation to it which have been brought before the society in the course of the year. Many rare forms of disease are here recorded which will certainly assume importance when collected and compared with others, and a knowledge of which it is one of the principal objects of the society to diffuse amongst its members. For example, a case is recorded by Mr. E. Nettleship bearing upon Mr. William Anderson's case of pemphigus of the conjunctiva presented at a previous meeting and offering some remarkable features, the vesicles appearing with extraordinary rapidity, so that, as the relatives stated, "we could see them come up in a minute or two, those in the mouth generally coming at dinner, whilst he once nearly choked from a large one that formed in the throat." Such details in affections that are rare or that are obscure in origin often complete the picture of the disease and prove of high value. The same observations apply to various cases here recorded of peculiar diseases of the cornea and to cases of congenital anterior staphyloma, in one of which a very careful examination was made by Mr. E. Treacher Collins, leading him to believe it to be due either to intra-uterine transmission of infection, which he thinks highly improbable, or to maldevelopment or, as is most likely, to intra-uterine inflammation. There is a note on Vascular Changes in the Retina by Mr. R. Marcus Gunn, which led to an interesting discussion in which Mr. R. W. Doyne, Mr. W. A. Frost, Mr. Nettleship, and the late Mr. A. Q. Silcock took part, the question at issue being the existence of ophthalmoscopic evidence of actual retardation in the venous flow where an artery crosses over a vein.

A subject of considerable general interest was brought under the notice of the society in a paper read at the close of the year by Dr. A. Freeland Fergus, having the title of "Average Visual Acuteness." In this communication Dr. Fergus points out that uniformity of illumination of the object is of much importance, whilst it is often neglected. Then, in regard to normal visual acuteness, while Snellen's types are well adapted for testing the visual acuteness, numerous cases are met with in practice in which the subject is unable to read $\frac{6}{6}$; whilst in view of the provisions of the Workmen's Compensation Act and of medico-legal inquiries and the frequency with which work is carried on after injury to one eye without loss of wages, it would be advisable, in order that just compensation should be given, to form a committee to determine as far as possible what vision is required for various avocations in life.

Mr. N. Bishop Harman has an interesting paper on the judgment of the size and the distance of objects, which he shows to be due not so much to any effort of accommodation but to the appreciation of the muscular effort in effecting convergence. Dr. W. M. Beaumont gives a note on the Eye Symptoms associated with Rheumatoid Arthritis, with especial reference to the field of vision, and there is a good article on Trichiasis and the Operations for its Relief by Mr. W. E. Cant. There are several good plates and many illustrations in the text. The volume also contains a report on Sight-testing by Spectacle Makers and a preliminary report of the colour vision committee.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LANDIS, M.D. Vol. III. London: Rebman, Limited. 1904. Pp. 284. Price 12*s.* net.

THIS volume is composed of four sections by different writers. The first deals with Diseases of the Thorax and its Viscera, including the heart, the lungs, and the blood-vessels, and is contributed by Dr. William Ewart; the second is upon Dermatology and Syphilis, by Dr. William S. Gottheil; the third is on Diseases of the Nervous System, by Dr. William G. Spiller; and the last treats of Obstetrics and is contributed by Dr. Richard C. Norris. The wide range of reading necessitated for the purposes of this digest is sufficiently demonstrated by the foot-notes which give the references to the original papers. Dr. Ewart appears to have been hampered by an excessive amount of material and his account is almost too condensed to serve as much more than an indication of the sources whence instructive information may perhaps be obtained, but for this purpose it will be of great assistance to those who desire to follow the progress of recent literature. The section on dermatology has numerous illustrations from the author's cases and his account presents a running commentary in which we find details of his observations, his cases, and his treatment, in addition to the digest of recent literature. The sections upon the nervous system and on obstetrics are written with greater freedom from the personal equation and in greater detail and are accordingly likely to be of greater service to those who are unable to obtain access to the original papers. As a whole this volume is certain to save much time for all who wish to study the subjects with which it deals.

LIBRARY TABLE.

Atlas and Epitome of Operative Gynecology. By Dr. OSKAR SCHAEFFER. Authorised translation from the German with editorial notes and additions. Edited by Professor J. CLARENCE WEBSTER. With 42 coloured lithographic plates and many illustrations in the text, some in colours. London, Philadelphia, and New York: W. B. Saunders and Co. Pp. 138. Price 13*s.* net.—The appearance of this English translation of Dr. Schaeffer's well-known "Atlas of Operative Gynæcology" is to be welcomed because there is nothing quite like it available for English readers. The book is edited by Professor Clarence Webster who has added various remarks and emendations of his own which increase the value of the work. The book gives a good idea of the author's experience and practice and on the whole is written in a judicious and clear manner. Some of the statements sound a little peculiar to English readers—for example, the statement on p. 80 that a weight extension may be used with a Barnes's bag. This is, of course, practically quite impossible but it can be done with a Champetier de Ribes's bag. Then, again, on p. 85 we are told that vaporisation of the uterus is contra-indicated in cases complicated with appendicitis; surely no surgeon would dream of performing any such operation on a woman suffering from an attack of appendicitis. The illustrations are very good and serve their purpose and on the whole the book is a satisfactory example of an atlas of operative work, always a difficult subject to treat in such a way. The translation is in parts rather crude and literal.

Midwifery for Midwives. By W. Denison Wiggins, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. With 44 illustrations. London: Baillière, Tindall, and Cox. 1904. Crown 8vo, pp. xv.—249. Price 3*s.* 6*d.* net.—This little book is designed to cover the requirements of the examining board authorised by the Midwives Act, 1902. The very good advice is given by the author that candidates would be well advised to obtain a certificate of efficiency in general nursing covering a period of three years before taking up this special branch of obstetric nursing. As he points out, in this way they come to the subject with a considerable amount of knowledge concerning technical terms and, more important still, with an appreciation of what is meant by surgical cleanliness, perhaps the most important of all requirements in a monthly nurse. This little book is clearly and succinctly written and the author has not committed the mistake of going into too much detail. We can recommend it as suited to the class for whom it is intended.

A Short Practice of Gynæcology. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. Dub., ex-Assistant Master, Rotunda Hospital. Second edition, revised and enlarged. With 223 illustrations. London: J. and A. Churchill. 1903. Pp. 403. Price 10*s.* 6*d.* net.—A considerable amount of revision has been undertaken by the author in the preparation of the second edition of his well-known text-book on gynæcology. The work has been much enlarged and altered in size so that the page is a good deal larger and the figures are correspondingly clearer. Nearly 100 new illustrations have been added and they do much to render the work more valuable and attractive. The book will prove interesting not only to the student but also to the teacher as it gives him a clear exposition of the current teaching of the Dublin school of gynæcologists. As we said of the first edition, the book is written clearly and practically and evidently by one who is a good teacher and understands the value of method in his writings. It is a book which we have no hesitation in recommending strongly to the student and the second edition is no less likely to be received favourably than was the first.

A Complete Handbook of Midwifery for Midwives and Nurses. By J. K. Watson, M.D. Edin. London: The Scientific Press, Limited. 1904. Pp. 348. Price 6*s.* net.—As the author points out in his preface, the question as to whether in a book for midwives subjects should be dealt with which it is never intended the midwife should have anything to do with in the practice of her art, is a difficult one to decide. Dr. Watson thinks that the answer should be in the affirmative and accordingly his aim in writing this work has been "too much" rather than "too little." The wisdom of this procedure seems to us somewhat doubtful and we are inclined to think that the subject is considered in rather too great detail in this handbook. It will be of value to women with a good deal of general education who propose to become midwives, but we are afraid that the style in which it is written will make it too complex for the ordinary, only too often but poorly educated, woman who contemplates following this occupation. The whole subject of midwifery is carefully considered and there are two useful appendices, the first dealing with the nursing of gynæcological cases and the second giving in detail the more important of the rules for the guidance of midwives issued by the Central Midwives Board. The book is a useful one and likely to be of assistance to those women who are sufficiently well educated to avail themselves of its help.

JOURNALS AND MAGAZINES.

Edinburgh Medical Journal.—To the February number of this magazine Mr. Harold S. Barwell contributes an interesting article on Laryngeal Tuberculosis in which the prognosis and the treatment of this grave affection are discussed. At the present day the outlook for sufferers from this disease is perhaps less hopeless than was the case some years ago. A certain small proportion of cases appear to recover entirely if they are taken in time and treated hygienically. Only too often, however, palliative measures are all that are possible and of anæsthetic drugs suitable for laryngeal use Mr. Barwell prefers heroin hydrochloride. Surgical methods may be followed by good results in suitable cases. The author speaks of epiglottic cases as being of bad prognosis but it must be borne in mind that it is possible to remove this appendage with good effect. In an article on Anæsthetic Mixtures and Sequences in General Anæsthesia Mr. G. W. Bampfylde Daniell points out the great choice of such sequences which are at the disposal of the anæsthetist. Some interesting figures are given showing the gradual replacement of chloroform by "gas and ether" in the Edinburgh Dental Hospital since 1897. A review, in the form of an editorial note, of Dr. Sabouraud's recent book on "Pityriasis and Alopecia" gives a useful summary of the growth of knowledge with regard to these conditions of the skin.—The March number opens with an important article by Mr. A. Logan Turner upon the Operative Treatment of Chronic Suppuration in the Frontal Sinus. The comparative merits of preserving and of obliterating the sinus are discussed and allusion is made to a new method of procedure devised by Killian which is designed to admit of the radical treatment of the disease with a minimum of disfigurement. The author suggests that a collective investigation as to the results of treatment in disease of the sinus and of the antrum would be of considerable value. Dr. A. F. R. Conder reports two cases of Addison's Disease and compares with them that of an imbecile patient who exhibited very similar symptoms but post mortem the characteristic lesions of the suprarenal bodies were not found; he suggests that in this patient there may have been functional defect of the secretion. A paper by Mr. Archibald Stodart-Walker contains some disquieting reflections upon the decrease in the birth-rate and discusses its social causes. We cannot quite agree with the author in his attempt to trace the higher birth-rate among the lower classes to their possession of higher moral principles. We can hardly believe that it is the duty of every married couple to produce the greatest possible number of children without regard to their ability to give these children an education and a start in life such as will enable them to occupy their parents' position in the world. Prudence and self-respect are not necessarily vices, nor are their opposites virtues except in the eyes of the mere statistician.

Scottish Medical and Surgical Journal.—In the February number Dr. Stephenson continues his account of "Obstetric Views that Need Reviewing," the present (concluding) portion of his paper emphasising the importance of the property of retraction possessed by the uterine muscle in addition to its active muscular contraction. Retraction appears to be practically equivalent to elasticity. Dr. W. G. Aitchison Robertson deals with the important subject of the purity of our milk-supplies. He lays stress upon the necessity for insisting upon the maintenance of the strictest hygienic conditions in all dairies and cowsheds and advocates the sanctioning of the addition of small amounts of antiseptics to milk as a much smaller evil than allowing it to decompose. In a paper dealing with the Histology and Genealogy of Hæmophilia Dr. Alexander Goodall concludes that the disease is due to defective coagulation of the blood rather than to any anatomical defect in the vessels.—We are glad to read the sensible article contributed by Dr. Francis D. Boyd to the March number. He lays stress in the treatment of gastric ulcer on the simple and commonsense method of physiological rest. Dr. Boyd advises total starvation for a few days, the patient receiving only water per rectum. Surgical measures are only called for in cases of chronic ulceration or of recurrent severe hæmatemesis. Mr. G. F. Barbour Simpson records a case of Fatal Irreducible Prolapse of the Uterus and Dr. R. A. Fleming narrates his experiences in the treatment of advanced dilatation of the heart by massage and exercises, with which he is very favourably impressed.

Birmingham Medical Review.—In the January number of this review Mr. O. G. Higginson recalls the pioneer work done by Bodington and MacCormac in advocating the treatment of pulmonary tuberculosis by open air and plentiful feeding, and Mr. H. May discusses the birth-, marriage-, and death-rates as compared with the changes which have taken place in the age distribution of the population and comes to the conclusion that the correction thus introduced into the statistics only emphasises the depressing tendency of the figures. In the February issue Professor Jordan Lloyd discusses the technique of partial and complete removal of the tongue and Mr. F. Victor Milward advocates the use of the sigmoidoscope in cases of rectal disease, pointing out that the use of Strauss's instrument is not very painful to the patient while it enables a full view to be obtained of a considerable length of the bowel.

Annals of Ophthalmology. Edited by JAMES MOORE BALL, M.D. St. Louis, Missouri, U.S.A.: Jones H. Parker. Vol. XIV. No. 1. January, 1905. Annual subscription for four quarterly parts, 18*s*.—This journal contains 15 original articles and a large number of abstracts from the ophthalmic literature of America and England, France, Germany, Spain, and Italy, which are done well on the principle of the division of labour, each subject being placed by the editor in the hands of one familiar with the language. Amongst the more interesting of the original articles are (1) that by Henry D. Bruns, M.D., of New Orleans, on the Removal of the Lens in High Myopia. Dr. Bruns holds that extraction of the lens is strongly to be advised in extreme myopes between the ages of 10 and 25 years. The prophylactic value of the operation is very great and the operation should consist in repeated discission. One eye only should be operated on at a time and a considerable interval should elapse before the second eye is attacked. The operation is contra-indicated for extreme myopes of, or beyond, middle age, especially in those in whose eyes extensive pathological changes have taken place. 2. An article by Dr. Bourgeois of Rheims on the Treatment of the Accidents of Infection after the Operation for Cataract. 3. A note by W. N. Souter, M.D., correcting a common misconception of Astigmic Refraction. 4. Dr. Liebreich discusses the Influence of the School upon the Eye and Spinal Column, in which he gives the result of his ripe experience on this subject. The number is adorned by a frontispiece consisting of the portrait by Faber after Ryche in mezzotint of the well-known charlatan-oculist, John Taylor, who lived in the eighteenth century and was oculist to George II., and there is also a plate copied from Hogarth's "Consultation of Physicians," in which that great painter has given free play to his humour in caricaturing the heads of the profession in his day.

National Service Journal.—We have received a copy of the February issue of this journal, the official organ of the league which bears this name. The emblematic cover represents Peace armed with shield and spear whom a figure representing War is apparently afraid to attack. A cartoon among the contents of the journal entitled "The Path of Duty is the Path of Safety" shows a youth being led by Duty through the forest of Ignorance. This picture, which is intended of course to convey an important moral lesson, might well be a little less suggestive of a scene from a pantomime. The articles on the National Significance of Universal Training, Naval Lessons of the War, and other subjects of an imperial interest will no doubt be read with the attention which they deserve. The price of the journal is 3*d*. and it can be obtained at Dacre House, Victoria-street, Westminster, S.W.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

STERILISOL.

(DR. A. FOELSING, FRANKFURT A M. AGENCY, DUFFIELD AND FUNK, 3, LOVE-LANE, EASTCHEAP, E.C.)

STERILISOL is an aqueous solution of trioxymethylene which is a polymer of formaldehyde. Hitherto it has not been found practicable to prepare an aqueous solution of trioxymethylene free from formaldehyde or, what is the same thing, oxymethylene. In fact, when trioxymethylene is dissolved in water under ordinary conditions some dissociation takes place, formaldehyde forming. If, however, the trioxymethylene is dissolved in water at from 40° to 45° C. in vacuo there is no separation of formaldehyde. Sterilisol represents an aqueous solution of trioxymethylene free from formaldehyde or oxymethylene. On evaporation in vacuo a residue of trioxymethylene is obtained. On the other hand, a solution of formaldehyde evaporated in vacuo yields no residue. The preparation is, like its prototype, an exceedingly powerful antiseptic, germicide, and deodorant; and it is doubtless, as it is claimed to be, an effective preservative, but it seems to us that its use for preserving food is open to the same objection as is formaldehyde. The solution is neutral in reaction and on boiling in the open air gives off formaldehyde. Sterilisol rapidly reduces alkaline solutions of silver salts.

GLUTEN BREAD.

(LACOSTE FRÈRES, VILLEMUR, FRANCE. AGENTS. C. THEELKF, 106B, CASTWICK-ROAD, WEST NORWOOD.)

The old form of gluten bread—that is, a puffed-out loaf—is very well represented in this preparation. According to our analysis the bread contains 75 per cent. of gluten, the balance, 25 per cent., being accounted for by starch and a trifling amount of mineral matter. This bread supplies, of course, a loaf which is suitable for the use of those who are forbidden a carbohydrate diet.

SPANISH BRANDY.

(JIMENEZ AND LAMOTHE, MALAGA AND MANZANARES. AGENCY: FREDK. BOEHM, 16, JEWRY-STREET, LONDON, E.C.)

We have on more than one occasion pointed out that excellent brandy is distilled in Spain and some security is obtained as to its genuineness by the fact that the excise regulations in that country in regard to foreign spirit (grain and potato spirit) practically prohibit the adulteration of brandy with spirit that is not derived from the grape. It is fortunate when excise regulations protect the consumer and when, as a matter of fact, it is unprofitable to the producer in the case of brandy to use anything else but grape spirit. We wish that such were the case in this country. This sample is an excellent brandy and we have no doubt that it is not only a genuine grape spirit but one that has been produced in the pot still. The following analysis in regard to secondary products sustains this view. The results, given in grammes per hectolitre of absolute alcohol present, were as follows: acidity reckoned as acetic acid, 50·00; aldehyde, 26·00; furfural, 1·90; ethers reckoned as ethyl acetate, 90·00; and higher alcohols, 104·00: total secondary products, 271·90. *These figures* agree very closely with those obtained in the analysis of genuine Cognac brandy. The exception, however, occurs in regard to the amount of aldehyde which is in excess of that generally obtained with Cognac brandies, aldehydes, in fact, being a feature of the distillate of Spanish white wines. Further results of analysis were obtained as follows: alcohol, by weight 40·90 per cent., by volume 48·32 per cent., equal to proof spirit 84·68 per cent.; extractives, 1·54 per cent.; and mineral matter, 0·03 per cent. The flavour is acceptable, though somewhat "fuller" than delicate vintage brandies, and is distinctly sweet. The sweetness, however, is not due to sugar. This brandy, on the whole, as regards finesse, bouquet, &c., bears a distinct resemblance to the Cognac product.

(1) SOLUBLE INFANT'S FOOD (THEINHARDT); AND (2) HYGIAMA (THEINHARDT).

(AGENTS: C. HOHMANN, 33, SEETHING-LANE, LONDON, E.C.)

Both these preparations have received our attention on a previous occasion but they have since been improved, it is stated, by increasing the proportion of proteid and fat and of carbohydrates soluble in water. On comparing our recent examination with that made 12 years ago we find that this statement is true. In the case of the infant's food in particular the fat has been advanced from 5 to nearly 8 per cent. while of the 70 per cent. of carbohydrates nearly 54 per cent. are soluble in water; and in "hygiama," while the fat remains the same, all but 10 per cent. of the carbohydrates, which amount altogether to 60 per cent., are soluble in water. Both preparations contain a high proportion of proteid, the infant's food just over 16 per cent. and "hygiama" nearly 22 per cent. The preparations belong to the class of malted farinaceous foods in which the constituents are rendered soluble to a large extent and digestible by diastasic action.

SYLVIA SOAP.

(THE SYLVIA SOAP CO., 62, COLEMAN-STREET, LONDON, E.C.)

Sylvia soap is described as a pure neutral soap "with which are incorporated certain animal principles which are absorbed by the skin and exert a solvent action on the underlying adipose tissue." We agree that the soap is a pure neutral soap but we must confess to great misgivings as to its power of reducing corpulency, and we can find no record of practical evidence on this point. As to what the certain animal principles are we may make a shrewd guess after finding that the soap gives a very marked reaction characteristic of biliary acids. Thus when a solution of glucose in strong sulphuric acid is poured into a pool of a solution of the soap a brilliant play of crimson colours is produced. The soap contains a mineral substance of the nature of French chalk. These results coincide with those which we obtained with a soap known as "amiral" soap, noticed in THE LANCET of July 30th, 1898, p. 266.

New Inventions.

THE "LOCKET" POISON BOTTLE.

WE have received from the Locket Patents Company a sample of a new poison bottle which presents some distinctive features. It somewhat resembles the round ended inverted bottles commonly used in museums and shops for the display of specimens. These bottles usually have a glass stopper with a large flattened head on which they stand but the poison bottle is closed with a cork inserted in a neck of the usual description. The shoulder of the bottle close to the neck has an external screw-thread in the glass and on it there screws a flat-ended cap which supports the bottle in the vertical position with the rounded extremity uppermost. It is, therefore, impossible even for a blind person to mistake this poison bottle for one of the ordinary kind. The bottle is of transparent blue glass; including the cap its dimensions are five and three-quarter inches high and one and a half inches in diameter. The address of the Locket Patents Company is 6, Mornington-place, Hampstead-road, London, N.W.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 21, 1827.

Insanity was very common during the commonwealth; cant and impiety and murder, were the orders of the day Cromwell, at least, was mad: his chaplain, Godwin, told him, that the elect would never be damned; then "I am sure," says he, "that I am safe; for I was once in a state of grace." On his death bed, "I tell you," cried he to his physicians, who had warned him of his end, "that I shall not die of this distemper; I am well assured of my recovery; favourable answers have been returned from heaven, not only to *my own* supplications, but likewise to those of the godly, who have a more close correspondence with God *than* I!" Other parts of his life may be quoted in proof of the delusion; nor was he solitary in his madness. When Colonel White went with an armed band to dissolve the parliament of the times, he found one Moyer in the chair, who being asked what they did there, replied that they were seeking the Lord; "Then you may go elsewhere," cried White, who was clear of the delusion, "for, to my certain knowledge, the Lord has not been here these many years." It is clear, therefore, that a species of theo-mania was very common at that period.* Plagues and influenzas were also common. Is it too much to suppose that the atmospherical causes which produced the one, had some share in producing the other? We well know, that some conditions of the body change with the weather; why not the brain? On the day Cromwell died (Sept. 3, 1658,) there was a violent storm, which the influence of the sun and moon had some share in raising; and it is certain that *madmen* are worse, and that other effects are produced on animals at the quadratures of the moon. The idea of this influence will, we dare say, be laughed at; but beyond all doubt, considerable changes are produced in animal bodies, about the period of the autumnal and vernal equinoxes. The weather has much concern with diseases, and the sun and moon most assuredly have much effect on the weather; they must, therefore, be allowed to have a particular influence on animals, indirectly, at the least.[1]

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* Notwithstanding the delusion so common in that day, these people were shrewd and politic, and conducted the affairs of the nation with an energy unknown before. It is evident, therefore, that the manifestations of one or more faculties of the mind may be deranged or destroyed, without affecting the others; and hence it is perfectly unreasonable that a man should be deprived of his liberty and his rights, because he may happen to hold opinions upon a subject or two discrepant with those of his neighbours, unless his false perception of things be likely to lead to violence or crime.

[1] Excerpt from lengthy reviews of three books on insanity by the following authors respectively, viz., J. G. Spurzheim, M.D., Paul Slade Knight, M.D., and Alexander Morison, M.D.

FOREIGN UNIVERSITY INTELLIGENCE.—*Copenhagen:* The gold medal offered for an essay on Colour Blindness has been awarded to Dr. Henning Chr. Trappaud Rönne.—*Giessen:* Dr. Johann Georg Mönckeberg has been recognised as *privat-docent* of General Pathology and Pathological Anatomy. Dr. Best, *privat-docent* of Ophthalmology, and Dr. Boetticher, *privat-docent* of Surgery, have been promoted to Extraordinary Professorships.—*Gottingen:* Arrangements have been made with Dr. Ehrlich, Director of the Institute of Experimental Therapeutics in Frankfort, to deliver a course of lectures in this university, in which he is an honorary professor.—*Leipsic:* Dr. Garten, *privat-docent* of Physiology, and Dr. K. Hirsch, *privat docent* of Medicine, have been promoted to Extraordinary Professorships.—*Tübingen:* Dr. Dietrich, Assistant in the Pathological Institute under Professor Baumgarten, has been promoted to an Extraordinary Professorship.

THE LANCET.

LONDON: SATURDAY, APRIL 22, 1905.

Industrial Alcohol.

IT has long been to the prejudice of a certain large section of the trade of this country that alcohol used exclusively for the purposes of manufacture has had to bear revenue expenses which make it far more costly to English manufacturers than it is to manufacturers abroad. Indeed, the decadence of certain home industries is attributed in some quarters to the facilities generally afforded to foreign manufacturers for obtaining cheap alcohol. While undoubtedly there exist obstacles to the progress of certain industries in this country on account of the high price of alcohol compared with that which obtains abroad, it is a mistake to suppose that Germany's scientific industries have advanced entirely for that reason. The great coal tar dye industry, for example, was founded in this country but its rapid development in Germany practically ruined the manufacture here, not because alcohol was dear but because our manufacturers were so slow to realise the value of the application of scientific principles to the processes of manufacture. There is far too much of "the rule of thumb" principle still existing amongst our manufacturers who have earned for themselves the reproachful title of "thumbers." However, it is easy enough to mention a goodly list of industries in the country which are undoubtedly heavily handicapped against foreign traders by the relatively high price of alcohol and it is, therefore, reassuring to learn that the Departmental Committee on Industrial Alcohol, in its report just issued, believes that the recommendations which it has made will (if adopted) place the manufacturers of this country, in respect of the use of alcohol in the industries, on a footing of equality (in some respects of advantage) with their competitors abroad.

Practically, the committee suggests that the only adequate course to take in regard to reducing the price of alcohol is to neutralise for industrial spirit the enhanced cost of production due to excise control. This enhanced cost is already neutralised in the case of exports by granting an allowance on such spirit at such rate as may from time to time be taken as the equivalent of the increase in cost of production due to revenue restrictions. At the present time the rate is taken at 3*d.* per proof gallon for plain spirit and the allowance would accordingly be at this rate and should, the committee thinks, be paid equally on all industrial spirit, whether it be of British or of foreign origin. It is further recommended that ordinary methylated spirit should contain only 5 per cent. of wood naphtha instead of 10 per cent. This is calculated to cheapen methylated spirit while it will diminish any prejudicial effect that the chemical properties of wood naphtha may have in certain manufactures, and at the same time it will continue to ear-mark the spirit sufficiently to allow detection by analysis should the methylated spirit be used for any improper purpose. If these recommendations be adopted it is calculated that the average price of industrial spirit in the United Kingdom will be even lower than the average price in Germany. Further, it is calculated that these concessions will cause to the revenue an annual loss of over £40,000. The committee recognises the important part that alcohol plays in the preparation of pharmaceutical products and fine chemicals. It points out—and we believe it is justified in the statement—that cheap alcohol is perfectly compatible with the requisite quality and character of the compounds produced. A difficulty arises, however, in this case, because there are large numbers of pharmaceutical preparations in which the alcohol remains as free spirit and which must continue to be made from duty-paid spirit. Besides, pharmaceutical preparations are so numerous and so various in character that there are difficulties in making a single process of "denaturing" applicable to them all. These difficulties have been overcome in Germany and there is no reason why they should not be overcome here. The committee recommends that in the manufacture of fine chemicals and pharmaceutical products spirit specially "denatured" should be allowed only where the manufacture is kept entirely separate from the manufacture of tinctures and other preparations in which spirit remains as spirit in the finished products. Finally, it is suggested that the regulations governing the sale by retail of mineralised methylated spirit should be made less stringent and more elastic than hitherto. The committee does not regard the question of the use of spirit for motor-cars as ripe for consideration from the point of view of its inquiry, whilst the use of cheap alcohol for illuminating purposes seems to have escaped its attention altogether.

The Chancellor of the Exchequer has expressed his intention of adopting the recommendations and it is interesting to note that one effect of their adoption may be that the manufacture of industrial alcohol will be encouraged in this country and that after all the growing of potatoes may pay for the sake of the spirit which can be made from them. It is probable also that these concessions will favourably affect the prices of many drugs and that the old preference for English-made goods will not be checked by considerations of extra expense.

A Convalescent Homes Association.

THERE can be no difference of opinion as to the value of convalescent homes. When a patient is discharged from a hospital he is often not yet fit to resume his occupation. He may have recovered from the illness from which he has suffered or the operation which he has undergone but he has not the strength to do his ordinary work. For such a man a short stay at a convalescent home, in the pure air of the country or of the seaside, may suffice to render him more capable of working than he was even before he sought treatment at the hospital. In many cases complete recovery may ultimately ensue even if a sojourn at a convalescent home is impossible, but often a cure will be indefinitely prolonged in the unhealthy conditions of the patient's own dwelling. In most cases recovery is not only much more rapid but also much more complete when suitable acid, 50·00; aldehyde, 26·00; furfural, 1·90; ethers reckoned as ethyl acetate, 90·00; and higher alcohols, 104·00: total secondary products, 271·90. These figures agree very closely with those obtained in the analysis of genuine Cognac brandy. The exception, however, occurs in regard to the amount of aldehyde which is in excess of that generally obtained with Cognac brandies; aldehydes, in fact, being a feature of the distillate of Spanish white wines. Further results of analysis were obtained as follows: alcohol, by weight 40·90 per cent., by volume 48·32 per cent., equal to proof spirit 84·68 per cent.; extractives, 1·54 per cent.; and mineral matter, 0·03 per cent. The flavour is acceptable, though somewhat "fuller" than delicate vintage brandies, and is distinctly sweet. The sweetness, however, is not due to sugar. This brandy, on the whole, as regards finesse, bouquet, &c., bears a distinct resemblance to the Cognac product.

(1) SOLUBLE INFANT'S FOOD (THEINHARDT); AND (2) HYGIAMA (THEINHARDT)

(AGENTS. C. HOHMANN, 33, SEETHING-LANE, LONDON, E.C.)

Both these preparations have received our attention on a previous occasion but they have since been improved, it is stated, by increasing the proportion of proteid and fat and of carbohydrates soluble in water. On comparing our recent examination with that made 12 years ago we find that this statement is true. In the case of the infant's food in particular the fat has been advanced from 5 to nearly 8 per cent. while of the 70 per cent. of carbohydrates nearly 54 per cent. are soluble in water; and in "hygiama," while the fat remains the same, all but 10 per cent. of the carbohydrates, which amount altogether to 60 per cent., are soluble in water. Both preparations contain a high proportion of proteid, the infant's food just over 16 per cent. and "hygiama" nearly 22 per cent. The preparations belong to the class of malted farinaceous foods in which the constituents are rendered soluble to a large extent and digestible by diastasic action.

SYLVIA SOAP.

(THE SYLVIA SOAP CO., 62, COLFMAN STREET, LONDON, E.C.)

Sylvia soap is described as a pure neutral soap "with which are incorporated certain animal principles which are absorbed by the skin and exert a solvent action on the underlying adipose tissue." We agree that the soap is a pure neutral soap but we must confess to great misgivings as to its power of reducing corpulency, and we can find no record of practical evidence on this point. As to what the certain animal principles are we may make a shrewd guess after finding that the soap gives a very marked reaction characteristic of biliary acids. Thus when a solution of glucose in strong sulphuric acid is poured into a pool of a solution of the soap a brilliant play of crimson colours is produced. The soap contains a mineral substance of the nature of French chalk. These results coincide with those which we obtained with a soap known as "amiral" soap, noticed in THE LANCET of July 30th, 1898, p. 266.

New Inventions.

THE "LOCKET" POISON BOTTLE.

WE have received from the Locket Patents Company a sample of a new poison bottle which presents some distinctive features. It somewhat resembles the round ended inverted bottles commonly used in museums and shops for the display of specimens. These bottles usually have a glass stopper with a large flattened head on which they stand, but the poison bottle is closed with a cork inserted in a neck of the usual description. The shoulder of the bottle close to the neck has an external screw-thread in the glass and on it there screws a flat-ended cap which supports the bottle in the vertical position with the rounded extremity uppermost. It is, therefore, impossible even for a blind person to mistake this poison bottle for one of the ordinary kind. The bottle is of transparent blue glass; including the cap its dimensions are five and three-quarter inches high and one and a half inches in diameter. The address of the Locket Patents Company is 6, Mornington place, Humpstead-road, London, N.W.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 21, 1827.

Insanity was very common during the commonwealth; cant and impiety and murder, were the orders of the day Cromwell, at least, was mad: his chaplain, Godwin, told him, that the elect would never be damned; then "I am sure," says he, "that I am safe; for I was once in a state of grace." On his death bed, "I tell you," cried he to his physicians, who had warned him of his end, "that I shall not die of this distemper; I am well assured of my recovery; favourable answers have been returned from heaven, not only to *my own* supplications, but likewise to those of the godly, who have a more close correspondence with God than I!" Other parts of his life may be quoted in proof of the delusion; nor was he solitary in his madness. When Colonel White went with an armed band to dissolve the parliament of the times, he found one Moyer in the chair, who being asked what they did there, replied that they were seeking the Lord; "Then you may go elsewhere," cried White, who was clear of the delusion, "for, to my certain knowledge, the Lord has not been here these many years." It is clear, therefore, that a species of theo-mania was very common at that period.[*] Plagues and influenzas were also common. Is it too much to suppose that the atmospherical causes which produced the one, had some share in producing the other? We well know, that some conditions of the body change with the weather; why not the brain? On the day Cromwell died (Sept. 3, 1658,) there was a violent storm, which the influence of the sun and moon had some share in raising; and it is certain that madmen are worse, and that other effects are produced on animals at the quadratures of the moon. The idea of this influence will, we dare say, be laughed at; but beyond all doubt, considerable changes are produced in animal bodies, about the period of the autumnal and vernal equinoxes. The weather has much concern with diseases, and the sun and moon most assuredly have much effect on the weather; they must, therefore, be allowed to have a particular influence on animals, indirectly, at the least.[1]

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[*] Notwithstanding the de[illegible] that day these people were shrewd and politic, an[illegible] an energy unknown before. [illegible] tions of one or more faculties of the mind may [illegible] without affecting the others; and hence it is perfectly unreasonable that a man should be deprived of his liberty and his rights, because he may happen to hold opinions upon a subject or two discrepant with those of his neighbours, unless his false perception of things be likely to lead to violence or crime.

[1] Excerpt from lengthy reviews of three books on insanity by the following authors respectively, viz., J. G. Spurzheim, M.D., Paul Slade Knight, M.D., and Alexander Morison, M.D.

FOREIGN UNIVERSITY INTELLIGENCE.—*Copenhagen:* The gold medal offered for an essay on Colour Blindness has been awarded to Dr. Henning Chr. Trappaud Rönne.—*Giessen:* Dr. Johann Georg Mönckeberg has been recognised as *privat-docent* of General Pathology and Pathological Anatomy. Dr. Best, *privat-docent* of Ophthalmology, and Dr. Boetticher, *privat-docent* of Surgery, have been promoted to Extraordinary Professorships.—*Gottingen:* Arrangements have been made with Dr. Ehrlich, Director of the Institute of Experimental Therapeutics in Frankfort, to deliver a course of lectures in this university, in which he is an honorary professor.—*Leipsic:* Dr. Garten, *privat-docent* of Physiology, and Dr. K. Hirsch, *privat-docent* of Medicine, have been promoted to Extraordinary Professorships.—*Tübingen:* Dr. Dietrich, Assistant in the Pathological Institute under Professor Baumgarten, has been promoted to an Extraordinary Professorship.

only a tunnel-like entrance and with a consequent absence of circulation of air. The corporation has power to deal with such buildings under a local Act, the Liverpool Sanitary Amendment Act, 1864, and in doing so it has to face the fact that in its worst districts near the docks the population is not only very poor but is engaged in casual labour, which necessitates application for work four times in 24 hours, so that rehousing in distant suburbs is out of the question.

The initiation of the present policy appears to have been due to the discovery that the number of tenants displaced by the demolition of their houses who afterwards occupied the new ones provided by private or by municipal enterprise was infinitesimal owing to the higher rents of the improved dwellings, the natural inference being that the displaced population found its way into old houses which were insanitary and were awaiting their turn for demolition. Consequently demolition and rebuilding have been so arranged that for some years past no tenant has been dispossessed by the operations of the corporation without having been given the opportunity of occupying one of the new tenements provided. The dwellings usually erected at Liverpool by the corporation are three storeys in height, the living rooms containing 150 superficial feet and the bedrooms from 125 to 80 feet, with an average height of nine feet, and the materials used are serviceable and conducive to sanitary efficiency. The rents range from 5*s.* 3*d.* to 4*s.* 6*d.* per week for four-roomed tenements, with corresponding grades for those containing three and two rooms, the cheapest two-roomed dwellings costing 2*s.* 9*d.* per week to the tenant. Financially, a rate of about 2*d.* in the £ is at present sufficient to meet the annual cost to the municipality entailed by the building operations which have taken place, and as a portion of this is set aside for the repayment of the loans raised the time is looked forward to in each instance when the new houses will be a valuable asset producing a regular and not inconsiderable rental. Looked at from a sanitary and moral point of view, these new houses, containing, be it remembered, the same inhabitants as the old ones, appear to be productive of considerable improvement in the crowded quarters in which they are situated. The death-rate prevalent in the unhealthy areas which have been dealt with reached on an average, according to Mr. TURTON'S figures, 60 per 1000 per annum. The death-rate in the new dwellings is at the present time about 25 per 1000 per annum, and it must not be forgotten that where this lower rate is found the families have lived hitherto in unhealthy surroundings, so that they must be considered still to feel the influence of the unfavourable conditions from which they have been saved. These figures by themselves are an eloquent testimony to the importance of the housing question and to the practical and ascertainable nature of the results which can be arrived at by judicious measures.

No less important are the facts relating to the moral and the social aspect of the case. Mr. TURTON records from his own observation the outward signs of personal improvement on the part of the families removed to the new buildings, the increasing cleanliness of the houses, the polishing of door handles, the gradual provision of window curtains and even of plants, and the additions made to the scanty store of furniture. Statistically he supports his case with figures furnished by the chief constable, from which the following may be cited. In 1894 in a typical district before demolition of the insanitary buildings began there was a total population of 1393 persons and the number of those charged with drunkenness, with assaults, and with other offences who gave addresses in the streets included was 202, while 64 arrests took place within the area. In 1904, ten years later, new houses had taken the place of the old ones, accommodating 1246 persons, and these had been occupied for a year. During the same length of time the corresponding figures were 84 and 12 respectively. If improved conditions such as these can be brought about and maintained by placing the poorest of our citizens in healthier homes and thereby increasing their self-respect and their desire to lead decent lives, it would seem that a substantial *proportion of the* money expended must necessarily be repaid by the economy effected in other directions. Liverpool is to be congratulated upon the success which has attended a business-like method of dealing with a difficult question and its citizens should be encouraged to persevere in the completion of the work which they have begun. They commenced it in 1864, when the Act of Parliament referred to was passed and when it was estimated that there were 22,000 structurally insanitary houses. In 1902 it was found that nearly 10,000 houses remained to be dealt with, and though this figure shows that much is yet to be done Londoners will hardly be able to help envying a city in which the task of housing the working classes may be said to be of reasonable dimensions. It must be noticed, however, that even the system adopted at Liverpool does not provide for all those displaced. According to Mr. TURTON there is always a residuum who cannot face the change. These have lived, and will continue to live, from hand to mouth, paying no rent where it is possible to avoid it, and shunning habitations such as those under municipal control, where the payment of rent and a certain amount of decency of conduct are indispensable conditions of tenancy. Although some of these will remain to spread disease and vice until the last slum has been levelled and rebuilt, their numbers will grow less as the habitations which shelter them grow fewer and as the conditions which contribute to the increase of their numbers are ameliorated.

Annotations.

"Ne quid nimis."

GALL-STONES AND CANCER.

FOR many years it has been believed that the association of gall-stones with malignant disease of the gall-bladder or biliary passages is very common, and when careful statistics bearing on the subject have been prepared no doubt can remain that a large proportion of persons who suffer from gall-stones die from carcinoma of the biliary tract and that in nearly all cases of malignant disease of this region gall-stones are present or a history of their previous existence can be obtained. Whatever theory we may hold as to the etiology of malignant disease this connexion is clear. Dr. G. R. Slade of the London Hospital has been carefully investigating the cases in that institution in which gall-stones have been found at the post-mortem examination or in which malignant disease of the gall-bladder has been present. The results are very striking. In all 33 cases of gall-stones were discovered amongst 2180 consecutive complete necropsies and in just one-half of these (17 out of 33) no symptoms indicating gall-stones had been present and in all but one of these 17 cases there was no naked-eye evidence of malignant disease, while in the remaining case microscopical examination showed carcinoma. Of the 16 cases where symptoms had been present nine gave definite evidence of the presence of malignant disease, but in the other seven cases, though macroscopically "chronic inflammatory thickening" was present, no histological examination was made. Thus we see from these figures that in 30 per cent. of all cases of gall-stones malignant disease was present as it was in 56 per cent. of all cases where gall-stones had caused symptoms during life. It is very probable that these figures understate the frequency of the association of gall-stones and cancer, for several of the cases where the cystic wall was thickened were not investigated microscopically and may very possibly have been malignant. If it be admitted, then, as admitted it must be, that these two conditions are causally connected, it remains to be decided which of the two is the cause and which the effect; or it is possible that both may be alike effects of a common cause. The supposition need not detain us, though it has been held that as some are inclined to ascribe gall-stones to an excessive diet of meat, so others have been equally certain that malignant disease has a similar origin. Inasmuch as in almost all the cases of carcinoma gall-stones were present, while in as many cases gall stones were present in the gall-bladder but there was no evidence of malignant disease, we are bound to acknowledge that it is almost certain that the gall-stones give rise to the cancer and not the cancer to the gall-stones. In elucidation of the question, How can gall-stones cause malignant disease? we have the fact shown by statistics that carcinoma is especially likely to accompany gall-stones if they are rough and irregular on the surface. Therefore, it is probable that, as in other parts of the body, local irritation tends to excite, or to assist in exciting, malignant disease. What additional cause is necessary we do not know. Recent bacteriological research has shown that many morbid hepatic conditions are microbic in origin which were formerly looked upon as of other etiology. This fact of itself might suggest that possibly in malignant disease of the gall-bladder also we have a micro-organism as a causative factor in addition to the local inflammation. Be this how it may, we can feel assured that we are not in error in ascribing carcinoma of the gall-bladder to the chronic irritation and injury caused by gall-stones with some additional etiological element at present unknown to us. The practical bearing of the close association of gall-stones and malignant disease of the gall-bladder is obvious. If it be true that over 50 per cent. of all cases of gall-stone end in malignant disease, and this must certainly be admitted, it should follow as a necessary corollary that total removal of the gall-bladder in cases of cholelithiasis would be preferable to mere cholecystotomy and evacuation of the stones, provided always that the increase of the danger of the operation was not enough to counter balance the improved prognosis should the operation succeed. In the hands of a skilled operator the increase in the risk is but small and when cholecystectomy is performed there is the additional advantage that the chance of a biliary fistula is obviated. The physiological value of the gall-bladder is slight, so that its loss is not felt so far as we are aware. Dr. Slade's paper (which is published at p. 1059 of our present issue) is a good example of the utility of careful statistical inquiries and we hope that he will continue his investigations into this important matter.

INFANTILE MORTALITY.

AT a recent meeting of the Prestwich board of guardians the third report of Miss Pollitt, the inspector under the Infant Life Protection Act, was read. She said that there were 29 infants on her register; 20 were illegitimate, 14 of them being entirely supported by their mothers who were domestic servants. She stated that instead of decreasing the rate of infantile mortality was increasing, notwithstanding all the improvements in the conditions of life. She could only put it down to the ignorance and the neglect of the mothers. We may well wonder whether, with all the costly and elaborate arrangements for teaching accomplishments in our elementary schools, it will ever occur to doctrinaire educationists that there are practical matters affecting the life and the well-being of poor people which will not be solved satisfactorily until more attention is given to subjects bearing on health and everyday duties.

OIL IN TOBACCO.

WE have received from the Scottish Anti-tobacco Society a communication in which it is suggested by Mr. Rutherford Hill that the irritating effects of tobacco smoke may be largely due to the combustion of oil. Tobacco, of course, contains a natural oil but for the purpose of manufacture the practice of adding oil is on the increase, as was shown in the last report of the principal chemist of the Government laboratory. The oil used is stated to be best Florence oil, which on imperfect combustion would yield the intensely acrid and irritating vapour, acrolein. While we quite agree that the formation of acrolein in this way would be a contributory factor to the irritating property of tobacco smoke, yet it must be borne in mind that the products of the destructive distillation of the tobacco leaf, even free from added oil, contain a great number of substances of a similarly acrid character. Such, for instance, are pyridine, furfural, butyric and valeric acid, ammonia compounds, and so forth. The addition of glycerine which is also practised would again give rise to the formation of acrolein, while glucose would give irritating products on partial combustion. The proportion of added oil, glycerine, or glucose is, however, in most cases small and probably insignificant having regard to the proportion of tobacco smoked. We object, however, to the principle in general of adding any foreign substance whatever to tobacco and the less tampering there is with the leaf the better and the less injurious is it likely to be. But it seems to us that we do not require to resort to an enumeration of the various constituents, good or bad, of tobacco to prove that smoking by juveniles is a pernicious practice. Any movement to suppress the habit amongst children has our complete approval.

THE DANGERS OF THE STREETS.

A CORRESPONDENT in addressing us upon the subject of the dangers to pedestrians in the London streets includes in his indictment the hat-pins of the women—"unclean imitations," he terms them, "of the ladies' dagger of the Middle Ages,"—and the bad language of the men. There is much force in his contention that both hat-pins in women's heads and oaths in men's mouths do form public dangers. Among a certain class hat-pins are constantly used as weapons of offence and when they are not employed in this manner by the design of the wearer they often threaten the eyes of others in a really dangerous way. It ought to be possible for an ingenious milliner to devise some less dangerous method of fixing on the hat. Nor is the modern headgear of women without its pathological significance. On a windy day the leverage on the roots of the hair when the large and flapping headgear is endeavouring to sail away is one of the causes of the headache of which most women complain after a buffeting by the elements. *Il faut souffrir pour être belle* is an old saying, but many women do not know that they have only their hats to thank for their headaches, while the aphorism does not suggest that the eyesight of other people should suffer for beauty's sake. The evil caused by thoughtless men who do not sufficiently restrain themselves in their use of unseemly language cannot be exactly estimated. It can only be guessed at, but the fact remains that it is quite impossible for women to pass along many of our streets without their ears being assailed by expressions which must insensibly affect them. In puerperal and even in other forms of insanity nothing astonishes the friends more than the indecent expressions and the oaths used by the patient. They cannot understand where and how these phrases have been acquired. There are, unfortunately, too many opportunities for the incorporation into the mental life of objectionable elements which, at first latent, declare themselves in all their objective repulsiveness when the patient becomes a reflex machine, as it were a phonograph reproducing the impressions of these street vulgarisms.

THE DISCOVERY OF THE DISCOVERED.

M. O. van Schoor in an essay in the *Journal de Pharmacie* for March on the evolution of medicine accentuates the truth of the adage, *Nil novi sub sole*. Some of his illustrations are worth giving. Hippocrates was aware of the patches in the intestines the discovery of which is ascribed to Peyer (1680), and Caspar Aselli (1600) is wrongly said to have discovered the chyliferous vessels to which Herophilus and Erasistratus drew attention (250 B.C.). The pancreatic duct, the discovery of which is attributed to Hoffman and Wirsung (1630), is mentioned by Eudemus, a contemporary of Galen. Again, Alcmæon, who lived in the fourth century before Christ, refers to the auditory duct which afterwards bore the name of Eustachian tube. The same thing has occurred in therapeutics. Many remedies that were employed in remote antiquity fell into disuse and were again introduced into practice at a later date. Thus, arsenic was used as a febrifuge by Lentilius and Hippocrates recommended it for cancerous affections. The most recent researches have resulted in the employment of arsenic for the same purpose in the form of organic compounds—e g., the cacodylates and arrhenal. Pythagoras recognised the diuretic value of squill but its use lapsed for a long period. Opium has been found in the dwellings of the inhabitants of the lake villages of Switzerland as well as in ancient Egyptian tombs, but afterwards it appears to have been forgotten during several centuries. Hippocrates employed this drug freely as a sedative and afterwards it had a vogue in the Middle Ages. Even Paracelsus did not scruple to use this vegetable drug in the case of one Kornel von Lichtenfels who had vainly tried other practitioners without being cured. Paracelsus speedily effected a cure but it is of interest to note that the patient refused to pay the fee which had been agreed upon before the treatment was begun. The case was tried before the court at Baslé, with the result that the fee was reduced to a few florins. This so angered Paracelsus that he reproached the judge and so brought about his banishment and the loss of the chair which he occupied in the university. A remedy known to Galen was the male fern which after the lapse of centuries was brought to the notice of Louis XIV. by a quack. In surgery it is no less true that some of the methods employed by modern advanced surgeons were known to the ancients. Thus Hippocrates mentioned intubation of the larynx and Cœlius Aurelianus gave instances of the successful operation of tracheotomy. Praxagoras ventured to perform a laparotomy, and employed intestinal sutures. Operations for hernia were performed 250 B.C. and Serapion removed diseased kidneys. P[illegible] in 1650, af[illegible] That the p[illegible] by the fact that contemporaries of Hippocrates were in the habit of dipping their instruments in boiling water. In the thirteenth century it was customary before operating to administer to patients by means of sponges placed in the nose the juices of sedative plants—e.g., stramonium, belladonna, and mandragora, consciousness being regained by the application of vinegar compresses. Among other methods of treatment now in vogue hydrotherapy, gymnastics, and the open-air treatment were practised by the Romans and the Greeks. Hypnotism was thought highly of by the priestly physicians in the temples of Isis in ancient Egypt. Perhaps one of the oldest forms of medication is organotherapy, which after a period of decline has again come into vogue. In medicine and surgery, as in all the arts and sciences, methods become general, then lapse into disuse, to be revived possibly at a later period and then to achieve a popularity which attaches to a supposed new thing.

THE QUEEN'S JUBILEE HOSPITAL.

THE simultaneous resignation of the majority of the members of the medical staff of a hospital always should afford material for inquiry, even though no difficulty should have been experienced in filling the vacancies thus created. It will be remembered that the Queen's Jubilee Hospital has of late been attracting attention and to those who are acquainted with its early history the marvel has been that the trouble has not made an earlier appearance. The initiation and the foundation were questioned from the first and many protests were raised against calling a new hospital into existence with a name which, though attractive, was scarcely warranted. The local need of the hospital was not apparent, since within reasonable distance a larger and better equipped hospital had been established for some years. Through all the appeals it was evident that the conception of the need of the hospital and of the suitability of its name originated with a general practitioner who was ready to contribute largely and to identify himself with the undertaking. In the natural course of events a medical staff became associated with him and a board of management was formed. The work has not, however, progressed smoothly and on Feb. 8th the late medical staff, with the exception of Mr. R. F. Benham and the dental surgeon, resigned, the new staff taking over the work on or about March 8th. On March 13th the chairman, Mr. G. R. Everitt, wrote to the authorities of King Edward's Hospital Fund, asking them to make inquiries "in connection with the recent trouble at this hospital and if possible to make arrangements for such investigation." Eventually Mr. Frederick M. Fry and Mr. J. Danvers Power were appointed to make an inquiry. Two visitors of the hospital—namely, Sir Thomas Smith and Mr. H. G. Smith—were also invited to serve on the inquiry but the former was unable to attend and the latter was out of England. Mr. Fry and Mr. Power held three sittings at the hospital, on April 6th, 7th, and 8th, and paid a visit of inspection on April 10th. The board of management was represented by Mr. Tom Green and Mr. Bavin and the late medical staff by Mr. R. P. Brooks, from whom, says the committee of inquiry, "we received every assistance." The report of the committee contains 23 clauses of which the last four are recommendations. The salient points of the report are as follows. As regards Mr. Benham it may be assumed that he continues to act on the staff for reasons personal to himself. "Unless these are connected with his recognised professional eminence, as distinct from academic qualifications, the only conclusion we can draw is that he occupies his position as a member of the medical staff in virtue of his being the founder of the [illegible] Should this be the case his position is a false one." [illegible] new staff the report says: "Individually and [illegible] new staff may have acted quite correctly for anything we can say to the contrary." The committee considers that the hospital has not been well conducted and that the old staff had not a free hand; that the board of management was not aware of many facts of which it should have had knowledge; and that the actual occasion of the resignation of the late medical staff "was not the best which might have been chosen." Further, "The charge against the ophthalmic surgeon we dismiss as unfounded. No corroborative evidence in support of the charges against the resident medical officer was brought before us." Clause 19 of the report states that in the opinion of the committee of inquiry a building on a large scale for in-patients is not required on the site of the hospital but that "as a casualty and out-patient department with a few beds attached, a properly constructed building might do useful work in the neighbourhood." The second recommendation runs as follows: "The advice we offer is that a period of, if possible, 12 months be placed between the present and the future permanent management of the hospital and that all the members of the present staff and board should resign, the treasurer and trustees continuing to perform their present duties." Another recommendation is that the governors should suspend the constitution, rules, and by-laws of the hospital for 12 months, and should elect, on the nomination of the executive committee of the King's Fund, a few gentlemen as a board of management to carry on the affairs of the hospital for that period under such temporary rules as they may find it desirable to frame. This board of management should be empowered to appoint, "with the approval of the Presidents of the Royal Colleges of Physicians and Surgeons if they should consent to give the matter their consideration, a medical staff to serve for one year." We can only hope that the governors and other authorities of the Queen's Jubilee Hospital will agree to abide by the recommendations of the committee appointed by King Edward's Hospital Fund.

RADIO-ACTIVITY AS A FACTOR IN HYDROTHERAPY.

SOME years ago, at about the time when argon and its equally inert colleagues krypton, neon, and xenon were discovered, we ventured to suggest that these elements owing to their occurrence in natural thermal waters might account, in part at any rate, for the value of these waters in the treatment of disease since it could hardly be supposed that a *few* grains per gallon of chalk, sulphate of lime, common salt, and so on could have any marked beneficial influence. The case is different with waters which contain a *notable* amount of salts, such as carbonate of soda or the aperient salts of soda and magnesia. The waters of Bath, Buxton, Contrexéville, and other places exhibit a comparatively feeble degree of mineralisation and yet there can be no doubt of their therapeutic value. Nor can it be supposed that a water which is naturally hot can have greater therapeutic effects than would be gained by the similar use of artificially heated water. So far, then, the findings of the physicist and the chemist do not afford a satisfactory hypothesis in regard to the therapeutic value of such waters. The question now arises whether the fact that these waters are radio-active will supply any explanation. Most, if not all, of the thermal springs in Europe which have been examined have been found to contain in slightly varying quantities argon and helium and in the majority of cases these waters have been found to be distinctly radio-active. Indeed, the presence of argon and helium would appear to be inseparable from radio-active properties. We seem here to be getting some light at length on what has long been an enigma, that of two waters showing the same chemical composition as regards their saline constituents the one of natural origin is distinctly superior therapeutically speaking to the one artificially compounded. The fact is that a natural water welling up from the earth is at the moment of its discharge from its source radio-active, while ordinary drinking water, rain water, well water, river water, and the like, do not generally exhibit this property to any extent. Further, since the property of radio activity is rapidly evanescent, the emanation quickly vanishing, it follows that if the benefit derived from undergoing a course of waters is due to the radio-activity of those waters the treatment should obviously take place near the source of the water—in other words, the waters should be used when they are showing a maximum degree of radio-activity. Some interesting remarks on this subject have reached us in the form of a pamphlet written by Dr. A. Piatot, consulting physician at Bourbon-Lancy (Saône-et-Loire) where there are thermal springs containing marked quantities of argon and helium and showing radio-active power. A geological exploration of the district has brought to light many radio-active minerals and the degree of radio-activity of the various hot springs in the locality would seem to vary apparently in direct accordance with the distance of the spring from its geological source. Dr. Piatot finds that the rule seems established in the case of the hot springs at Bourbon-Lancy that the least mineralised waters exhibit the most intense radio-activity and *vice versâ*. It appears to us that this interesting development of a theory of undoubted importance in hydro-therapy suggests a very simple line of research and the idea of radio-activity being the most important factor in "the course of waters" could be readily put to the proof. Radium baths could easily be prepared exhibiting a more powerful degree of radio-activity than that of the richest natural waters and their effects could be studied. The results would be certain to be most interesting.

ORGANS OF DIGESTION IN PITCHER PLANTS.

AN important and interesting paper was read at the general meeting of the Linnæan Society held on April 6th by Mr. W. Botting Hemsley, F.R.S., on the Pitchers of Nepenthes and at the same time many slides, prepared by Mr. L. Farmar, were exhibited illustrating the various types of pitchers and their curious glandular systems. The plants themselves are tropical and are widely distributed in the Asiatic Archipelago, from New Caledonia on the east to Sumatra and even to the Seychelles and Madagascar on the west. Borneo alone, which seems to be the head-quarters of the group, contains 20 species and Sumatra 10. They present some affinities to the aristolochiaceæ, sarraceniaceæ, and to the droseraceæ, of which our little sundew is the type. The pitcher is an appendage of the leaf, borne on a prolongation of the midrib which often acts as a tendril. It consists of a tubular or inflated body with two anterior longitudinal ribs, which often develop into elegant fringed wings, and one posterior rib, which usually terminates in a spur, running out just below the hinge of the lid or operculum. The mouth of the pitcher is surrounded by a more or less elaborately constructed collar or peristome. Glands are present on almost all parts of pitcher plants from the stems to the flowers. They vary much in structure but there are only two kinds, the attractive and the digestive. The attractive glands are generally distributed over the plant except on the inside of the pitcher where the digestive glands alone occur. Mr. Hemsley exhibited a new species which is characterised by the under side of the lip being thickly beset with stiff bristles interspersed with honey glands. The function of the bristles in this position is not obvious but their rôle would seem to be preventive to flying insects, though ants might creep amongst them and drink the honey. The honey glands are very prominent, oval or circular in outline, surrounded by a raised rim, and from one-fiftieth to one-twelfth of an inch in diameter. The digestive glands gradually increase in size from the lip downwards and vary in number from about 2000 to 5000 to the square inch. These glands are many-celled, ovoid or spherical in shape, and over-arched by the growth of the surrounding tissue, so that the surface is smooth to the finger stroking it downwards but rough in moving it upwards owing to the sharp edges of the arches. The arrangement of the parts in this and all the other species favours the descent of insects and other creatures into the pitchers but hinders their escape. The size attained by some of these leaves and pitchers is very great, those of the *Nepenthes rajah* having a total length of between five and six feet, whilst the capacity of the pitchers is as much as two quarts.

LAPAROTOMY IN A CASE OF ANGIO-NEUROTIC ŒDEMA OF THE INTESTINE.

WE have recently called attention to a case of angio-neurotic œdema with gastric symptoms in which the stomach was washed out and a piece of its mucous membrane came away in the fluid.[1] Microscopic examination showed, as had been previously supposed, that the gastric symptoms frequently present in angio-neurotic œdema of the skin are due to œdema of the mucous membrane of the stomach. In the *Boston Medical and Surgical Journal* of March 30th Dr. F. R. Harrington has recorded a most important case in which the small intestine was affected and laparotomy was performed and showed the condition of the intestine. A woman, aged 26 years, was admitted into the Massachusetts General Hospital. She had been admitted four times previously, twice into the surgical wards and twice into the medical wards. On the first occasion her symptoms suggested gall-stones but the subsequent course showed that they were due to an abdominal crisis of angio-neurotic œdema. Her first attack occurred at the age of 11 years and the swelling was confined to the hands and the feet. Attacks followed at decreasing intervals, the longest period of immunity being three months. In the last few years she never passed more than two weeks without an attack. The swellings extended up to the elbows but never above the ankles. The face was sometimes affected, becoming greatly œdematous from the eyes to the clavicles. The lips were swollen and eating was difficult, while the swallowing of liquids caused nausea. Sometimes swellings occurred on the scapulæ and the buttocks. Pain occurred in the lower abdomen and was accompanied by headache, nausea, and vomiting. As much as one or two quarts of green fluid were vomited at a time. During an abdominal attack the urine contained a trace of albumin and a few hyaline casts. Although angio-neurotic œdema was diagnosed the duration and the severity of the abdominal symptoms were thought to justify exploratory laparotomy during an attack. The stomach and the other organs were carefully examined but only the intestines showed anything abnormal. They were congested and so red that mild peritonitis was suspected. Near the ileo-cæcal valve was a cylindrical enlargement of the ileum two and a half inches long, with a circumference twice that of the rest of the intestine. The swelling was evidently in the wall of the bowel. To the touch it was elastic and did not pit on pressure. There was a good deal of clear fluid in the abdomen. Opinions may differ as to whether laparotomy was justified but the case is most instructive both pathologically and clinically. It is a warning to look for angio-neurotic symptoms in a case which may be thought to demand laparotomy. Professor W. Osler has emphasised this point in a paper on the Surgical Importance of the Visceral Crises in the Erythema Group of Skin Diseases.[2] He says: "The possibility of mistaking these visceral crises for appendicitis or intussusception or obstruction of the bowel and handing the patient over to the surgeon for operation is by no means remote." He relates three cases in which operation was performed and says: "The practical lessons to be drawn are, first, that in children with colic the greatest care should be taken to get a full history, which may bring out the fact of previous attacks, either of the skin lesions, of arthritis, or of intestinal crises; and, secondly, to make the most careful inspection of the skin for angio-neurotic œdema, purpura, or erythema."

MOTOR MANIACS.

THE motor-car is so useful and when properly driven so valuable a method of communication that no condemnation can be too strong for those who use it improperly. Two cases have recently been before the courts in which motor-cars were the cause of serious injury to persons who had just as much right to use the roadway as had the motor-car driver. In the one case, heard before the magistrates at Slough, George Harris Hendasyde of Edinburgh was committed for trial for feloniously slaying Mary Haines of Colnbrook. The woman was wheeling her baby in a mailcart along the narrow High-street of Colnbrook. She was in the roadway and as she was trying to turn the mailcart on to the pavement the accused's motor-car struck it. The woman, who held on to the handles, was turned completely over on to her head and fractured her skull. As the case is *sub judice* we have, of course, simply stated the facts which were given in evidence. In the other case, which was heard before the Wolverhampton magistrates on April 17th, Joseph Lisle was charged with recklessly driving a motor-car. Evidence showed that the defendant travelled along the Holyhead-road "at a tremendous pace" He ran into a cart drawn by a horse. The horse was killed, being practically smashed to pieces, and three occupants of the cart were seriously injured. The defendant, whose face was cut, was heard to say, "I was only going 60 miles an hour." The magistrates said that they had seriously considered whether they would not send the defendant to prison. However, they had determined not to do so but to fine him £50 and costs, to endorse and to suspend his licence, and to disqualify him from getting another licence for two years. On behalf of the defendant it was asked that the sentence might be suspended pending an appeal as Lisle was engaged to drive in the forthcoming Gordon Bennett cup trials. This, however, was refused and formal notice of appeal was given. Why the magistrates had any doubts as to sending the defendant to prison we cannot understand, but it would not be fair to go further than this confession of ignorance now that notice of appeal has been given.

THE CENTRAL PUBLIC-HOUSE TRUST ASSOCIATION.

THE report of the work accomplished by this association during 1904 shows that the movement in favour of the sale of food and non-intoxicants in public-houses is making good progress. The average licensed victualler looks upon the sale of beer and spirits as his principal, if not his only, object; his interest lies in making as much profit as possible and the customer who spends *most money* in the place is therefore the most welcome. The Central Public-House Trust Association, recognising the evils of this system, is in favour of "disinterested management" and the establishments conducted on the principles which it advocates are refreshment houses rather than mere drinking bars. Food as well as non-intoxicating drinks, including tea, coffee, and cocoa, are served as a matter of course. The houses are managed by men who receive a fixed salary and have no interest in the profits arising from the sale of intoxicants but are entitled to a percentage on the profits made by the sale of foods and non-intoxicants. To carry these principles into effect trust companies have been established in various parts of the United Kingdom, the number of such companies registered at the end of December, 1904, being 35 in England, one in Wales, and one in Ireland. In Scotland, where there is a central association under the presidency of Lord Balfour of Burleigh, there are four district trust companies and 14 companies for the management of single public-houses. The total number of public-houses under trust management is 170. Two of these are in London—namely, the "Duke of York," High-street, Shadwell, E., and the "Waterman's Arms," Bankside, S.E., not far from the Surrey end of Blackfriars Bridge. Wherever new working-class residential districts are being developed and it is decided that a licensed house is necessary for the convenience of the public, the owners of the property are urged to enter into negotiations with a trust company to acquire a site and to apply for the new licence rather than to allow the establishing of a "tied house," which is practically the only alternative. The Earl of Lytton is president of the association and Colonel Sir Colin Scott Moncrieff is chairman of the executive committee. The offices are at 116, Victoria-street, Westminster, London, S.W., where a variety of literature relative to the liquor traffic may be obtained. The secretary of the Scottish Association is Mr. J. F. Roxburgh, W.S., 23, Rutland-square, Edinburgh. The Duke of Westminster has lent Grosvenor House, London, W., for the meeting of subscribers to the association to be held on May 23rd at 3 P.M. The Earl of Lytton will be in the chair.

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[1] THE LANCET, Dec. 24th, 1904, p. 1802.

[2] American Journal of the Medical Sciences, May, 1904.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

Two inquests recently concluded by Mr. Troutbeck within a few days of one another illustrate the attitude which he has thought fit to adopt towards the medical profession with regard to the employment of Dr. L. Freyberger for the performance of post mortem examinations within his jurisdiction, although they scarcely appear to afford examples of the policy which the London County Council has claimed to have adopted in sanctioning the innovation. This policy we understood to be based upon a supposed incompetency on the part of the general medical practitioner to hold necropsies of a trustworthy character, particularly in instances where the cause of death might possibly be obscure, the lack of practice in such matters on the part of the average medical man and difficulty occasionally arising being dwelt upon by those advocating the methods followed by Mr. Troutbeck. It has also been suggested that at times the medical man who had attended the deceased might be desirous of concealing an error in diagnosis or treatment and so might be tempted into a lack of candour as to what the post-mortem examination actually revealed. Turning to the two inquests to which reference has been made above, we observe that in one case death was the result of an abortion criminally produced. Both drugs and instruments were spoken of at the inquest as having been mentioned by the deceased woman as the means used upon her, but no trace of the latter agency was found by Dr. Freyberger. This case may well rank as one of importance in which exceptional care and skill would be desirable on the part of whoever performed the post-mortem examination. In the other, however, when we seek to bring it into the same category, we find that as to the manner of death there was no question. A small boy, nine years of age, had been run over by an "electric landaulette," the driver of which was present to admit that the occurrence took place, and the post-mortem examination, again held by Dr. Freyberger, showed that death was due to "fracture of the neck and laceration of the spinal cord and that the liver was found to be torn into six pieces." We can hardly believe that special skill and experience on the part of the pathologist can be necessary to assign the cause of death after a person has been run over by a motor-car, or that the evidence mentioned above would support such a contention. We find it difficult to trace a policy aiming consistently at efficiency in Mr. Troutbeck's actions. The death to which we first referred took place in the Westminster Hospital, the second one in St. George's Hospital. At these two institutions there are gentlemen whose evidence would be at least equal in value to that of Dr. Freyberger as to the post-mortem evidence either of criminal abortion or of the injuries caused by a motor-car. Curiously enough we find that a third inquest was recently held in which the deceased died in St. George's Hospital as the result of being run over by a hansom cab, and in this case apparently all the medical evidence as to the result of the post-mortem examination was given by the house surgeon. We continue to think that until the legislature provides differently the Coroners Act, 1887, as far as it is applicable, should regulate these matters and to be doubtful whether any possible alteration in the law should follow the lines indicated in the city of Westminster and in the south-western district.

THE VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

WE are asked to state that the expense of the excursions to Vichy, Evian, and Salies de Béarn in connexion with the visit of British physicians and surgeons to Paris will be entirely defrayed by the *municipalities of the three* famous watering-places. Intending visitors to Paris should notify to the honorary secretaries of the London Executive Committee, Dr. Dawson Williams, 2, Agar-street, Strand, W.C., and Dr. W. Jobson Horne, 27, New Cavendish-street, Portland-place, W., before Friday, April 28th, which excursion they would like to take part in. Any practitioner who has accepted the invitation and has not received a circular from the London executive committee this week should communicate with one of the honorary secretaries. We may add that the honorary secretaries have no further information with regard to the concessions which the South-Eastern and Chatham Railway and the Nord Company of France are willing to make for the journey from Charing Cross to Paris and back, but Dr. Boyd B. Joll, 8, Hanger-lane, Ealing Common, W., has ascertained that the companies controlling the Newhaven and Dieppe route will grant excursion rates to a party of not less than 30. Communications should be addressed to him. The Paris committee expects to be able to arrange a visit to Bagnoles de l'Orme on the return journey for those who choose this route.

A RECOGNITION OF GOOD WORK.

ALL who work will feel that there is no reward of their services equal to that of right appreciation and the expression of confidence from those with whom they work. Mr. Samuel Osborn, F.R.C.S., who has for many years been the chief surgeon to the Metropolitan Corps of the St. John Ambulance Brigade, has just been made the recipient of a testimonial, of which he has every reason to be proud. It consists of two portions, the one a silver bowl with the following inscription :—

> Presented to Samuel Osborn, Esq., F.R.C.S., District Chief Surgeon (No. 1 District) St. John Ambulance Brigade, by the Honorary Surgeons of the District as a small token of their esteem.

The bowl was presented on April 12th, at the headquarters, St. John's Gate, Clerkenwell, on behalf of the honorary surgeons, by Honorary Surgeon J. Bremner, who was introduced by Honorary Surgeon M. K. Hargreaves. Besides the bowl the following address, signed by over 50 of the honorary surgeons, was presented to Mr. Osborn :—

HON. SURGEONS OF THE ST. JOHN AMBULANCE BRIGADE.
METROPOLITAN CORPS.

This Testimonial was presented to Chief Surgeon S. Osborn, F.R.C.S., by the Hon. Surgeons of the Metropolitan Corps of the St. John [illegible] trust that he may long be spared to continue his esteemed services, and give his ripened experience to the cause of the St. John Ambulance Brigade.

We join in offering our congratulations to Mr. Osborn upon a worthily deserved recognition of his work.

THE medical officer of health of the Cape Colony states that for the week ending March 25th the condition of the Colony as regards plague was as follows. At East London 3 cases of plague were discovered, occurring respectively in a native male and 2 European males. Plague-infected rodents were found both at East London and at Port Elizabeth. In other districts no case of plague occurred in man or in other animals.

THE Jacksonian prize has been awarded by the Council of the Royal College of Surgeons of England to Mr. Herbert J. Paterson, M.B. Cantab., F.R.C.S. Eng., for his essay on "The Diagnosis and Treatment of such Affections of the Stomach as are amenable to Direct Surgical Interference."

THE annual dinner of the Pharmaceutical Society of Great Britain will be held in the Whitehall Rooms, Hôtel Métropole, London, on Tuesday, May 16th, at 6.45 for 7 o'clock P.M. precisely.

SOME CONSTITUENTS OF VIOLET LEAVES.

WE are not advocating violet leaves as "a cure for cancer." We have not advocated violet leaves as "a cure for cancer." It is probably quite unnecessary to tell our readers these things, but we do so in the hope that through them the false impression of the public may be removed. We recently published a note upon a case where a patient who may have been suffering from malignant disease was apparently relieved of the symptoms, and where an application of violet leaves had been employed. The note was signed by a medical man. On the strength of this certain reckless lay papers have spread the news that THE LANCET advocated violet leaves as "a cure for cancer." We have been congratulated by journals that give prominence to quack preparations upon our breadth of view and we have been inundated with letters from unfortunate persons who have been cruelly deceived by the gross misrepresentation of our position in the matter. It seems now quite impossible to get ahead of the falsehood so circumstantially detailed and so widely circulated; we have therefore decided to make an investigation into the active principles of the violet to which we can refer the medical profession when they are worried with inquiries as to our views on the influence of this plant as "a cure for cancer." The report from our laboratory is as follows:—

A search for active principles is at once suggested when it is assumed that a drug possesses a specific therapeutic action. The result may be to raise *empirical to the level* of rational treatment but it cannot be said that in every instance the discovery and the recognition of active principles have given any closer insight into the action of drugs from which these principles have been separated in a more or less pure form. Digitalis, for example, is the chief active principle of foxglove but why a glucoside of this particular composition should so powerfully affect the heart it is difficult to say. Its pharmacology may be clear but its physiological action is by no means easily explained on the basis of its composition. The glucosides are, in fact, a very interesting group of bodies, for in many instances the members of the group exercise a powerful physiological action and they are not in any way related to alkaloids nor do they contain in general a nitrogen nucleus but consist apparently of a glucose radicle combined with a hydrocarbon group. The glucosides may be viewed as compound ethers yielding on hydrolysis, as by the agency of a ferment or of a dilute acid, glucose and another substance not belonging to the class of carbohydrates. Salicin, for example, gives glucose and saligenin on boiling with dilute sulphuric acid. Digitalin, however, does not appear to yield sugar but other products which contain carbon and hydrogen. Amygdalin is a rare example of a gluc[illegible] up into [illegible] evident, [illegible] physiolo[illegible] of hydrolysis.

According to a recent investigation conducted in THE LANCET Laboratory the fresh green leaves of the violet yield an abundance of a crystalline glucoside when suitably treated. They also yield a definitely crystalline body which behaves—chemically, at any rate—as an alkaloid. The pharmacology of the violet leaf is therefore interesting. The common violet (*viola odorata*) belongs to the group of violaceæ, of which the viola tricolor, or pansy, and ipecacuanha are members also. The pansy contains an emetico cathartic principle called violin. The fluid extract is said to produce a sense of confusion and dulness in the head, with headache; some dimness of vision, salivation, vesical tenesmus, with frequent and profuse micturition; turbid urine, offensive to the smell; and a sense of heat over the whole body, sweats, itching, and nettle-rash. [illegible] the second stage with serous or sero-purulent exudation and crusting. The medicinal virtue is said to reside in the leaves of the pansy plant, and it is the leaves of the violet which have been employed in cancer. We found that on extracting 100 grammes of the fresh green leaves of the common violet with boiling water and after removal of extraneous substances (pectose, &c.) by means of acetate of lead and subsequent removal of the lead by sulphuretted hydrogen a yellowish coloured solution was obtained which on evaporation yielded a dark-coloured treacly mass. It was possible to decolourise the solution with animal charcoal but on exposure to air the colour quickly returned. On placing the sticky mass in vacuo over concentrated sulphuric acid crystals were obtained—some were stellate and feathery, some silky, and others in needles. The yield was about 2 per cent. In this residue no evidence of the presence of an alkaloid was obtained. A solution of the mass was found to reduce alkaline copper solution but the reduction was very much more marked after the solution had been boiled for a few minutes with dilute sulphuric acid. Further, a solution of the crystals yielded no osazone until after treatment similarly with acid.

These results point to the presence of a glucoside and the amount of glucose yielded on hydrolysis was as much as 33 per cent. of the total extract. Alcohol, however, was found to be a much more effective solvent and accordingly 200 grammes of the fresh green leaves were boiled with alcohol under a reflux condenser for several hours the leaves were strained off, a [illegible] to dryness [illegible] was filtered, [illegible] the water bath. A similar treacly residue was [illegible] which yielded an abundance of crystals when placed in vacuo over strong sulphuric acid. The crystals consisted of silky needles, some were star-shaped and others were feathery masses. There was again no evidence of an alkaloid in these crystals but on hydrolysis they yielded an abundance of glucose to the extent of about 33 per cent. The alcohol extracted furthermore a good deal of dark green oil similar in appearance to apiol or oil of parsley. This oil was shaken with acidulated water and the liquid was filtered. On evaporation a small residue of star-shaped and feathery crystals was obtained which gave reactions common to alkaloids. In particular an abundant crystalline precipitate was obtained with iodine solution in potassium iodide and with Millon's reagent. A yellowish colour was given with strong sulphuric acid, a reddish-brown with nitric acid, and a greenish colouration with molybdic acid and sulphuric acid. It was then thought desirable to extract the spent leaves—i.e., after they had been extracted with alcohol—with chloroform, the whole mass being made alkaline and pasty by adding magnesia. A certain amount of green oil was thus extracted which remained as a residue after evaporation of the chloroform. The residue was then made slightly acid with hydrochloric acid and water was added. After heating separate quantities of the fluid were filtered and evaporated to dryness in vacuo over strong sulphuric acid. A small but distinct cluster of star-shaped crystals was obtained which was decidedly bitter to the taste and which gave very good general reactions for alkaloids. It would thus appear from this preliminary and, perhaps, somewhat cursory investigation that the violet contains two distinct crystalline principles, a glucoside and an alkaloid, and, in addition, a dark green oil. The glucoside amounted in these experiments approximately to 2 per cent. of the leaves, the oil to 0·3 per cent., while it was not possible to say what quantity of alkaloid was present as the amount yielded was so small. It is, however, interesting to record that the alkaloid from violet leaves behaved chemically much in the same way as emetine, the principal alkaloid of ipecacuanha. We hope to pursue the study and as soon as more material is procurable to extract a tangible quantity of the alkaloid in order to throw more light on its nature and possibly on its composition.

As some proof of the extent to which our mythical words have led to misunderstanding it may be added that we had some difficulty in obtaining a good supply of violet leaves in London, a brisk demand having arisen for them owing, as one vendor in Covent Garden market remarked, "to a fad started by the medical journals about violet leaves being a cure for cancer." We must again dissociate ourselves from this fad. We are not advocating violet leaves as "a cure for cancer." We have not advocated violet leaves as "a cure for cancer."

SIXTY-SIXTH ANNUAL REPORT OF THE REGISTRAR-GENERAL FOR 1903.

II.

IN a previous notice[1] of the Registrar-General's recently issued report we reviewed in general terms that section which treats of the part played by meteorological conditions as a factor of the exceptionally low mortality of the year 1903, special attention being directed to the influence of those conditions on the vitality of the infant part of the population. On the present occasion we propose to consider as fully as space permits the incidence of those particular forms of disease the greater or less fatality of which determines the total mortality in a given time or place.

A commendable feature in the present series of reports is this—that not in the tabular portion alone, but equally in the accompanying commentary, the same general arrangement that characterised the first number of that series has been consistently maintained in the numbers issued subsequently. Especially valuable to those seeking information on a particular subject is the alphabetical index, which has evidently been compiled with much care and which will be found at the end of the volume.

As regards the prevalence of small-pox we learn that although the mortality directly ascribed to that disease in 1903 was only one-third of that of the previous year, nevertheless chicken-pox is stated to have claimed a considerable number of victims. Many of these deaths, however, were almost certainly due to unrecognised small-pox.

In proportion to the number of children living at those ages who are especially liable to these diseases the deaths from measles, scarlet fever, whooping-cough, and diphtheria were considerably below the average. The mortality from the several infectious diseases of children is conveniently shown in Table K which appears in the section of the report dealing with mortality at that time of life. From the general tables in the appendix it appears that diphtheria accounted for a considerably lower general mortality than in any year since 1891. But although in at least 11 counties, including London, this disease was less fatal in 1903 than in the quinquennium immediately preceding, there were still 16 populous English counties wherein the mortality was above that of extra metropolitan England. For several years past an extensive area, including parts of Monmouthshire and South Wales, has been indicated as suffering excessively from diphtheria. In the year 1903 this area was somewhat contracted, but the mortality was still very high in a continuous district mainly included in the former area, and consisting of the unions of Crickhowell in Brecknockshire, of Abergavenny and Bedwellty in Monmouthshire, and of the entire county of Glamorganshire excepting the district of Gower; the diphtheria death-rate in this contracted area amounted to not less than 342 per 1,000,000 of its aggregate population, which is little short of double the rate prevailing in the country generally. Enteric fever accounted in 1903 for a mortality that was the lowest on record. This disease is much more fatal in the town than in the country, not in one year only but on the average of a long series of years. The loss of life is greatest among males, the corrected death-rate being 120 per 1,000,000 for that sex, against only 82 per 1,000,000 for females. Between the ages of 15 and 35 years this disease is particularly fatal. In both sexes the mortality is low in children under five years, after which age it gradually increases to a maximum and thereafter gradually declines. At ages above 65 years the mortality does not greatly differ from that of childhood, the rate at the former age varying from 30 per 1,000,000 in the country to 45 in the town. Among counties with populations exceeding 100,000 the West and North Ridings of Yorkshire and the counties of Lancaster, Glamorgan, and Carmarthen suffered most severely in 1903, the mortality ranging from 135 per 1,000,000 in the first-named county to 184 per 1,000,000 in the last. The mortality from pneumonia fluctuates considerably from year to year. According to the general tables the fatality of that disease appears to have increased in recent years. Some of this increase is unquestionably due to the simultaneous prevalence of influenza, which disease has contributed largely to the death roll, both directly and indirectly, ever since the autumn of 1889. In the year 1903, however, a significant fall took place in the mortality from pneumonia, as well as from bronchitis, a fall which is much greater than that recorded under the head of influenza and apparently independent of the latter. It is in populous communities more particularly that the various types of pneumonia are destructive to life, the table showing an excess of 90 per cent. in the death-rate of the urban as compared with that of the rural districts. The sexes fall victims in unequal proportions, the male rates being in excess of the female by 50 per cent. Childhood and extreme old age are the periods chiefly vulnerable by this disease, the mortality under five years averaging five per 1000 living at that age and the mortality at ages over 65 years averaging 3·5 per 1000 then living. The fall in the mortality from tuberculosis which had been recorded for many past years showed no diminution in 1903. But inasmuch as this disease in one or another of its forms still contributes at least 11 per cent. to the total mortality and accounts for a death-rate of 1742 in each 1,000,000 of the population, medical interest in its ravages continues unabated. Of the total deaths from tuberculous disease nearly 70 per cent. are attributed to "phthisis" and although there is reason to doubt the accuracy of diagnosis as regards some of the deaths thus returned in the "fifties" and "sixties" it is certain that in recent years, at all events, the deaths somewhat indefinitely ascribed to "phthisis" are in reality for the most part due to tuberculous infection. The mortality from pulmonary tuberculosis in 1903 was at the rate of 1427 per 1,000,000 living at all ages among males and at the rate of 993 per 1,000,000 living among females; the mortality of the male sex was therefore greater than that of the female by 44 per cent. As compared with the average in the previous five years the male rate was lower by 93 per 1,000,000 and the female rate lower by 98 per 1,000,000 of the respective populations. Among males the rate was much higher in the town than in the country, whilst among females the difference was inconsiderable.

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[1] See THE LANCET, April 1st, 1905, p. 880.

When the 40,000 annual deaths from pulmonary tuberculosis are distributed according to age as well as to sex certain peculiarities appear which are not otherwise noticeable For example, although the mortality for persons at all ages in 1903 was below the quinquennial average the fall was practically limited, in the case of males only, to the ages under 55 years Taking the average rates in the five years ended with 1902 it will be found that this disease was more fatal in the urban counties than in the rural, with the exception that among males aged 15-25 years and among females aged 5 35 years the rural mortality was the highest These exceptions are remarkable and are worthy of serious consideration by those who are particularly interested in the public health

The age of maximum mortality may be stated generally as follows In England and Wales as a whole and also in the urban districts it is at 45-55 for males and 10 years earlier for females, in the rural districts it is 35-45 for both sexes The local distribution of fatality from this disease varies enormously, in fact, the difference is so great as to suggest that in some parts of this country the causes of death may be certified less carefully than they should be The present report shows that after adequate allowance for age differences among the living this disease was extremely fatal in South Wales, the death rates in Carmarthen, Pembroke, and Cardigan averaging 1855 per 1,000 000 for males and 1601 per 1,000,000 for females In parts of North Wales also the disease was more destructive than elsewhere, the average female death rate in the counties of Merioneth, Carnarvon, and Anglesey being especially noteworthy and amounting to 1705 per 1,000 000 living of that sex a rate which is not less than 72 per cent above that of England and Wales generally If the mortality from pulmonary tuberculosis be contrasted with that from pneumonia it will be found that whereas the former disease selects its victims mainly from among adolescents and young adults of both sexes—that is to say, from that portion of the population which is economically the most valuable to the community—the latter disease, on the other hand, is fatal for the most part either in infancy or in extreme old age It is this peculiarity in the age incidence of pulmonary tuberculosis that invests the disease with an importance which otherwise it would share only in common with other large contributors to the death roll

Referring yet again to that section of the report which treats of mortality at the earlier ages we learn that in every 1000 children living below the age of five years between three and four are annually sacrificed to tuberculosis, chiefly to the [illegible] tion The death [illegible] less numerous [illegible] and 7000 annually, nearly 70 per cent of which are those of children at this early age Boys under five years succumb to this disease in greater proportion than do girls, a peculiarity that attaches to other forms of tuberculosis likewise

Equally destructive to child life is tuberculous peritonitis a disease which, in spite of the protests of the authorities at Pall Mall, is still often miscalled tabes mesenterica It remains doubtful what proportion of the deaths referred to the latter cause are really tuberculous in character, although the age distribution of the deaths thus returned does not differ greatly from that of the deaths definitely attributed to tuberculous peritonitis Rheumatic fever is a disease that has attracted greatly increased attention from medical men since its infective nature has become generally recognised Since 1901 rheumatic fever has been distinguished in the national records from those forms of chronic valvular disease that depend on antecedent acute rheumatism This arrangement will facilitate the study of rheumatic fever as soon as the data for a considerable number of years are available Meantime, the following facts have been definitely ascertained concerning the incidence of the disease first that fatal cases of it are frequent at all stages of life, and secondly, that although at ages below the fifteenth year girls suffer more severely than boys at ages above the twenty fifth year, the mortality is generally highest among men The only serious exceptions to the rule that the mortality of this country in 1903 was lower than that of recent previous years are furnished by cancer and diabetes mellitus If the deaths from malignant disease are calculated on the aggregate population the disease would appear to have exacted a death toll of 732 per 1 000,000 among males and of 1003 per 1,000 000 among females These rates are the highest on record We have previously remarked, however, that the crude rate of cancer mortality is misleading for comparative purposes because of changes in the age constitution of the living But if instead of computing the mortality at all ages we apply the deaths at ages above 35 years to the number then living we obtain the ratio at that stage of life in which cancer is most fatal, and the result duly corrected for age differences in the living is fairly comparable as between different periods or different localities Calculated in this manner the deaths from cancer in the year 1903 were equal to a rate of 2247 per 1,000,000 males and 2958 per 1,000 000 females living at ages above 35 years, the rates in the preceding five years having averaged 2074 and 2866 per 1,000 000 respectively From diabetes mellitus there has been an increase in the total death rate but this increase has affected females exclusively, the mortality among males having shown a slight decline, whilst that of the other sex has increased by 19 per cent as compared with the quinquennial average Inasmuch as 70 per cent of the total mortality occurs at ages above 45 years the disease is evidently one of advanced life

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY meeting of the Council was held on April 13th, the President, Mr JOHN TWEEDY, being in the chair

In accordance with the recommendation of the Jacksonian Committee the Council awarded the Jacksonian prize to the author of the dissertation on the Diagnosis and Treatment of such Affections of the Stomach as are Amenable to Direct Surgical Interference, bearing the motto, "Work and Despair Not' The PRESIDENT proceeded to open the envelope bearing this motto and declared that the name written therein was H J Paterson, F R C S, M B, B C Cantab It was resolved that Mr Paterson should be requested to attend the ordinary meeting of the Council in May to receive the Jacksonian prize

In accordance with the recommendation of the Jacksonian Committee the following subject was chosen for the Jacksonian prize for the year 1906 "The Diagnosis and Treatment of those Diseases and Morbid Growths of the Vertebral Column Spinal Cord, and Canal, which are Amenable to Surgical Operations

The PRESIDENT on behalf of himself and the Vice Presidents, reported the delivery of the following Hunterian lectures—viz three lectures by Mr P Lockhart Mummery on the Physiology and Treatment of Surgical Shock and Collapse, three lectures by Mr W Sampson Handley on the Dissemination of Mammary Carcinoma, and three lectures by Mr Clinton T Dent, two on Congenital Hypertrophic Stenosis of the Pyloric Canal and one on the Forms of Softening and Fracture of the Bones occurring in Childhood and Youth

The PRESIDENT reported, on behalf of himself and the Vice-Presidents that Mr Donald J Armour, Arris and Gale lecturer had duly and properly delivered a course of three lectures on the Anatomy Physiology, Pathology, and Surgery of the Gasserian Ganglion

A report was received from the committee on the proposed institution by the College of a medical school The report was adopted its main features were as follows It was proposed that the school should provide for the teaching of the earlier subjects—viz, chemistry, physics, and biology—and also the intermediate subjects—viz, anatomy and physiology—and it was suggested that with the concurrence of the Royal College of Physicians of London the Examination Hall buildings with the addition of a storey on the front portion might be used for the purpose This arrangement would provide for about 100 students The scheme was considered with a great deal of care and estimates were prepared of the annual cost of such a school From these estimates it appeared that the additional annual cost would be about £4400 after the first two years The committee was of opinion that it was impracticable for the College to institute such a school without adequate endowment

A report was received from the discipline committee referring to several cases and the Council directed that action should be taken in accordance with the recommendation of the committee.

Mr. H. T. Butlin was re-appointed the representative of the College on the Senate of the University of London for a period of four years.

The Council was informed that by the will of the late Mrs. Begley, the widow of Dr. William Chapman Begley, M.R.C.S., there was a bequest of £20 per annum to the College for the purpose of founding a studentship in anatomy and surgery. The Council expressed its willingness to take steps to give effect to Mrs. Begley's wishes.

A letter was read from Mr. W. F. Dearden, honorary secretary of the Association of Certifying Factory Surgeons. It called attention to the proposition contained in the Accidents (Mines and Factories) Bill now before Parliament, to abolish the present statutory requirement placed upon the certifying surgeon to investigate such accidents occurring in factories and workshops as are caused by machinery in motion, explosion, escape of gas, &c., and to substitute a discretionary power with the local factory inspector, who will decide from a perusal of a filled-up notice form sent in by the employer what accidents require a surgeon's investigation. The letter invited the consideration of certain points and asked the College if it should consider the subject to forward the result of such consideration, if in agreement with the contentions of the association, to the Secretary of State for Home Affairs. It was felt by the Council that this was a matter of administration which hardly came within the scope of the functions of the College.

ALCOHOL AND PHYSICAL DETERIORATION.

UNDER the auspices of the Leicester Medical Society, the Leicester division of the British Medical Association, and the Leicester Medical Union a conference of medical men from the town and county of Leicester was held recently at the Leicester town-hall. The chair was taken by Mr. R. C. STEWART (President of the Leicester Medical Society) who introduced Professor G. Sims Woodhead who had been invited to deliver an address upon the Relation of the Use of Alcohol to Physical Deterioration.

Professor SIMS WOODHEAD said that alcohol was one of the great predisposing factors in disease and one of the great factors in preventing physical improvement. It was a potent cause of degeneration not because of its rapid action but because of the changes that it produced in the system, in the first place directly and in the second place indirectly. It was now recognised that alcohol did not act as a stimulant for more than a very short period, if, indeed, it acted as a stimulant at all, but that it acted as a paralysing agent. Even in comparatively small quantities it interfered with the functional activity of the cells. It acted first of all upon the nerve cells, which were the most highly developed in the body and their full functional activity was necessary for the carrying on of the vital processes of the body. If a working man interfered with the perfect health of his nerve cells he became of less value as an individual and to the community and there was a danger of deterioration in his family. It was not the mere actual loss of the money spent in drink but the deterioration of his physical condition which made him of less value in maintaining his family. In the report of the Inter-Departmental Committee on *Physical* Deterioration the committee always came back to this point: That by getting rid of alcoholism it would be possible to get rid of a great many of those social conditions which appeared to be at the root of much of the degeneration of certain nations and which appeared to prevent more rapid development of others. It had found that if there was a large amount of alcohol taken in any community the amount of physical deterioration was always great; and it also found that if that amount diminished the physical condition invariably improved. It found, for example, that England was in danger of the same evil that faced France at the present time. So long as the men only drank there was no such very marked deterioration but as soon as the women began to drink there was first of all a large increase in the number of infants with unstable nervous systems and in the number of deformed children. Ultimately the women became barren. In France since 1830 there had been a gradual upward trend in the consumption of spirits and there had coincidently been an increase in the consequences of drink, such as accidental deaths, suicides, and lunacy; there had also been a definite increase in the percentage of conscripts refused as unfit for service. In Sweden matters were just the reverse. Since 1830 there had been a great diminution in the amount of spirits drunk in Sweden and there had been a corresponding decrease in crimes, suicides, and deaths from syphilitic diseases; the percentage of conscripts refused had also been steadily reduced. With regard to the medicinal use of alcohol he did not say that there were not certain specific conditions, certain temporary symptoms, when alcohol might do good, but there were other drugs which were fully as efficient.

Mr. STEWART said, speaking for himself, that he agreed with Professor Sims Woodhead entirely in what he had said. For some years past the use of alcohol by the medical profession had been steadily declining. He saw some remarks of a bishop the other day in which his lordship congratulated temperance societies on the work which they had done and he added that one of the most hopeful signs was the conversion of the medical profession on the subject of alcohol. He (Mr. Stewart) rather thought that the medical profession had been going on rather quietly in this matter and, without advertising themselves, had for a considerable time past been giving patients less and less alcohol. So far as asylums went nearly all such institutions in England were giving up alcohol as an article of diet. He had persuaded the committee at his own asylum to do this, but although this happened two years ago the committee still kept asking him how the patients got on without it. He always replied that they got on much better without it, especially the epileptics. Out of 284 patients now in his asylum he was only giving alcohol in the form of medicine to two. Another thing was that if alcohol was given he insisted upon it being given with a meal. When he was appointed to the asylum 20 years ago alcohol was prescribed very largely. Whisky and water and port wine were given at all times of the day. They had tried the experiment of doing without alcohol in many asylums and he thought everybody was agreed that the patients were quieter and received greater benefits without it.

Dr. C. KILLICK MILLARD (medical officer of health of the borough of Leicester) said that in cases of scarlet fever it was not the medical man who cured the patient but nature and the best thing that they could do was not to interfere with nature. He was afraid that in the past medical men had not been so much the handmaid of Nature as ought to have been the case, but he believed that at the present time there was hardly a fever hospital in the country in which alcohol was prescribed.

Professor SIMS WOODHEAD, in reply, said that he was very glad to hear Mr. Stewart say what he had with regard to the medical profession, because it gave him the opportunity to accentuate the fact that medical men at the present time were doing more for temperance work than any other single body of men. That was an exceedingly important point, because their opinion on such a subject was valued and a patient would take the advice of a medical man when he would not take it from anyone else. Proceeding, Professor Sims Woodhead remarked that but for syphilis and alcoholism the asylums of the country would be comparatively empty.

Dr. F. M. POPE proposed a hearty vote of thanks to Professor Sims Woodhead for his address. He said that anyone who had practised medicine for any length of time must have noticed the diminution in the amount of alcohol prescribed directly as a drug. He (Dr. Pope) had the utmost pleasure in saying that he could support everything which Professor Sims Woodhead had said in the direction of the undoubted benefit this had been to medical science. His own view was that they should treat alcohol in the same way as any other drug. They should first satisfy themselves that it was essential and necessary and then it should be given in absolute definite doses. Thirdly, the duration of the time during which the drug should be given should be absolutely in the physician's discretion and should not be exceeded in any circumstances.

Mr. G. C. FRANKLIN, in seconding the motion, said that he was not an old man but he remembered the time when alcohol was declared to be of value in certain diseases, particularly in the treatment of phthisis.

The motion was carried *nemine contradicente.*

Professor SIMS WOODHEAD briefly acknowledged the compliment and the proceedings then closed.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER VIII.[1]

THE NAVAL AND MILITARY MEDICAL SERVICES (*continued*).

The Indian Medical Service.—The Old Grievances and the New Warrant.—The Language Examination.—The Treatment of the Civil Side: Bad Pay.—The Naval Medical Service.—Reorganisation and Redress.—The Need of Further Reform.—General Considerations.

IN the Naval Medical Service and in the Indian Medical Service, as in the Army Medical Service, we have to consider new conditions of employment designed to meet a growing reluctance on the part of medical men to join the services.

The Indian Medical Service.

New regulations for the Indian Medical Service were issued early in October, 1903. An admirable service in the past, the Indian Medical Service at no time fell from its estate to the depth that we have seen occur in the case of the Army Medical Service. But the Indian Medical Service had manifest grievances which were fast altering its status in the eyes of the medical profession when the new warrant was issued. Complaints were rife which showed that unless measures of reform were granted the splendid service to which India owes so much, and to which our Crown owes so much, was in peril of finding no men to hold its commissions. To begin with, the pay in the Indian Medical Service was poor, inferior to that of the Army Medical Service in almost every instance. Whilst the latter Corps offered to the senior medical officer in charge of a hospital charge allowance at generous rates, and specialist pay in certain cases, no similar allowances were received by the Indian officers. For a long time it had been stated that a corresponding increase of pay to that granted to the Army Medical Service would be given to the Indian Medical Service but the matter remained perpetually "Under consideration." The low pay was the first grievance. Secondly, when an officer of the Indian Medical Service was given an appointment bringing in increased emoluments he had to pay his own passage money to take it up. Thirdly, an officer could only draw the lowest rate of pay until he had passed the language examination, but owing to the frequent moves of junior officers on first landing in the country it was often impossible for them to pass this examination for some time. Fourthly, the emoluments on the civil side, which used to be an alluring factor of the Indian Medical Service, had diminished considerably. Chiefly owing to the increasing number of trained and well-qualified native practitioners—men trained, moreover, at the hospitals manned by the Indian Medical Service—there became less scope for practice, while a limitation of private fees by the Government of India, which many regard as both unfair and objectionable, also reduced the income looked forward to by men in civil employment. Lastly, as regards promotion, a lieutenant-colonel at the age of 55 years was bound to retire on a pension of £500 a year (unless promoted) for 25 years' service and on £700 a year for 30 years' service in similar circumstances. But owing to the diminution of administrative posts that succeeded the amalgamation of the military medical administration of the two services in 1880 there was practically no chance of a lieutenant-colonel of 25 years' service coming up for selection for an administrative post. He thus had to retire upon £500 a year, whereas if he had succeeded to an administrative post he would have earned a pension of £700 by the time he had passed through his term of office, plus the additional £250 a year for the holding of such posts. He lost, in fact, £450 a year as compared with former years. This is a brief summary of the grievances which awaited redress in the Indian Medical Service before the issue of the new warrant.

The new warrant at once adjusted to a substantial extent the irregularity of pay between the two military medical services. The financial condition of the Indian medical officers, as far as concerns the military department, is now much better. The minimum sum which a lieutenant now receives after arrival in India is Rs.420 a month, the equivalent, with the exchange compensation, of £357 a year, while the officer who never aspires to anything beyond the charge of a regiment and who serves for over 25 years will in future draw Rs.1300 a month, which is equivalent to over £1100 a year. To these rates of pay every man who enters the Indian Medical Service may confidently look forward, for paragraph 9 states that "a major is promoted to lieutenant-colonel on completion of 20 years' full pay service"—there is to be no selection for that rank to which every officer who serves long enough will attain. But while the pay is generally improved the remuneration of the administrative posts remains the same save that the pay of the Director-General is increased.

Specialist pay of Rs 60 per mensem is now granted to officers below the rank of lieutenant-colonel but the concession which reads well means very little, for there are very few appointments ever made. Extra furlough is granted to officers who want to take up a special course of study, at the rate of one month of such furlough for each year's service up to 12 months in all. The pensions are increased, that for 20 years' service being raised from £1 per diem to £400 per annum, that for 17 years' service being £300 instead of £292; while Clause 39, which is as follows, is distinctly thought out for the officers' good :—

> [illegible]
> lieutenant-colonel who has b[illegible]
> if he attains the age of 55 [illegible]
> pension for 30 years service, [illegible]
> service; and in any special [illegible]
> good of the service that an [illegible]
> may be so continued, subje[illegible]
> Secretary of State for India in Council.

But the hardship experienced by the officer who enters the service when he is only a day over 25 years of age is to a large extent unredressed, for he forfeits almost to a certainty his chance of ever reaching a higher pension than £500 per annum. It is an absurdity to invite men into the service up to the age of 28 years and at the same time to inform them that the maximum pension is not open to them. As a rule, the men who enter the service after 25 years of age are those who have spent additional time in study in resident hospital posts or in junior teaching appointments in the schools, and such men ought to be encouraged in every way.

The blot in respect of the language examination still remains. No officer, however employed, can receive any staff allowance until he has passed the "lower standard" examination in Hindustani. The hardship of this lies in the impossibility which an officer on first joining the service may experience in obtaining tuition for an examination that is no longer an absolutely easy one. If his frequent moves do not break up his studies, he may be allocated to some remote station where he cannot obtain the services of an instructor; and in either case he is precluded for a long time from drawing his proper pay. A young staff corps officer posted to a native regiment receives full pay for one year pending his passing his examination in languages, and the same treatment should be extended to the young officer of the Indian Medical Service.

Turning from the military to the civil side of the service we find that the conditions of civil employment are practically unaltered in the new regulations, although three-fifths of the service are in civil employment. An improvement in the pay of the officers in civil employment may have been contemplated, increase and emolument on the military side of the service naturally leading to proportionate increase on the civil side, but the new regulations repeat the instructions that have been in force for years. A surgeon in the Indian Medical Service in civil employment has enormous responsibilities. He acts as sanitary and medical superintendent of the gaol and its hospital, is surgeon to the police, is responsible for the food of the prisoners and for the purchase of the raw materials which their labour is to turn out into marketable manufactures. He may have several outlying dispensaries which he is bound to inspect regularly and which may be four or five days' journey from headquarters, where he also has a dispensary attached to the urban hospital. For the arrangements of his official work and the necessary correspondence he is responsible absolutely. He is assisted only by natives and he has to make good any deficiency in his accounts. For all this he receives less than if he were in medical charge of a regiment, although he has applied successfully as a specially gifted man for civil employment. It is no wonder that there is difficulty in getting candidates to pass from the military side into civil employment, while it is certain that if the best work in the service is the worst paid that service needs reform.

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[1] Chapters I., II., III., IV., V., VI., and VII., were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877) and 8th (p. 1017), 1905, respectively.

Again, the order that an officer of the Indian Medical Service should refer the question of the amount of his fees, when above a certain low limit, to the civil authority is highly vexatious. No similar proceeding is ordered in any other service in India or elsewhere, and the suggestion that without some such restriction exorbitant fees would be exacted is most unfortunate. This regulation, which has recently been modified but not in a way to remove its sting, points to an official belief that the native, unless protected by the Indian Government, would be exploited by the officers of the Indian Medical Service, a reflection that is felt by many men to be humiliating. It is tantamount to saying that because very large fees have occasionally been received by medical men in India other medical men unless prevented will take unscrupulous steps to obtain a like reward.

The pay of the Director-General of the Indian Medical Service has been increased, as has been said, but his rank remains unaltered. His rank should be increased from that of major-general to that of lieutenant-general, in accordance with the similar concession that has been made to the Director-General of the Army Medical Service, while he should by virtue of his office have a seat on the Viceregal Council and the surgeon-generals of the several provinces should similarly sit on the Councils of the Lieutenant Governors. If medical views could be placed directly before the rulers of the Indian Empire and if the reasons for medical suggestions could be personally explained to the heads of the legislative machinery not only would much needless friction be abolished but more efficacious work could be done.

Lastly, something should be done to increase the rates of temporary and permanent half-pay for those who break down in India and are really incapacitated. Many of the captains in the service are married and the sum of £127 15*s.*, the rate of permanent half-pay accorded to them, is very small. All of us know of cases where men have been so broken down by the Indian climate that they have been forced to retire on this pittance and in a condition where work in private practice in this country is not possible to them. The rates of half-pay are less than those offered to the officers of the Royal Army Medical Corps and they stand in need of revision.

The Government of India owes, perhaps, more to the Indian Medical Service than to any other department in the country. From the days long ago when an Indian surgeon obtained a grant of land for the old East India Company from the then reigning Mogul up to the present time its officers have laboured far and wide in our great dependency for the cause of the Crown. But their recognition has been scanty; and even now that reform has come it has not come in any complete or satisfactory way.

The Naval Medical Service.

Like the Army Medical Service the Naval Medical Service, after enjoying a respectable measure of popularity in the profession for some years, began about 1890 to lose in the eyes of the student the inducements necessary to make him seek a commission. There grew up a feeling in the medical schools that the career offered in the service could not possibly terminate in anything but mediocrity. It was true that the naval medical officer saw the world under splendid auspices; that he picked up, or might pick up, a knowledge of nations and languages denied to his civilian brother; that the work was often not hard and that the pay could not be described as bad, when the cost of living on shipboard is considered. All that was allowed, but when said there was nothing to add. The opportunities for the study of disease that presented themselves to the naval medical officer could not be used save under substantial disabilities. A surgeon in the navy had no opportunity given to him to prosecute scientific research and was obliged to purchase for himself any instruments that he might require. No encouragement, moreover, was offered to the young medical man who desired to investigate some of the numerous problems in tropical disease that lay unravelled beneath his hands. Time spent in such work probably would not win him the commendation of his seniors, while such commendation, if forthcoming, would be but a barren reward in a service where promotion was governed by seniority rather than selection. The service as a consequence was depleted by retirement, withdrawal, and resignation, and the candidates for admission became fewer. The absolute necessity for study-leave and for increased pay, having regard to the slow advance in rank, became obvious, and grievances in respect to the allotment of cabins and the limited boat privileges, which were of real if minor import, were used to reinforce the claim for reform.

Apart from other considerations the re-organisation of the Army Medical Service under the warrant of 1902 made it imperative on the Admiralty to draw up and to issue fresh regulations for the medical department of the Royal Navy. The new warrant appeared almost simultaneously and it was at once seen by those who were thinking of the Naval Medical Service as a career that innovations had been introduced of an advantageous character to the medical department. Comparison with previous regulations showed that a great deal could be done under the amended scheme to increase the efficiency of the Naval Medical Service and to improve it generally, while additional inducements could be held out to those who were thinking of becoming candidates for admission into the service. The framers of the new regulations set about their work in a sincere spirit, the objects aimed at were in the right direction, and the improvements introduced were of a necessary and wholesome kind.

The warrant does not go far enough in some directions and, as will be seen, leaves undealt with matters that are regarded as serious by the officers of the Naval Medical Service, but in the medical profession generally it should restore a waning confidence. It shows a desire to bring the service up to the higher standard demanded by the general progress of medicine. To a great extent the regulations for the Naval Medical Service are framed on the lines of those in the new warrant for the Army Medical Service. The entrance examination becomes of a more practical and clinical nature, better adapted to, and more befitting, candidates already qualified to practise their profession. The subjects are divided into compulsory and voluntary and the voluntary subjects are selected with a view to secure men with some knowledge of foreign languages and aptitude for natural science. Provision is reserved for the Admiralty to appoint at its discretion a limited number of candidates from medical schools in the United Kingdom and the colonies without any competitive entrance examination. Resident medical officers, house physicians, and house surgeons of large civil hospitals can be promoted to the rank of staff surgeon six months or a year earlier than their fellows, and by a later regulation of the Admiralty a successful candidate for a commission is allowed to serve as a hospital resident for a year after entering the service and to count the time for promotion. An officer can retire after four years' full pay service with a gratuity of £500 and serve in the reserve under conditions which certainly cannot be called onerous.

These changes are intended to insure that those most fully educated and least crammed will be selected for the service, if a sufficient number of candidates put in their appearance, and thus the principle of selection can be adopted at the very outset of the naval medical career. With the exception of a few specified appliances, a pocket case of instruments, a stethoscope, and three clinical thermometers, all surgical instruments are supposed to be provided at the public expense. A very important regulation is introduced in regard to courses of instruction, under which medical officers can have practical opportunities and facilities for keeping abreast with the progress of their profession and for studying special branches of it.

Every medical officer is now required to undergo a post graduate [illegible] skiagraphy.

All this spells great improvement, though in detail the warrant has not escaped criticism. It will be observed that the medical officers of the navy are required to undergo the course of post-graduate study at their own expense, although lodging allowance is paid to them, as it is to all other officers not provided with quarters on a ship. To produce separate certificates of efficient attendance upon classes in the five named subjects would cost in any London school about £35, which is a severe tax. The time, it is hoped, may be approaching when our naval medical officers will receive full subsidies from Government. That time will be when the Admiralty recognises that a medical officer in the navy does not exist only "to doctor people" but that he has functions of the highest importance to discharge in the prevention of disease.

As regards pay and allowances and charge pay all are somewhat improved. The application of the principle of promotion by selection instead of seniority is more fully recognised and encouragement is held out to professional merit. Better provision is made for cabins for naval medical officers. In short, the new regulations for the Medical Department of the Royal Navy are directed towards the reform of manifest abuses. The new warrant for the Army Medical Service offers points of comparison. The army officers have an opportunity of gaining from three to 18 months' earlier promotion on passing their promotion examination with distinction, but no such provision prevails in the navy. In the army allowances are better, the new regulations for full-pay sick leave are more generous, and charge pay is provided for officers of whatever rank in charge of beds according to numbers, whereas in the navy there is charge pay for inspector-generals only, a very limited number. In attempting to estimate the Naval Medical Service as a calling by comparing it with the Army Medical Service more attention should be paid to points in which the former has an advantage over the latter. Take, for example, the question of allowances. In the army officers have to maintain lodgings, board, and servant, while in the navy an officer has a furnished cabin, a servant, and a capital mess, for which he pays 2*s.* a day only, so that from a pecuniary point of view, if a man is careful, the navy is the better service. In the Naval Medical Service promotion is given for "distinguished service or conspicuous professional merit" and such promotions are maintained up to the full number allowed. Officers may get on the list of staff-surgeons—i.e., officially ranking with major—who have not more than four or five years' service as surgeons. Although all the officers in charge of small hospitals or marine infirmaries belonging to the navy do not get "charge pay" they get it as "hospital allowance." With regard to full-pay sick leave it is true that the army medical officer is better off, but all naval officers, and not only naval medical officers, suffer in the same way by comparison with the army officers. Under the new warrant a bid has been made for candidates of the best sort. A man can now fill the coveted junior posts at his hospital and count the time for promotion, he can retire in favourable circumstances if he finds that his bent is more towards civilian practice, and he has opportunities afforded him for scientific work. There is plenty of room for criticism but much progress has to be admitted.

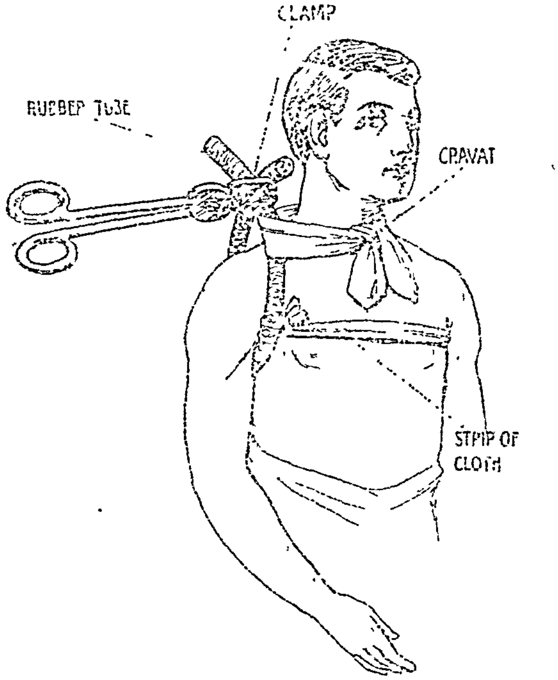
The various advantages and disadvantages of joining the three services counterbalance each other fairly, and it must be generally allowed that in each the position for the medical profession is a hopeful one. There are many matters that call for legitimate criticism, but in all three services the tendency is towards the recognition of scientific merit, while the recent concessions to professional opinion and common sense may be regarded as an earnest for further reform. I would summarise the position as follows. Whereas a few years ago the dean of a medical school who allowed his pupils to enter for commissions to any of the three services without warning them of possible disappointment defaulted in his duty, to-day if he recommended a promising young medical man not to compete for a commission he would take upon himself a great responsibility. In all three services there is increasing scope for the best sort of scientific medical men and although it is the duty of deans and teachers to be aware of the drawbacks to the services they should also be acquainted with the movement towards far better things.

(To be continued.)

THE CONSERVATIVE TREATMENT OF TUBERCULOUS ARTHRITIS.

Professor Bier has lately reported in the *Münchener Medicinische Wochenschrift* a number of remarkable successes in the treatment of acute and chronic osteomyelitis. As we have received inquiries from more than one correspondent as to what Professor Bier's technique is we publish the following account, which has been sent to us by our Swiss correspondent.

After studying the question of the conservative treatment of joints affected by tuberculous processes by means of passive hyperæmia, Professor Dr. A. Bier, who occupies the chair of clinical surgery at Bonn (Germany), gives the following description of his method in his treatise on Hyperæmia (Hyperaemie als Heilmittel). He employs constriction of the limb *above* the affected joint by means of a rubber (Martin) bandage applied over a gauze bandage which is to prevent excessive pressure. The rubber bandage must not be applied tightly enough to cause either pain or paræsthesia. If it causes discomfort it should be loosened at once; on the contrary, pain in the diseased joint should disappear during the application of the bandage. The subcutaneous veins swell and the skin assumes a bluish tint; in the case of the arm, the elbow and the palm of the hand only retain a rosy hue. The parts peripheral to the bandage should show an increased, never a decreased, temperature. This constriction can be applied over all joints except the hip-joint. In the case of the shoulder-joint the technique is not quite so simple. A necktie is loosely tied round the neck like a cravat (see illustration). A thick rubber tube is passed round the shoulder-joint as high as possible, one end being inside and the other outside the necktie. The ends of the rubber tube are firmly tied together, the knot being secured by a pair of artery forceps to prevent it slipping. Cotton-wool is used as a pad underneath the rubber tube to avoid undue local pressure. A bandage passed round the opposite axilla secures the tube more firmly and keeps it in position. In the case of tuberculous joints when only constriction of short duration is applied the peripheral portion of the limb is not bandaged. The surgeon himself should apply the constriction several times and in the case of patients wanting in intelligence even a good many times, but afterwards the patient or his friends can continue the simple treatment with due precautions. The constriction should *not* be allowed to remain on *more than one hour a day*. Thus Professor Bier has succeeded in avoiding some very disagreeable consequences which ensued when constriction was employed many hours consecutively. These complications were the formation of luxuriant granulations, of large or numerous small abscesses, or even the occurrence of acute inflammation. Very often cold abscesses appear during treatment, as the latter promotes the elimination of morbid material. The abscesses are best incised and treated antiseptically. Sometimes small pieces of necrosed bone have to be removed. The results are at times very striking, mostly gratifying, as the tuberculous process becomes extinct after a treatment varying from three to six months or longer. Professor Bier prefers the patients to move their diseased limbs as much as the pain will allow. If these methods fail he resorts to operative interference. The following cases speak well for the results. Case 1. The patient was a boy, eight years old, who had tuberculous arthritis of the knee-joint of two years' duration. There was subluxation of the tibia backwards with some flexion but little pain. He could not walk. Injections of iodoform and treatment with superheated air were tried without any benefit. Hyperæmia, induced by constriction from May 14th to June 27th, 1892, brought the process to a standstill. After ten years, the young man had a moveable knee-joint without any thickening; he can stand and walk all day and only limps a little after great exertion. Case 2. The patient, a young tailor, aged 17 years, had suffered from tuberculous disease in the small bones of the wrist for two years. There was a spindle-shaped swelling. The joint was almost immoveable owing to great pain and adhesions. The hand was useless. Constriction was applied from June till August, 1892. The young man is now well and is gaining a living as a groom. Case 3. The patient was a girl, aged 11 years, with a spindle-shaped swelling of the elbow joint, which was fixed at a right angle, the movements being very limited and painful. Constriction was employed daily for one hour from March 15th to June 26th, 1892. After ten years, the girl could use her arm for every kind of work, though after great exertion the joint feels weak. This conservative method of treatment is both simple and cheap and it can be employed for out-patients with little supervision after the first weeks. If other observers do not report as favourably about it their technique may be at fault.



The size of the clamp and the rubber tube has been exaggerated in the sketch.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary Comitia was held on Monday, April 17th, Sir WILLIAM S. CHURCH, Bart., K.C.B., the President, being in the chair.

The PRESIDENT announced that the Gilbert-Blaine medals had been awarded to Staff-Surgeon Sidney Thomas Reid, H.M.S. *Vestal*, and to Surgeon Robert William Glennan Stewart, H.M.S. *Thames*. He also announced that the Bisset Hawkins medal had been awarded to Sir Patrick Manson.

The PRESIDENT delivered the usual annual address in the course of which he referred to the lives of eight Fellows who had died during the year—namely, Dr. Charles Kelly, Dr. T. Gilbart Smith, Sir Frederic Bateman, Dr. Angel Money, Dr. William Lee Dickinson, Dr. G. Vivian Poore, Dr. W. G. V. Lush, and Dr. Adam Bealey. The President referred to the Royal honours and distinctions which had been conferred on certain members of the medical profession and to the awards of medals, prizes, and scholarships connected with the College. He also mentioned the lectures which had been delivered, drawing especial attention to the Harveian oration and to the Fitz-Patrick and Oliver Sharpey lectures. He then reviewed some of the work accomplished by the College and the many important committees which had been appointed during the year, particularly that concerned with communications with various departments of State.

Sir HERMANN WEBER proposed a vote of thanks to Sir William Church for having acted as President during the past six years. He also thanked him for his address and requested that it might be printed and distributed to the Fellows.

Sir WILLIAM CHURCH returned thanks to the College and acceded to the request to have his address printed. He then vacated the chair.

The REGISTRAR (Dr. E. LIVEING) read the regulations which govern the election of President. The election was proceeded with. At the first ballot the result was as follows: Sir Richard Douglas Powell, 51 votes; Sir William H. Broadbent, 50; Dr. P. H. Pye-Smith, 27; Sir Thomas Barlow, 2; Sir John Williams, 1, Dr. W. H. Allchin, 1; Sir William Church, 1; Dr. F. W. Pavy, 1; and Dr. D. Ferrier, 1 A second ballot was then taken, with the result that Sir R. Douglas Powell was elected President, receiving 74 votes, while Sir William Broadbent received 59.

The charge was delivered by the SENIOR CENSOR (Dr. T. H. GREEN) and the PRESIDENT pledged his faith to the College

Sir R. DOUGLAS POWELL thanked the College for the honour that had been accorded to him in electing him as President.

Licences to practise physic were granted to Sydney Herbert Daukes, Cambridge and London Hospital; David Morgan

Jones, Glasgow and London Hospital; William Herbert Lowry, Toronto; Edgar Coningsby Myott, Manchester and Guy's Hospital; and Lewis Thomas, Dalhousie and the Middlesex Hospital.

The following communications were received:—1. From the secretary of the Royal College of Surgeons of England reporting certain proceedings of its Council on Feb. 9th. 2. From the secretary-general of the International Congress of Medicine to be held at Lisbon from April 19th to 26th, 1906, asking the College to send a delegate to represent it at the Congress. It was resolved to send a delegate who should be nominated by the President.

Dr. NORMAN MOORE proposed the following motion:—

> That in view of the constantly increasing mortality from plague in [illegible] Government on the subject.

This was seconded by Sir DYCE DUCKWORTH, supported by Dr. J. F. PAYNE, and carried. The nomination of the members of the committee was left in the hands of the President.

A communication was received from Dr. W. H. Dickinson resigning his office of curator of the museum and Dr. S. J. Sharkey was elected as his successor. A vote of thanks was accorded to Dr. Dickinson for his past services. The PRESIDENT then dissolved the Comitia.

MEDICINE AND THE LAW.

The Medical Man's Evidence in a Court of Law.

IN the learned paper entitled "Notes upon the Law of Evidence," read by Mr. Justice Walton at the recent meeting of the Medico-Legal Society, he thus summed up his practical advice to witnesses, medical and others: They must listen to the whole question propounded before venturing to reply; they must say exactly what they mean; they must not manifest a spirit of suspicion in the witness box; and above all they must not worry themselves with a fear of infringing technical rules of evidence. A suspicious demeanour will bias both judge and jurors unfavourably. The infraction of any rule of evidence will be keenly watched for by the opposing counsel—*c'est son métier*. Relevant evidence to be valid must be given in court, under oath and subject to rigid cross-examination. Hence, only original facts actually seen and heard are admitted and they must be evidenced solely by those who saw and heard them. A cardinal rule of wide application is that hearsay testimony must be rejected; thus Sir Thomas Stevenson was stopped from offering testimony as to the results of a chemical analysis performed by his assistant. It may be stated broadly that it is in the interest of public justice that the law imposes its limitations and exceptions to what are considered the general rules of logic and common sense. A judicial trial is unlike a scientific investigation for the juror is an untrained observer and a legal issue cannot be postponed indefinitely from time to time for further or more accurate inquiry. There are, however, a few apparent exceptions to the principle of the rejection of hearsay testimony but on investigation it will be found that most of these exceptions are more or less in the nature of original evidence. Many instances of these exceptions are specially pertinent to medical men who would be wise to record at once in black and white any statements which may have to be repeated by them in court. Hearsay testimony is commonly allowed in the coroner's court and this in spite of the accidental fact that the press, by publishing the facts elicited by the inquest jury, may prejudice public opinion. It is the medical adviser who often catches the last whisper of a victim conscious of impending dissolution as to the cause of the fatal event. Lastly, the evidence of a medical practitioner may be important when the legal doctrine of the admissibility of statements in the nature of *res gestæ* is applied. Words may be repeated as evidence where an exclamation forms part of th [illegible] stion, as Dr. Blake O. [illegible] rather of *when* than [illegible] The natural expression of a frightened man who has allowed himself no time to concoct a lie is an example; the cry of the newly born babe may be adduced in evidence of live-birth, although there may be *vox et præterea nihil*. The words may be uttered by an offender or by a victim, as in the case of an indecent assault or of a rape, in which cases a considerable interval of time has been allowed to elapse after the alleged act and before the statement was made. Sir Joseph Walton further gave as an exception where hearsay testimony was allowed statements made to a medical man by his patient describing symptoms—that is, what is felt and suffered; the admission of such testimony might also be justified upon the ground that it is [illegible] ntary information that the [illegible] at a correct diagnosis and to prosecute a line of treatment and as his diagnosis may be demanded in court the facts which led up to it should also be allowed. The learned judge strongly approved of medical assessors in place of medical experts as witnesses; it is well known that Sir Joseph Walton uses assessors frequently and he regrets that the powers given to common law courts to employ them, under the Judicature Acts, are so neglected. While admitting the benefit of assessors in civil courts, he considers that it will be impossible to extend the practice to criminal courts, for th [illegible] and therefore counsel [illegible] of the present law in [illegible]

Russian Estimat of the Value of Formalin in Cases of Poisoning.

The Medical Council of St Petersburg, having considered the representation of one of the medical committees respecting the methods adopted to preserve intestines intended to be examined for judicial purposes, has decided that in cases where spirit cannot be employed a 10 per cent. solution of formalin may be used. But considering that formalin combines intimately with several substances and thus renders a proper investigation impossible, it appears necessary that at the time the intestines are placed in the said solution, a part of the stomach, bowels, &c., should be hermetically sealed in a vessel or vessels without the addition of any preservative substance whatever. Respecting the action of formalin the council observes that such poisons as strychnine, veratrine, morphine, atropine, and phosphorus will remain in the organs for a very long time with a 10 per cent aqueous solution of formalin.

Anthrax an Accident under the Workmen's Compensation Act.

Instances have frequently occurred in which there has been considerable legal dispute as to whether the term "accident" used in the Workmen's Compensation Act covers certain matters which in ordinary conversation we should hardly class as accidents. Infection with anthrax has been one of these and the tendency of recent decisions has been to class this and similar dangerous conditions arising out of the workman's employment as "accidents." The House of Lords has now upheld these, the Lord Chancellor observing, in moving the rejection of the employers' appeal, that it did not appear to him that by calling the consequences of an accidental injury a disease the nature of the consequential results of the injury was affected. He gave as parallel instances infection with anthrax, erysipelas, or tetanus following slight accidental injuries perhaps not noticed at the time and not necessarily followed by these results. The question is one of legal rather than of medical importance but for the fact that at the hearing of claims of the kind referred to medical men are the most important witnesses called and that it is consequently useful for them to bear in mind when treating their patients that legal inquiry will follow in which their procedure, among other matters, will probably come under discussion.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8560 births and 4958 deaths were registered during the week ending April 15th. The annual rate of mortality in these towns, which had been 15·9, 15 7, and 15·7 per 1000 in the three preceding weeks, rose again to 16·6 per 1000 last week. In London the death rate was 16·1 per 1000, while it averaged 16·8 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 9 0 in Kings Norton, 9 3 in Handsworth (Staffs.) 9·6 in Leyton, 9·9 in Hornsey and in Burton-on-Trent, 10·3 in Walthamstow, and 10·6 in East Ham; the highest rates were

21·0 in Hanley, 21·2 in Middlesbrough, 21·3 in Manchester, 21·4 in Ipswich, 21·9 in Stockton-on-Tees, 23·8 in St. Helens, 26·3 in Tynemouth, 26·7 in Rhondda, and 31·1 in Merthyr Tydfil. The 4958 deaths in these towns last week included 553 which were referred to the principal infectious diseases, against 494, 483, and 430 in the three preceding weeks; of these 553 deaths, 231 resulted from measles, 148 from whooping-cough, 58 from diphtheria, 52 from scarlet fever, 42 from diarrhœa, 20 from "fever" (principally enteric), and two from small-pox. No death from any of these diseases was registered last week in Northampton, Great Yarmouth, Burton-on-Trent, Wolverhampton, Handsworth (Staffs.), Kings Norton, Wallasey, Bootle, Rochdale, Preston, Barrow-in-Furness, or Huddersfield; while they caused the highest death-rates in Southampton, West Bromwich, St. Helens, Sheffield, Stockton-on-Tees, Newport (Mon.), and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Portsmouth, Southampton, West Bromwich, Coventry, Nottingham, Wigan, Sheffield, Middlesbrough, Stockton-on-Tees, Newport (Mon.), and Merthyr Tydfil; from scarlet fever in Blackburn and Merthyr Tydfil; from diphtheria in Ipswich and Tynemouth; from whooping-cough in Tottenham, West Ham, Hastings, Reading, and Hanley; and from diarrhœa in St. Helens. The mortality from "fever," showed no marked excess in any of the 76 towns. Two fatal cases of small-pox were registered in Southampton, but none in any other of the large towns. The number of small-pox patients remaining under treatment in the Metropolitan Asylums Hospitals, which had been 20, 20, and 21 on the three preceding Saturdays, had declined again to 15 on Saturday last, April 15th; no new cases were admitted during the week, the numbers having been three, two, and four in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2133, against 2035, 2032, and 2086 at the end of the three preceding weeks; 290 new cases were admitted during the week, against 274, 254, and 292 in the three preceding weeks. The deaths referred to pneumonia and diseases of the respiratory system in London, which had been 304, 273, and 308 in the three preceding weeks, declined again to 304 last week, but were nine in excess of the number in the corresponding period of last year. The causes of 52, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Portsmouth, Bristol, Nottingham, Salford, Bradford, Leeds, Newcastle-upon-Tyne, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, St. Helens, Rochdale, Barrow-in-Furness, Rotherham, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·3, 16·9, and 16·6 per 1000 in the three preceding weeks, rose again to 18·0 per 1000 during the week ending April 15th, and was 1·4 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 14·0 in Paisley and 15·9 in Dundee to 24·4 in Perth and 24·5 in Greenock. The 603 deaths in these towns included 36 which were referred to whooping-cough, 17 to measles, nine to diarrhœa, six to diphtheria, and one to scarlet fever, but not any to small-pox or to "fever." In all, 69 deaths resulted from these principal infectious diseases last week, against 59, 43, and 73 in the three preceding weeks. These 69 deaths were equal to an annual rate of 2·1 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 33, 20, and 28 in the three preceding weeks, rose again last week to 36, of which 26 occurred in Glasgow, four in Edinburgh, and two in Greenock. The deaths from measles, which had been six, five, and 13 in the three preceding weeks, further rose to 17 last week, and included 11 in Glasgow, two in Edinburgh. and two in Aberdeen. The fatal cases of diarrhœa, which had been eight, eight, and 20 in the three preceding weeks, fell again last week to nine, of which three were registered in Glasgow, two in Dundee, and two in Aberdeen. The deaths from diphtheria, which had been five in each of the two preceding weeks, increased to six last week, and included two in Glasgow and two in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 133, 105, and 119 in the three preceding weeks, further rose last week to 121, but were 31 below the number in the corresponding period of last year. The causes of 18, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·4, 24·9, and 25·5 per 1000 in the three preceding weeks, declined again to 21·6 per 1000 during the week ending April 15th. During the past four weeks the death-rate has averaged 23·6 per 1000, the rates during the same period being 15·6 in London and 16·4 in Edinburgh. The 157 deaths of persons belonging to Dublin registered during the week under notice were 28 below the number in the preceding week and included eight which were referred to the principal infectious diseases, against seven, eight, and five in the three preceding weeks; of these, four resulted from measles, two from whooping-cough, one from scarlet fever, and one from "fever," but not any from small-pox, diphtheria, or diarrhœa. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·8 in London and 1·2 in Edinburgh. The fatal cases of measles, which had been four, four, and none in the preceding weeks, rose again last week to four. The 157 deaths in Dublin last week included 19 of children under one year of age and 47 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a considerable decline from the respective numbers recorded in the preceding week. One inquest case and two deaths from violence were registered; and 58, or more than a third, of the deaths occurred in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon G. A. S. Bell to the *Victory*, to be lent to the *Brilliant*, temporary.

The following have been promoted Surgeons: C. H. Rock to the rank of Fleet Surgeon, with seniority of May, 1903; H. H. Gill to the rank of Fleet Surgeon, with seniority of November, 1903; and A. T. Wysard to the rank of Fleet Surgeon, with seniority of May, 1904.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel W. Baker, on reversion from India, is appointed to the Eastern Command for duty. Major C. J. Holmes (retired pay) assumes medical charge of the Station Hospital and troops at Warrington, vice Lieutenant-Colonel C. W. Thielé. Major R. H. Penton joins at Portsmouth. Major A. Hosie is posted to the Eastern Command. The following officers in India have been appointed to the command of the station hospitals named: Captain J. A. Hartigan, Cherat; Major H. A. Cummins, C.M.G., Baragali; Major J. J. Russell, Kuldana; Major C. Dalton, Gharial; Major W. G. Beyts, Solon; Captain T. F. Ritchie, Khairagali; Captain H. Rogers, Changlagali; Captain J. H. Robinson, Kelabagh; Lieutenant P. Davidson, D.S.O., Ghoradaka and Kharspur; Captain J. Powell, Thobba; Lieutenant H. G. S. Webb, Upper Topa; and Lieutenant C. A. J. A. Balck, Lower Topa.

Major William Boog Leishman, Professor of Pathology, Royal Army Medical College, to be Brevet Lieutenant-Colonel, in recognition of his services and the distinction attained by him in original investigation and research (dated April 15th, 1905).

VOLUNTEER MEDICAL CORPS.

Surgeon-Lieutenant-Colonel W. Mitchell Roocroft, V.D., is granted the honorary rank of Surgeon-Colonel (dated March 18th, 1905).

THE MEDICAL JOURNAL OF THE ITALIAN NAVY.

The *Annali di Medicina Navale* enters upon its eleventh year with a double number of 240 pages, of which nearly one half contains original contributions from naval medical officers, while the remainder consists of a periscope of cosmopolitan current medical literature. A nominal roll of the medical department of the Royal Italian Navy accompanies this number. It contains the names of 227 officers who rank as follows:—Major-General 1, Colonels 6, Lieutenant-Colonels 11, Majors 23, Captains 107, and Lieutenants 79. The names are also given of 67 medical officers belonging to the Reserve and of 13 apothecaries. Medical officers, it will be seen, are accorded military titles, but the same distinction is not conferred upon the *Farmacisti.*

Correspondence.

"Audi alteram partem."

DISAPPEARANCE OF AN APPARENTLY MALIGNANT TUMOUR OF THE THROAT.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 25th, p. 821, Mr. F. W. Joshua raises the following question: Can a malignant tumour—a well-marked cancer—disappear spontaneously? An answer to this question has already been given by Mr. D'Arcy Power in a paper read before the Harveian Society of London on March 2nd, 1899; both the paper and the discussion on it at the society were published immediately afterwards in THE LANCET, the former on March 4th (p. 583) and the latter on March 11th (p. 693). Mr. Power described a series of cases of disappearance of malignant tumours after laparotomy in apparently hopeless cases where owing to the extent of the damage, the size of the tumour, &c., no operation was performed. In some cases the diagnosis of malignant tumour was made microscopically from excised portions of the tumour.

In the issue of the *Correspondenzblatt für Schweizer Aerzte* for October, 1904, I published the following case under the title, "Disappearance of an Apparently Malignant Tumour of the Throat." The patient was a woman, aged 76 years, a very quiet, unassuming, reliable person, who consulted me on Jan. 5th, 1904, about a papillomatous tumour growing on the left side of the soft palate. She was not only old and infirm but she had degenerative changes in the arteries, a weak heart and had been suffering for many years from dyspepsia. The tumour slowly increased under simple treatment (gargles, mouth washes, tonics) and began to slough. A specialist for throat diseases who saw her in February confirmed my diagnosis of cancer. The patient declined the operative interference proposed by her two medical attendants. By March the tumour was of about the size of a small egg, had pushed the uvula over to the right side, and occluded the pharynx to such an extent that the patient was reduced to fluid nourishment. Codeine and morphine had to be given every night to alleviate the agonising pain which she suffered heroically without complaint. Thus a few hours' rest were insured. In March she insisted on operative interference. A surgeon who was called in considered the case past operation and there was swelling of the submaxillary glands on the left side. In order to insure proper feeding, per rectum if necessary, the patient went to a private hospital and remained a month under the charge and daily supervision of two surgeons. The case being pronounced hopeless she returned home on June 1st, 1904, to arrange her affairs. On June 2nd she suddenly felt better, had less obstruction in her throat, had the first painless night for four months, and has had no more pain since. On June 4th her husband and a hospital nurse discovered that the tumour had disappeared. The specialist who had seen her in January saw her again in July and confirmed the fact, so did I, and the hospital [illegible] er I [illegible] the [illegible] r is [illegible] ner [illegible] ood again, gets about as usual, and has regained her former state of health. She attributed her case of healing to a direct answer to personal prayer.

I am, Sirs, yours faithfully,

THEODORE ZANGGER, M.D.

Zürich, April 4th, 1905.

PUERPERAL SEPSIS AND THE CURETTE.

To the Editors of THE LANCET.

SIRS,—In the second portion of the paper by Mr. A. G. R. Foulerton and Dr. Victor Bonney on Puerperal Infections, published in THE LANCET of April 8th, p. 915, and April 15th, p. 992, there is a point which calls for some remark. After describing much valuable bacteriological work on the subject, they briefly discuss the *treatment* of the conditions and condemn curettage in the following sentence:—

> In the case of either a streptococcic or pneumococcic infection of the uterus, with or without secondary infection by other bacteria, this procedure would seem on the one hand to be incapable of doing any good, and on the other hand might be productive of most serious result by infecting the hitherto intact deeper tissues of the uterine wall.

This is misleading, as it suggests that those who advocate the active operative treatment of puerperal sepsis rely on the curette alone. Were this so, these strictures would be perhaps justified, though even then this condemnation seems to rest rather on bacteriological probabilities than on clinical experience.

But the essential point is that the curettage shall be followed by thorough disinfection of the raw surface, otherwise dissemination of infective matter might easily occur. I have myself had the best results from thorough removal of the endometrium with a sharp, light instrument (as distinguished from stirring up the surface with a heavy blunt one), followed by thorough rubbing with undiluted izal.

I am, Sirs, yours faithfully,

A. KNYVETT GORDON,

Medical Superintendent, Monsall Hospital; Lecturer on Infectious Diseases in the University of Manchester.

Manchester, April 15th, 1905.

THE MEDICAL INSPECTION OF SCHOOLS.

To the Editors of THE LANCET.

SIRS,—Certain developments are taking place in connexion with the medical inspection of elementary schools which the profession would do well to follow closely, for they affect at once the health of the community and the progress of medicine. Sir William Anson states that every local educational authority has power to appoint medical inspectors to every elementary school and the Government has recently appointed a committee to inquire into what is being done in this respect.

Already medical officers of health take much interest in the elementary schools in their districts. Under the Education Code the sanitary authority of a district, or any two members thereof acting on the advice of the medical officer of health, can require either the closure of the school or the exclusion of certain children. These powers are from time to time exercised. Further, one medical officer of health analysed the air in one school and as a result made certain recommendations as to ventilation, and we have another reporting that epidemics are mainly kept up by attendance at school and complaining that head teachers are not sufficiently careful to exclude children slightly ill or those coming from infected houses. Besides this, one educational authority has decided to appoint a medical officer at a commencing salary of £400 a year. Another has appointed the medical officer of health to be medical officer to itself. A third has evidently appointed a medical officer, for it has decided that he should meet parents at a certain school twice a week and at outlying schools once a week. Lastly, we have a conference on school hygiene recommending that every educational authority should have a medical adviser.

Now, to advise a committee is one thing, to inspect children a second, and to treat those found to be ill is a third. As to the first, the best adviser on questions of lighting and the prevention of myopia would be an ophthalmic surgeon, but he would not, if he could, advise on the prevention of [illegible] matters of ventilation and drainage; [illegible] ppoint a consultative b[illegible] health might be a me[illegible], [illegible] to others his duties and powers as to the compulsory closure of schools. With respect to the medical inspection of schools it would seem best to appoint a separate practitioner to each school, who should attend daily at a fixed time and at other times when necessary. A medical officer to an authority with thousands of children in scores of schools could only visit each school occasionally, even though he gave the whole of his time to his duties. What he would probably do is to try to train the schoolmasters and attendance officers to diagnose infectious cases and keep medical records, but these are essentially medical duties and could only be done by schoolmasters at the expense of their proper work—i.e., teaching. Two objections can be made to this proposal: first, that the medical school inspectors being allowed to practise would be brought into unequal competition with their professional brethren, but divisional surgeons of police practise and no one proposes they should be debarred from so doing; secondly, it might be said that in the poorer parts of large towns the practitioners have been brought so low by the competition of hospitals and other causes that they would be unfit for these duties; even if this be admitted, which it is not, all that is necessary would be to require the holder of the post to reside within a mile of his school and to be on the telephone.

Many educationists will not be content with medical inspection but will want to go on to treat the children at the expense of the rates; it is to be feared, too, that some of them will care little whether the law authorises this or not but proceed to levy the higher rate, leaving anyone to stop them who can; if they do this they will find they have to appoint a regular medical staff and to maintain a children's hospital. The medical profession can, of course, take no part in proceedings of doubtful legality. Sir William Anson says there is grave doubt as to whether the Education Board has power to compel local authorities to appoint medical inspectors; there may be grave doubts about other matters; how far, for instance, medical inspection may be carried and by what action, if any, it may be followed. The Education Acts say the committees have power to appoint necessary officers and to assign to them their duties; everything then depends on what is considered necessary. The Education Code knows nothing of medical inspectors of schools; it has a schedule on pensions for teachers but nothing about pensions for medical officers; indeed, the only medical officer the code seems ever to have heard of is the medical officer of health.

But another question arises, What will be the effect of all this officialism on the character of the profession and the progress of medicine? It is stated that from some cause the scientific output of existing State hospitals is disproportionate to the opportunities enjoyed; it is noteworthy, too, that architects are complaining greatly of the effects of municipalisation on their art. "It does not produce economic work; it cannot produce artistic work, and it is subversive of the interests of the individual from whom the new thing and the original thing is invariably derived."

I am, Sirs, yours faithfully,

April 14th, 1905. J. S.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Housing Question.

THE housing committee's scheme for dealing with the Bordesley Green site was presented to the council on April 4th. It was, however, received with so much opposition that it was withdrawn. There were two principal lines of objection. One was that the plans were unsatisfactory—the rooms were too small and the sanitary arrangements were defective; the other was that the terms of the contractor who covenanted to build on the site were not financially good and emphasis was laid on the fact that no guarantee was given that the rents would remain fixed. The supporters of the scheme urged that the medical officer of health had approved the plans, and that no guarantee could be given that the rents would not be raised unless the corporation guaranteed that the rates would not be raised. As regards the financial aspect they agreed that no doubt more could be obtained for the land if they allowed better houses to be built but that the land was purchased for the provision of cheap healthy houses and not as a land speculation. The feeling of the majority in the council seemed to be that if they waited a little longer until the roads—in process of making—were completed and threw the site open to competition better houses and a better price might both be obtained. On withdrawing the scheme the chairman said he did so on the understanding that the matter should be brought up again on a further report as soon as possible. Closing orders in respect of a considerable number of houses have been made during the last few days.

Reports of Charities.

From the annual report of the Birmingham Lying-in Charity it is seen that, like the other local charitable institutions, it stands in urgent need of increased subscriptions. The medical portion of the report was most satisfactory, for although no less than 1199 children were born in the cases attended during the year there was no maternal mortality. Land has been purchased for the erection of a central home in connexion with the charity and £2000 have been subscribed towards the £6000 required for its completion. So unsatisfactory is the financial position of the Birmingham Homœopathic Hospital as disclosed in the annual report that the curtailment of the in-patient department is regarded as inevitable.

Care of Epileptics and Feeble-minded.

The Local Government Board has at last approved the scheme under which the Birmingham, Aston, and King's Norton boards of guardians are jointly responsible for the poor epileptics and feeble-minded persons in their districts. The new body, brought into existence by the Government Order, is the first of its kind in the country and is known as the Birmingham, Aston, and King's Norton Poor-law Establishment Committee. A building for the accommodation of 210 inmates is about to be erected, of which number Birmingham will contribute 110 and Aston and King's Norton 50 each. The expenditure will be divided in accordance with this proportion. In addition to being properly attended instruction will be given to the inmates in order that they may be as comfortable and at the same time as useful as possible. At the last meeting of the Smethwick education committee a letter was read from the Board of Education sanctioning the proposal to erect a special school for defective and crippled children.

Birmingham and Tuberculosis.

The report of the health committee for the past year was presented at the last meeting of the city council. From it I gather that tuberculosis was accountable for no less than 1071 deaths In order to lower if possible the high death-rate from this cause a system of voluntary notification has been instituted and a special inspector has been lately appointed to visit all houses in which death has occurred from this disease and to see that disinfection is thoroughly carried out. An amendment was moved and seconded that the health committee should take into consideration the provision of sanatoriums for the reception of tuberculous patients and this was finally adopted as a rider to the report, although the chairman of the health committee craved time in order to see the effect of the measures which it has just lately adopted.

The Midwives Act.

Under the Midwives Act of 1902, which has just come into operation, it is expected that the total number of registered midwives in the city will exceed 200.

Health of the City and District.

At the close of last week there were three patients in the isolation hospital suffering from small-pox, as compared with four at the close of the previous week. The annual reports of the medical officers of health of West Bromwich and Erdington have just been issued. The latter place, which is one of Birmingham's healthiest suburbs, had a death-rate for the year of 10·8 per 1000. West Bromwich, which is situated in a less salubrious district, had a death-rate of 15·9 per 1000. Both death-rates were well below the average for the last ten years.

April 17th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Health Students' Association: Have Sanatoriums Proved Unsuccessful?

UNDER the auspices of the Liverpool Health Students' Association an interesting address was delivered by Dr. J. E. Nevins, physician to the Liverpool Workhouse Hospital, on the subject of the Prevention of Consumption, with special reference to Sanatoria. Dr. Nevins quoted various opinions, including that of Professor Rudolf Virchow, director of the Pathological Institute, Berlin, who had remarked: "It is therefore to be hoped that the public will recognise that the study of the cause and prevention of tuberculosis is a branch which is more likely to be of ultimate benefit to the community than the establishment of open air sanatoria ' Again Professor Maragliano said at the Madrid congress that "sanatoria would never diminish the number of cases of tuberculosis they must only be looked on as quarantine hospitals which were useless without general hygienic measures The sanatorium movement in England might be said to date from Dec 20th, 1898 when the King then the Prince of Wales presided at the meeting at *Marlborough House at which Sir William H Broadbent* said that sanatoriums "aim not only at prevention but cure They had also the statements of Mr T B Sellors of Balham who said of the consumptive artisan ' Here we have a man on whom others depend bound to die in a year or two if not treated by the open air system and that is *impossible* while Dr G A Heron, senior physician to the City of London Hospital for Diseases of the Chest said "Treatment as a hospital out patient was a farce, a mockery, a great waste of money, and a public scandal Was out patient treatment a fraud and a scandal? asked Dr Nevins Before sanatoriums were introduced the death rate of phthisis had fallen in 50 years by 50 per cent and it did not appear from statistics that before the days of sanatoriums people were bound to die in a year or two There were three essentials in the sanatorium treatment—constant fresh air, abundant feeding and regulated rest and exercise There was nothing new here Sanatorium treatment really meant putting patients in ideal conditions of life and there was no reason why they should think that fresh air was going to work miracles any more than in years past *What had been the results?* To speak broadly, they had heard that the sanatorium at the beginning was held to be for cure In the early days the reports issued stated that so many patients were cured , later the term used in the reports was "disease arrested and a year or two later a new term was used "disease *apparently arrested* *The speeches* made at the annual meeting of the National Association for the Prevention of Consumption seemed to be disappointing In fact they admitted that sanatoriums had not been a success up to the present The speakers, however did not say that the sanatoriums were a failure but that they had became so owing to the people sent there by medical men The results of the present day treatment must be taken in the broadest sense, because it was almost impossible to compare figures relating to sanatorium treatment inasmuch as they differed in the class of patients treated The figures *he was about to* quote were only put forward just as straws showing the direction of the current In five English sanatoriums one had 23 per cent of the patients dead in less than four years another had 25 per cent , another 30 per cent , another 32 per cent , and another 38 per cent , in the aggregate of 477 *patients* 128 *died in four years or less* giving a percentage of deaths of 26 7 In Germany the results were much the same With regard to one hospital where hopeless cases were excluded from the percentage of deaths the results showed that 23 per cent of the patients died within four years One very important point to be remembered was that in the early stages—and those were the cases desired by

[illegible] cured itself where the [illegible] er So far as the Heswall [illegible] connected was concerned the percentage of deaths for two years was 23 6 With reference to *pre s*natorium results Dr C T Williams gave details of the treatment of 1000 patients Of those only 48 died in four years giving a percentage of 4 8 but those were cases in the highest class of society Dr J F Pollock physician to the Brompton Hospital had analysed his cases and of 3566 hospital *out patients whom he was able to* trace only 129 had died in two and a half years giving a percentage of 3 5 Dr Hammer of Heidelberg gave statistics which showed that the figures in reference to out patients were considerably better than those for sanatoriums He did not go so far as to say that the sanatorium was a failure although he had his own opinion on that point but he wished to impress on his hearers that so far it had not proved itself a success having regard to the expense He had picked the most suitable cases from the Liverpool Parish Infirmary but they could not in parish life provide the early cases In fact, *in parish life* the early cases were not often seen and those coming under observation were not always willing to be removed to the sanatorium Dr Nevins summed up his remarks by saying that the sanatorium had done good work in teaching the gospel of fresh air but as a curative agent it seemed to him that it had not proved itself a success

The Mitchell Banks Testimonial

It is proposed to close the fund for the town's memorial to the late Sir William M Banks on April 30th The Lord Mayor has appealed for further donations

The Liverpool Hospital for Consumption

The annual meeting of the supporters of the Liverpool Hospital for Consumption and Diseases of the Chest, including that of the sanatorium at Kingswood Delamere Forest was held at the town hall, the Lord Mayor presiding The Lord Mayor, in moving the adoption *of the report regretted that the institution should be* in such an unsatisfactory financial position The past year had ended with debit balances in maintenance and capital accounts of respectively £560 and £1542 The debit balance in capital account resulted from payments to account of the new hospital in Mount Pleasant the deficit in respect of which and the extension undertaken in connexion with the out patient department was estimated at £5000 The new hospital was opened for the admission of patients on Jan 1st The Lord Mayor made an urgent appeal to the committee and all present to advocate wherever possible the value of fresh air The number of patients treated in the out patient department last year was 1904 At *the Kingswood Sanatorium at Delamere Forest* 175 patients were treated last year The results, as in previous years were satisfactory 71 1 per cent had left in good health not cured in the popular meaning of the term but with the disease either quite or very greatly *arrested and their prospects* of life and wage earning assured or greatly improved The hospital recently suffered a heavy loss in the death of Lady Willox who in conjunction with Mr W P Hartley built the sanatorium at Delamere Forest and the annexe to the hospital which has recently been rebuilt in Mount Pleasant Liverpool

April 18th

WALES AND WESTERN COUNTIES NOTES

(From our own Correspondents)

Sanitary Administration in the Wrexham Rural District

For some time after the passing of the Public Health Act 1875 which made it incumbent upon sanitary authorities to appoint medical officers of health it was the custom to elect to that office the Poor law medical officers with the result that in many districts there were several medical officers of health acting for one authority The Local Government Board has for a long time tried to remedy this unsatisfactory condition but in Wales there still remain eight districts with two *medical officers of health, two with* three and one with no less than four The rural district of Wrexham which at the last census had a population of 55 198 and an area of 58 932 acres is one of the districts with two officers In 1903 one of them died and the Local Government Board refused to sanction a continuance of the arrangement until a report upon the sanitary administration of the district had been made by one of its inspectors That report which has been written by Dr L W Darra Mair has now been issued It contains the very serious charge against the district council of having failed in its duty as a health authority as shown by the inadequate methods of administration and the many nuisances and unwholesome conditions directly traceable to those methods Dr Mair advises frequent inspection of the district the provision in populous places of drainage schemes the periodical *inspection* of water supplies and the provision of a small pox hospital He suggests also the appointment of one medical officer of health for the rural [illegible] for the borough of Wrexham and that such a

population is now about [illegible]

Porthcawl Rest

The only convalescent home in South Wales is the "Rest at Porthcawl on the Glamorganshire coast The annual report of the institution which was presented to the meeting of subscribers on April 12th is a record of very successful management and of the accomplishment of much good work

Altogether 1095 patients were admitted during the year and the expenditure amounted to £1815. There was a balance on the year's working of £456, but there is still a debt of £1376 to defray the cost of extensions which were made a few years ago. The home is usually closed during the winter months but during the past winter it was kept open for the reception of children from the Cardiff Infirmary and the experiment was sufficiently successful to warrant a repetition next winter when children will also be sent from the Newport Hospital and a few adults will be admitted from these institutions.

Cardiff Infirmary.

Dr. Thomas Wallace has been appointed honorary consulting surgeon to the Cardiff Infirmary upon the expiration of his term of office as honorary surgeon. Dr. Wallace has been connected with the infirmary for nearly 27 years.

Extension of the Borough of Cardiff.

The corporation of Cardiff is again considering the question of the extension of the borough boundaries. The area of the borough is at present 6373 acres, or about three times the size it was at the middle of the nineteenth century. On the Llandaff side and on the Roath side of the town a large population is gathered outside the borough and difficulties in connexion with sewerage and other matters have arisen which can be most successfully overcome by including the districts in question in the borough.

Brixham Health Report.

Mr. G. Blacker Elliott, the medical officer of health of the Brixham urban district, reports a birth-rate in the town during 1904 of 26·6 per 1000 and a death-rate of 14·6 per 1000. The zymotic death-rate was 2·2 per 1000. Mr. Elliott very properly urges the district council to provide an isolation hospital and a steam disinfector, with neither of which can a popular watering-place afford to dispense.

Conference on Vagrancy at Hereford.

At a conference of members of the Poor-law unions in the county of Hereford, held on April 11th, a decision was come to which should have the effect of discovering among the occupants of the tramp wards the men who are desirous of working if work can be found for them. Notice is to be given to the employers of labour in the unions concerned that upon application by them the workhouse master will send them when possible a man who may appear suitable for the work required of him. It was also decided by the conference, which was presided over by Sir John Cotterill, the lord lieutenant of the county, that each union should adopt uniform treatment in respect to those who applied for admission to the tramp wards. The necessity for taking some steps in the matter is emphasised by the fact that in the Hereford union, which has a population of 34,000, or more than one-third that of the whole county, 8633 tramps came to the workhouse during the past year, compared with 3385 in 1896, although the population of the union has not appreciably increased within the two periods.

The Administration of the Midwives Act in Herefordshire.

The Herefordshire county council has delegated its powers under the Midwives Act to a committee consisting of five members of the county council, Dr. Paul M. Chapman, Mr. Edgar F. Morris, and two ladies, one of whom is the matron of the Herefordshire General Hospital. The committee has adopted the unusual course of recommending the appointment of a person—presumably a woman—who shall act in the dual capacity of a supervisor of midwives in the county and superintendent of the nurses employed by the county nursing association. There is no county medical officer of health in Herefordshire.

Hereford County Asylum.

The number of patients in the Hereford County and City Asylum is reported to be 528, which number includes 50 from the borough of Cardiff. The charge for the maintenance of pauper patients chargeable to unions within the county has been reduced to 8*s.* 9*d.* per week per patient. The salary of the medical superintendent, Mr. C. S. Morrison, has been increased from £500 to £600 per annum.

Taunton Isolation Hospital.

At the meeting of the Taunton town council held on April 11th the isolation hospital committee reported that it had decided to make a charge to patients or parents of patients who were admitted into the hospital and who might be considered in a position to pay for treatment. The amount claimed would be at the rate of one guinea per week for an adult and half a guinea for a child. A considerable discussion arose over the report, the opinion being expressed that it was unwise to make any charge to patients, as in other towns people were encouraged to send cases of infectious diseases to the isolation hospitals and in other boroughs such fees had been abolished. Eventually it was decided to refer the matter to the committee.

April 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Candidature of Dr. Leonard Kidd as a Direct Representative.

AT a meeting of the Ulster Medical Society held on April 13th, a letter having been read from Dr. Leonard Kidd with reference to the Direct Representation for Ireland on the General Medical Council, it was decided, after a long discussion, to take no action at present in the matter. The question will come up again for discussion as a number of members of the society have signed a requisition for a special meeting to discuss the whole question of the representation of Ireland on the General Medical Council.

The Foreshore Nuisance on Belfast Lough.

At a meeting of the Castlereagh district council, held on April 14th, a letter was read from the Local Government Board stating that it had decided to make a provisional order forming a united district for the purpose of abating the nuisance on Belfast Lough of which complaint had been so bitterly made. A joint board, consisting of the corporation of Belfast, the Castlereagh rural district council, and the Holywood urban district council, is to be constituted for the united district and the expenses incurred in purifying the foreshore are to be defrayed by these bodies in the proportion of Belfast 85 per cent. and Castlereagh and Holywood each 7½ per cent.

The Drink Bill in Belfast.

From the figures published in Dr. Dawson Burns's annual report for last year it would appear that in Belfast, with an estimated population of 358,693, the expenditure on drink was in 1904 £1,126,893, a sum almost equalling its valuation. This sum is only £30,000 short of the total amount spent in the whole of Ireland on poor relief and medical charities and £47,000 less than the entire sum spent on primary education. This amount would pay the whole of the sum spent by the public health committee and leave a balance to discharge the liability in respect of the free libraries and technical education. Dublin spent in drink in 1904 £1,190,897.

Down District Asylum.

Mr. M. J. Nolan, resident medical superintendent of Down District Asylum, was on April 15th, in recognition of his admirable administrative capacity and of his services in promoting in every department the improvement and reorganisation of the institution, made the recipient of a congratulatory address and gold watch, while his wife was presented with a silver salver. Lord de Ros, K.P., K.C.V.O. (chairman of the asylum board of management), who presided, bore his own testimony to the improvement which had taken place in every department of the institution under Mr. Nolan's régime, while the Right Hon. Thomas Andrews, D.L. (chairman of the Down county council), laid stress on the fact that in connexion with all appointments Mr. Nolan excluded all political and sectarian considerations and invariably recommended the best person for the position.

April 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Amendments to the Workmen's Compensation Act.

THE *Journal Officiel* of April 2nd has just published various clauses amending the law of 1898 which deals with accidents to workmen. The following are the principal clauses affecting the medical profession. The employer is liable for all medical fees, for the cost of drugs and appliances, and for the funeral expenses, but these last are not to exceed 100 francs. The injured workman has the right to choose his medical man and his druggist but in this case the employer is only liable for medical fees and for the cost of drugs, &c., up to an amount fixed by the *juge de paix* of the canton in which the accident took place. This amount is to be settled by a tariff issued by the Minister of Commerce in accordance with the report of a special committee comprising representatives of both medical men and of druggists. In every case the employer alone is liable for the hospital expenses, which, however, all told must not exceed 4 francs per diem in Paris and 3 francs 50 centimes everywhere else. Medical men, druggists, and hospital authorities can sue the employer directly. While the injured workman is being treated the employer can nominate to the *juge de paix* a medical man who shall examine into the condition of the sufferer, and this nomination, duly visé'd by the *juge de paix*, shall give to the said medical man a weekly right of entry to the injured man in the presence of his own medical attendant, who shall be notified two days previously by registered letter. If the injured man shall raise any objections to this visit the payment of the daily indemnity shall be suspended by order of the *juge de paix* who shall notify (*convoquera*) the injured man by registered letter. If the medical man shall certify that the injured man is fit to go back to work and the patient shall deny this the employer may, in a case of temporary incapacity, demand from the *juge de paix* an expert medical inquiry to be held within five days' time.

The Action of the X Rays upon Non-suppurating Tuberculous Glands.

At the meeting of the Academy of Sciences held on March 27th M. Bouchard read for M. Bergonié a report in which the latter stated that some six months ago he had treated four patients who were suffering from non-suppurating tuberculous glands by the x rays. From the results obtained he had come to the following conclusions. In cases of multiple tuberculous glands the action of the x rays is markedly good. All the glands treated become smaller but they rarely disappear altogether. Glands in the neighbourhood of those affected, which are not treated and are protected from the influence of the rays, are in no way altered. The most efficacious radiations appear to be those which, either owing to their amount or their quality, produce a marked inflammation of the skin. Finally, the rapid decrease in the size of the glands does not, according to the observations made, affect the general health of the patients.

The Local Action of Antidiphtheritic Serum.

At a recent meeting of the Hospitals Medical Society M. Dopter mentioned that he had employed Martin's serum (*serum antidiphtérique antimicrobien*) in the form of pastilles, with a view to hasten the disappearance of the bacillus of Löffler from the throats of diphtheritic patients. M. Dopter had found that under the local action of the serum the bacilli disappeared in, at the most, five days, at least exceptions to this were very rare and relapses hardly ever occurred. The patients were given 12 pastilles per diem to suck, one to be taken every hour, and any gargling or washing out the mouth which could dilute the serum was forbidden. For bacilli growing in the nasal fossæ the serum was dried and used in the form of coarse snuff (*prises*), but results were less satisfactory than as regards the throat, where the pastilles appeared to prevent the onset of paralysis of the soft palate. By their use the duration of the period of isolation was shortened. M. Sicard, who spoke next, agreed with M. Dopter from his own experience. M. Lermoyez argued that the failure of the serum in the nasal fossæ was due to a faulty method of application. The coarse snuff could only act upon the very narrow passage taken by the inspired current of air. It would have been better to powder the dried serum very finely, for used in this manner it could be deposited over a larger surface than when used in the form of coarse snuff.

The Part played by Spray in the Dissemination of Infectious Diseases.

M. Busquet, [illegible] part which the spray [illegible] the transmission of [illegible] d at least for 50 metres and it also is carried high into the air so that it will fill with mist houses which are close to the water's edge. M. Busquet ascertained that on the sea front of Bab-el-Oued, near Algiers, at which place numerous sewers discharge, given a strong wind with thick spray, the usual number of germs in the air is trebled. With a gale blowing the proportion of germs is increased in a still higher ratio and virulent bacilli coli have been found. These researches show the necessity for the protection of shores from pollution by sewage.

The Emile Zola Foundation.

Madame Emile Zola has just made over to the Assistance Publique her property of Medan, which, under the name of the Emile Zola Foundation, will be carried on as a convalescent home for members of the female staff of the Assistance. Madame Zola reserves to herself the island and the chalet thereon. M. Mesureur, the director of the Assistance Publique, has intimated that he will do all in his power to get the superior council of the Assistance and the municipal council to accept the gift. He suggests that the public should be allowed to visit the house. It is expected that the municipal council will at an early date signify its acceptance of the gift.

April 17th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Number of Medical Students in Austria.

THE following figures are given in the half-yearly report of the Royal and Imperial Ministry for Education, under the supervision of which the universities, as public institutions, are placed. According to this report there were in the winter half-year 1904-05 at the University of Vienna 1490 male and 37 female matriculated students of medicine; in Innsbruck, 160 (males only); in Graz, which is the second German university, 300 males and five females; in Prague, 210 males and seven females; in Lemberg, 98 males and 10 females; in Cracow, 126 males and 36 females; and the Czech University in Prague had 386 male and 15 female students, making a total of 2770 males and 110 females, or a falling off by 7 per cent. when compared with the figures for the last half year 1904.

A New Institution for the Treatment of Lupus by Finsen's Method.

By the munificence of members of the Royal and Imperial family the nucleus of a fund has been formed for the erection of a special building for the benefit of sufferers from lupus vulgaris. Other gifts and donations having been added to that sum Professor Lang, the director of the dermatological clinic at the General Hospital, took the matter in hand and now a two-storeyed house has been opened with all apparatus necessary for the treatment. X ray work and operations can be performed in the house, besides the special Finsen treatment for which four arc lamps are available. The fees charged from those who are not entirely destitute of means amount to about 1*s.* 6*d.* per hour of treatment under light, whilst operations are free. 15 beds are also at the disposal of the director of the institution. It is worth while mentioning that several English physicians have been, or are, working there under the direct supervision of Professor Lang who is regarded as an authority on matters concerning the treatment of lupus.

Small-pox.

A case of small-pox has been notified to the sanitary authorities of Vienna. This once dreaded disease has been so extremely rare since 1870, when compulsory vaccination was introduced into the Austrian empire, that amongst the younger generation of medical men there is hardly anyone who has had the opportunity of seeing it. Only officers of the Army Medical Corps now and then see a case in the southern provinces, where the unintelligent population omit to have the children vaccinated. The present case was imported from France. Stringent prophylactic measures were, of course, adopted at once and the result was that there has been no extension of the disease. The man died after seven days' illness from degeneratio cordis. The effect of vaccination is well shown in the returns of the Registrar-General. In the whole empire there occurred during the five years 1899-1904 not more than 92 cases, mostly imported from abroad, with 41 fatal results, whilst during the similar period 1865-70 there were 5020 cases with a mortality of 22 per cent. It must be remembered that epidemics were not rare then.

The Treatment of Tuberculosis Laryngis by Sunlight.

In a paper read before the Medical Society of Vienna, Dr. Sorejo, director of the open-air sanatorium Alland, which is the largest institution of its kind in Austria, described his method of treating tuberculosis laryngis. The patient, sitting in front of a large ordinary mirror which reflects the sun's rays into his or her mouth, inserts a laryngoscopic mirror in the usual way into the mouth until the glottis becomes visible in the large mirror. Then the rays are sure to fall on the vocal cords. After some practice the patients are able to spend from 40 to 60 minutes in this way, changing their position according to that of the sun. The results, which were demonstrated on 14 patients, were so remarkable as to induce several eminent physicians to give the method a trial in their clinics. It is absolutely necessary to employ parallel rays, which seem to have beneficial chemical effects on granulations. Thus ulcers have disappeared in three cases, tuberculous infiltrations of the epiglottis and vocal cords have subsided in five cases, and a general improvement has followed in all cases. The experiments are now conducted in several hospitals. The only drawback is the uncertainty of sunshine in winter time.

Double Wound of the Axillary Artery.

Dr. Weiss showed at the last meeting of the Clinical Society a man who had been stabbed in the left shoulder. After a copious hæmorrhage he was taken to a hospital where he was attended to. A prominence under the left deltoid muscle was attributed to a hæmatoma, and the diagnosis of a wound of the arteria circumflexa humeri having been made treatment was effected accordingly. But before the patient was discharged to attend as an out-patient he suddenly lost a quantity of blood from under the dressings, and when he was put under ether the bleeding had to be controlled by compression. It was then found that the axillary artery had been nearly divided by the stab and about two inches higher up another longitudinal wound of the vessel was discovered. Both ends of the artery were secured, the thrombosis being very slight in spite of the length of time that had elapsed, and the patient recovered completely. At the present time (five weeks after the operation) the left radial pulse is absent and the left hand is somewhat cyanosed and colder than the right. The arm can be used as easily as before.

Epidemic Cerebro-spinal Meningitis.

In the eastern parts of Austria an outbreak of cerebro-spinal meningitis has caused great alarm amongst the population. The disease is travelling westwards, one case having been noticed in Vienna. The specific diplococcus, discovered by Fränkel and Weichselbaum, was present in all the cases examined hitherto, especially in the discharge from the nose. Lumbar puncture has not proved very beneficial and the mortality amounts to more than 50 per cent. The neighbouring countries of German Silesia, Bohemia, and Russian Poland are suffering from similar epidemics, which are most likely due to the same source of infection. Prophylactic measures have been enforced throughout the affected districts, especially at railway stations and factories, where the contagion is most liable to be disseminated.

April 17th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The King Institute of Preventive Medicine at Madras.

THE King Institute of Preventive Medicine at Guindy, a suburb of Madras, has been formally opened. It is named after Lieutenant-Colonel W. G. King, the sanitary commissioner, to whose unremitting efforts for many years the establishment is due. Its origin was brought about by the possible dangers of human lymph in vaccination and the determination of the Government to employ nothing but animal lymph. As bovine lymph is exceedingly sensitive to the heat of the climate it was necessary to render it portable and Lieutenant-Colonel King, who was formerly inspector of vaccination, discovered that animal lymph could be effectively preserved in lanoline. A single and central vaccine institute to serve the needs of the whole Presidency thus came to be required and was sanctioned in 1899. The desirability of having a bacteriological laboratory attached was obvious and this second section was sanctioned in 1902. Further, as it was not advisable for Madras to be entirely dependent on other institutes, a serum section was added in 1903. The Pasteur Institute for Southern India will not form part of the King Institute, as a cooler climate than that of Madras city is considered necessary, and the Pasteur Institute will be established at Coonoor. Without this, however, the King Institute is a very comprehensive undertaking. The supply of sufficient lymph for 150,000 persons every month constitutes probably the largest output in the world. Formerly inoculated animals were driven from village to village and some attempt was made by unskilled persons to preserve the vaccine at petty depôts. The members of the vaccination department will be trained at this institute. The special laboratory at the disposal of the officers of the Indian Medical Service and private practitioners will afford opportunities for research. The bacteriological section examines specimens and issues reports on them and has so far evidently proved that it was wanted, judging from the demands made upon it. The occasion of the opening of the institute was taken advantage of to construct a temporary sanitary and hygienic exhibition but the building itself illustrates many useful sanitary lessons and the underground drainage and a native water latrine are particularly worthy of attention. When in complete working order the King Institute will be the one central place for instruction. Numerous courses of lectures will be arranged and candidates for posts of sanitary inspectors will here get their training.

The High Plague Mortality throughout India.

The plague mortality throughout India is just now at its annual maxima. For the week ending March 11th no less than 45,541 deaths were recorded and for the week ending March 18th 42,088 deaths were reported. The principal figures are: United Provinces, 19,726 deaths, as against 18,938 for the previous week; the Punjab 10,592, as against 11,661; Bengal 7219, as against 7928; and Bombay districts 3224, as against 2656. In both the cities of Calcutta and Bombay the disease is raging virulently. At Rangoon the disease is not only increasing but is spreading to other parts. Plague has broken out on the North-West frontier among the Baluchi tribes and one of the most sensible speeches ever made about plague was delivered in the vernacular to the tribal chiefs. "In order to avoid plague and keep it away from yourselves, your family, and dependents five things are necessary: Firstly, keep yourselves and your houses clean; secondly, avoid going to infected places or receiving persons or things from infected places; thirdly, when plague breaks out or rats begin to die in your house or village go and live in the open; fourthly, do not return to your houses until they have been cleaned and disinfected either by disinfecting medicine or by heating; and fifthly, when plague comes near you get yourselves inoculated."

An X Ray Institute at Dehra Dun.

The Government of India has decided, subject to the sanction of the Secretary of State, to establish an institute at Dehra Dun for use as a centre for the instruction of classes of medical officers and subordinates in the management of x ray apparatus and as a depôt for its storage and repair. The institute will be for the benefit of the community at large as well as for the army.

Nursing Difficulties at the Calcutta Hospitals.

The difficulty of adequate nursing at the hospitals seems to crop up periodically in Calcutta just as it does in Bombay. In the annual report of the Calcutta Institution just published, not only is the staff of nurses at the various hospitals in the city complained of as insufficient but the subscriptions received from the public, and especially from the native population, are said to be very deficient. About 120 nurses are supported by the institution, distributed among the five hospitals. The Government promised to increase its subsidy to Rs. 50,000 if the collections became equal to this amount. Unfortunately they have not. Hospital Sunday in Calcutta only realised about Rs. 5000 (less than £340). The Indian community seem very slow to acknowledge and to recognise the benefits conferred on their fellow countrymen, judging from the very moderate financial support which they contribute. The nursing at the three larger hospitals is superintended by the Clewer Sisters, whose services are gratefully acknowledged by the committee. More nurses are wanted at the Medical College Hospital to carry out the work efficiently but the committee needs further support, especially from the Indian community, before it can see its way to increase the staff. The accommodation for the nursing staff is also quite inadequate. The total expenditure of the institution was Rs.112,560 and there was a loss on working of Rs.2627. There is a provident fund to which the nurses contribute and also a pension fund, both very useful institutions.

The whole question of the nursing at the Calcutta hospitals requires reconsideration.

March 31st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Protection of Infant Life and Milk-supply.

ONE possible effect of legislation regulating the hours of factory and other employés is an interference with the ordinary delivery of milk. The Women's Liberal League of New South Wales has carried the following motion:—

> [illegible] existing [illegible] trus's [illegible] ent law [illegible]

In a special report to the Sydney Benevolent Society Board Dr. T. Dixson insists on the necessity of a good milk-supply for the infants under its care. The present supply has been found of good quality and fairly uniform in fat contents and it has been possible to keep it at a fairly regular temperature of 40° or 41° F. He recommends the establishment of milk laboratories of the Walker-Gordon type which, in his opinion, would materially help in saving infant life.

Teeth of Australian Children.

The New South Wales Dental Association has arranged with the Education Department with regard to examining the teeth of the children attending the State schools. After examination the children are supplied with a card stating the number of teeth requiring attention. If the parents cannot pay for the necessary work the dental hospital will do it. The children at the Woolloomooloo school were recently tested to the number of 200. The results were fairly satisfactory and there was not nearly so much decay as had been supposed. The girls' teeth were worse than the boys' and showed more evidences of neglect and failure to keep them clean.

Prevention and Treatment of Consumption.

Last October the Sydney City Council passed a code of by-laws dealing with the compulsory notification of consumption. These have now been gazetted and have become operative. The city health officer has issued two circulars, one to householders and the other to medical men, with reference to the by-laws and the prevention and cure of consumption generally. The circular to the profession states that:—

> [illegible] notifying medical [illegible] city health officer or if he fails to express a wish in the contrary sense the city health officer will, as soon as possible after the receipt of the notification, visit the premises occupied by the patient and make inquiries as to the precautions being adopted against the spread of infection, and will issue to the patient's friends what advice he may think desirable on the best means of checking the spread of infection. In all cases [illegible] city health officer.

Dr. Philip Sydney Jones of Sydney recently gave an address to the railway and tramway employés on the prevention and cure of consumption, in which he advocated the isolation of every consumptive. He estimated that 16,000 persons in Australasia suffered from the disease. The sanatorium for consumptives at Macedon, Victoria, is very inadequate to the demands on its accommodation, and owing to the generosity of an anonymous donor is to be added to. The road to the new building was formally opened by the governor last week. Dr. Duncan Talner, in speaking at the opening, said that the success of the institution was unsurpassed by any of its kind in the world.

Possible Contamination of the Water-supply of Sydney.

A new dam is in course of construction at the Cataract River in connexion with the Sydney water-supply. The workmen are camped within the catchment area and within a few minutes' walk of their work. Dr. E. S. Stokes, the recently appointed medical officer of the Sydney Water and Sewerage Board, has made a report to the board, condemning the site and recommending the removal of the camp to a site off the catchment area. He says that heavy rainfall would be certain to cause more or less contamination of the water-supply. Although precautions were taken and the necessary sanitary conveniences were provided at the camp he had ascertained by personal observation that these were not always used. In many instances also the household slops were thrown on the ground. He considered it would be a mere accident if during the course of the work no cases of typhoid were introduced to the camp from outside, and "to retain the camp in its present position is to juggle with fate." The Public Works Department, which is responsible for the camp, states that the site was selected and approved two years ago by the then medical officer to the Water and Sewerage Board, Mr. T. Mailler Kendall. The matter has been referred to the President of the Board of Health for report.

Death from Narcotile given by a Dentist.

A dentist in Sydney administered narcotile for extraction of teeth and the patient died. Post-mortem examination showed congestion of the air passages and a flabby heart. The coroner said that the deceased died from the administration of narcotile. He added that there was nothing in the law to prevent the administration of anæsthetics by dentists but he thought that they should not be administered without an examination by a medical man.

Lunacy Administration in Victoria.

The new Inspector-General of Insane, Dr. W. E. Jones, has arrived in Melbourne and taken up the duties of his position. The new Lunacy Act was passed 15 months ago and the executive council has issued a proclamation bringing the Act into force on March 28th. It provides for the establishment of necessary houses but nothing has been done by the Government to secure places suitable for receiving houses.

State Care of Inebriates.

The Chief Secretary of Victoria has been considering the question of establishing an inebriate institution under the Act passed last session and has received a report from the medical officer to the Melbourne Gaol, Dr. Godfrey, on the subject. The returns for 1904 show that 62 males and 49 females—a total of 111—were convicted three times for drunkenness alone—that is, drunkenness not combined with any other crime. Dr Godfrey, therefore, thinks that accommodation should be provided in an inebriate institution for at least 50 persons. Prisoners under remand and under sentence who were treated in the gaol hospital last year for alcoholism numbered 401 males and 103 females—a total of 504 Of these, 42 males and seven females were in the most acute condition with delirium tremens, requiring mechanical restriction. Over 450 were in various stages of acute or chronic alcoholism, varying from the initial stage of delirium tremens to the subacute form. The average period of hospital treatment was eight days. The number of those admitted to the hospital three times or more for delirium tremens during the year was: males, 40; females, 34, total, 74. There had been admitted to the gaol, of all types, about 80 male and 70 female habitual drunkards during the year. Under a rigid application of the proposed law that three or more convictions should constitute habitual drunkenness nearly all of these would be liable to committal to the inebriate institution during the first part of its operation, but as a number of these are more or less criminals or vagrants it is probable that a proportion will be imprisoned at various times on other charges Therefore, about 30 males and 25 females would probably be the number to provide for.

March 15th.

Obituary.

THOMAS MORTON, M.D. LOND., M.R.C.S. ENG., L.S.A.

Dr. Thomas Morton died at his residence, 15, Greville-road, Kilburn, London, N.W., on March 27th after a short illness. He was born at Holbeach in Lincolnshire in November, 1836, his father being the Rev. James Morton, vicar of Holbeach and prebendary of Lincoln. In 1854 he entered at Queens' College, Cambridge, but in the following year he received an appointment as a clerk in the office of the secretary of the General Post Office. After three years spent in this service he resolved to enter the medical profession. He accordingly matriculated at the University of London and entered at King's College in 1858, gaining a Warneford entrance scholarship. In 1862 he obtained the diplomas of M.R.C.S. Eng. and L.S.A. and after a visit to the Paris hospitals he graduated as M.B. Lond. later in the same year, taking the M.D. degree in 1865. In 1863 he commenced practice in Kilburn and in the following year married a daughter of the late Mr. William J. Thoms, F.S.A., librarian of the House of Lords and originator of *Notes and Queries*. At an early period in his career he became surgeon to the Kilburn Dispensary and while holding this appointment he published in the *Obstetrical Journal of Great Britain and Ireland* several cases of puerperal septicæmia successfully treated by purgation with calomel combined with Dover's powder or compound extract of colocynth. This system of eliminating toxic material was anticipatory of more recent practice by at least one eminent gynæcologist now deceased. Dr. Morton was one of the founders of the Kilburn Provident Medical Institute which came into existence about 1874 and the services which he rendered during his long connexion with it were recognised by his being elected chairman and consulting medical officer. From the time of his joining the Church of England Temperance Society in 1875 he became an active worker in the cause of temperance. He was intimately associated with the late Dr. Norman Kerr in the temperance movement and was a member of the Society for the Study of Inebriety from its foundation in 1884 until his death. He was secretary to the committee appointed to inquire into the relation of heredity to drunkenness and the *résumé* which he made of the committee's proceedings was a model of precision and literary grace. Rarely absent from the meetings of the society, when he rose to speak—as he frequently did—his fine presence and the modesty and earnestness of his bearing at once commanded the attention of his audience. Though an ardent advocate of temperance Dr. Morton was wholly unaggressive; he was a man who worked unobtrusively for good, one whom but to know was to honour. His good influence will long outlast him.

Sir William Broadbent writes to us as follows: "I have known Dr. Morton almost from the time of my coming to London and his character always commanded my respect and regard in a very high degree. He seemed to realise the type of the family medical man. He was thorough in his investigation, calm in manner, kind, sympathetic, and above all trustworthy and judicious, a friend in whom his patients could safely confide. A convinced total abstainer he was moderate in the advocacy of his views, but exercised great personal influence in the direction of temperance. If he had a visible fault it was modesty, but the members of the Harveian Society will remember the quiet dignity with which he filled the office of President."

EDWIN THOMAS TRUMAN, M.R.C.S. ENG.

Mr. Edwin Thomas Truman, who died on April 8th at the age of 86 years, held for over half a century the position of dentist to the Royal Household, having been appointed on Feb. 28th, 1855. Mr. Truman's name was, however, more widely known in connexion with matters outside the immediate practice of his profession. The first Atlantic cable in 1858 failed owing to want of perfect and durable insulation, due to the fact that gutta-percha used as the protective covering could not at that time be thoroughly purified. Mr. Truman, who had been experimenting with gutta-percha for ten years in connexion with his professional work, discovered a method by which gutta-percha could be prepared in any quantity by purely mechanical means without injury to the material. The patent of the discovery was disposed of to the gutta-percha company who made the cable for the Atlantic Telegraph Company, and nearly all cables subsequently laid have been covered with gutta-percha purified by Mr. Truman's process. In addition to being an inventor Mr. Truman was probably the oldest book-collector in London at the time of his death, having started his hobby at the age of 15 years. He was specially interested in Cruikshank's works, of which he formed by far the finest collection in existence and he was perfectly familiar with every detail of his subject. He also possessed a fine collection of old historical portraits of English celebrities and of coloured prints, caricatures, and drawings

DAVID SMITH, M.D. ST. AND., M.R.C.S. ENG.

Dr. David Smith died on April 4th, in his seventieth year, at his residence, 1, Westbourne-terrace, Glasgow, after a brief illness. He was born at Ochiltree in Ayrshire and studied medicine at the Universities of Glasgow and St. Andrews, where he was noted for diligence and gained several prizes. In 1858 he took the diploma of M.R.C.S. Eng. and in 1861 he graduated as M.D. at St. Andrews. Soon after becoming qualified he was appointed demonstrator and assistant to Dr. William Mackenzie of Glasgow, author of "A Practical Treatise on Diseases of the Eye" and various other ophthalmological works. Dr. Smith practically spent all his life in Glasgow. He remained with Dr. Mackenzie about seven years, after which he engaged in general practice for some time, but for the last 20 years he devoted himself to ophthalmic work. In 1868 and 1869 he contributed to THE LANCET a series of six lengthy articles on the "Structure of the Adult Human Vitreous Humour." He also wrote a treatise on "The Preservation of Sight," published in 1871. Dr. Smith was much esteemed by all who knew him alike for his professional ability and for the sincerity of his character.

DAVID STEELE MOON, L.R.C.P., L.R.C.S. EDIN.

Mr. David Steele Moon of Dundee died in that city on April 8th after an illness extending over more than a year. He was a native of Liff, near Dundee, and received his professional education at Anderson's College in Glasgow. In 1869 he took the diplomas of L.R.C.P. and L.R.C.S. Edin. which enabled him to hold appointments as house surgeon first in the Glasgow Royal Infirmary and afterwards in the Dundee Royal Infirmary. More than 30 years ago he commenced practice in Dundee, succeeding the late Dr. Begg, whose daughter he married. He soon acquired a high reputation and was greatly esteemed by a large circle of patients for his professional skill and sympathetic devotion to their interests. He gave special attention to surgery and for a period of years was one of the surgeons to the Dundee Royal Infirmary. On the expiry of his term of office he was placed on the consulting staff. He was a zealous member of the local medical society and frequently took part in its discussions. By his professional brethren he was held in high respect because of his rectitude and his invariably genial and sunny disposition. He leaves a widow and one son who is engaged in the study of medicine.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Georg Meissner, formerly professor of physiology in the University of Göttingen, at the age of 75 years. His name is well known in connexion with the "tactile corpuscles."—Dr. Ludwig Glaevecke, titular professor and *privat-docent* of gynæcology in the University of Kiel, at the age of 50 years, suddenly while on a visit to his birthplace, Rostock.—Dr. T. Bornhaupt, professor of surgery in the University of Kieff.

Medical News.

UNIVERSITY OF EDINBURGH.—The following is the official list of passes at the recent professional examinations for degrees in medicine and surgery:—

First Professional Examination.—J. R. Adam, Janet Armstrong, Annie C. Austin, Alice E. M. Babington, G. L. Batra, A. E. C. Beausoleil, W. M. Biden, V. V. Blake, T. C. Borthwick, A. M. Bose, T. S. Bradburn (with distinction), W. G. Brand, F. A. J. Brodziak, B. S. Browne, J. E. Brydon, W. F. Buist, A. W. Burton (with distinction), J. A. Campbell (with distinction), H. G. Carter, L. L. Cassidy, John Cathcart, H. A. Cookson, N. A. Coward, J. S. Crichton, G. C. Dalton, F. A. Duffield, W. J. Duncan, G. F. Fismer, Helen Forbes, E. L. Galletly, C. F. C. Galloway, W. T. Gardiner, P. K. Ghosh, H. R. B. Gibson, R. L. Girdwood, M.A., W. E. Goss, D. M. Grant, W. B. Grant, F. W. Greaves, J. A. W. Hackett, A. G. Hamilton, Julia V. Henslow, G. de C. Hugo, Herbert Hutson, W. C. Jardine, W. D. S. Johnston, J. H. Jones, S. A. Karim, Lina Kurz, James Langwill, J. H. Lawry, L. A. Lewis, Harry Lipetz, H. A. V. Loots, P. C. Lornie, J. C. Lorraine, H. F. Lumsden, D. C. Macaskill, M.A., J. C. MacCallum, J. R. M'Gregor, G. E. G. Mackay (with distinction), Alex. S. Mackenzie, Arch. D. M'Kensie, J. T. Mackenzie, A. C. M'Killop, Duncan Mackinnon, A. G. MacLeod, Andrew M'Nair, Donald M'Phail, R. C. MacQueen,

A. J. Macvie, A. C. Mallace, M.A., W. M. Menzies, E. L. Middleton, A. F. Miller, L. M. V. Mitchell, J. B. de W. Molony, Flora Morrison, J. A. Mortimer, N. S. Neill, W. J. Nisbet, E. F. W. Nixey, H. O. O'Neill, R. J. E. Paterson, A. R. Price, S. P. P. Proctor, K. A. Rahman, John Renwick, Agatha M. Robinson,

clair, Walter
odart, E. A.
G. Tibbles,
Welsh, Peter

Marion H.
arker, C. B.
I. R. Black,

Alexander Bremner, Thomas Buchan, Thomas Burrell (with distinction), R. A. Campbell, B. J. Chapman, W. G. Cobb, C. E. A. Coldicott, C. H. Corbett
F. J. *Davidson, Mackenzie*
A. D. Edington, Robert
T. Y. Finlay, William Fl
M.A., John Fraser, David
M.A., R. M. Glover, I.
(with distinction), A. R.
George Henderson, A. Fergus Hewat, J. R. Hill, J. R. A. Holmes, J. H. Horne, T. J. Hughes, Alexander Hunter, H. B. Hunter, M.A., R. H. Jamieson (with distinction), R. F. H. Johnson, J. M. C. Johnston, T. A. Johnston, W. L. Johnston, Daniel Johnstone, G. G. Jolly (with distinction), T. Maitland Jones, M.A., B.Sc., S. W. Joubert, J. G. de Kock, G. F. V. Leary, J. H. Lechler, David Lees, M.A., G. L. Little, N. F. R. Lloyd James Lorimer, Thomas Lyon Angus Macdonald,

Vijayakar, Martha B. Webb, J. C. B. Williams, D. J. Williamson, and J. L. Wilson.

Smith, R. St. C. Steuart, A. D. Stewart, K. R. Tampi, W. B. Tannahill, D. R. Taylor, C. H. Tewsley, H. H. Thorburn, F. J. G. Tocher, Annie D Urquhart, R. H. Walton, A. I. Shepheard Walwyn, W. E. R. Williams, Marian E. Wilson, and Emily C. Wybourne.

Adshead,
ggs, C. H.
ies, D. D.
W. Frew,
Nettie D.
er, Alfred
nald (with
. Manson,

Mathers, C. Irvine Milne, H. J. More, George Pollock, Edith G. Pycroft, Eustace Russell, W. O. Sclater, E. D. Simson, E. R. Thompson, J. N. Turnbull, A. G. Visser, G. F. C. Wallis, O. H. Williams, Ethel Wiseman, and A. W. Young.

LONDON SCHOOL OF TROPICAL MEDICINE (UNIVERSITY OF LONDON).—Of the students of the above school who presented themselves for the examination in April, 1905, the following have passed:—

*Dr. H. Ludovici (Colonial Service), *Dr. F. B. Thompson (Colonial Service), *Miss H. B. Hanson, M.D., Miss E. Watts, Dr. R. F. William (Colonial Service), Dr. H. A. Foy, Miss M. E. Hayes, M.B., and Dr. R. van Someren.

* Passed with distinction.

MEDICAL MAGISTRATE.—Alderman S. E Johnson, L.S.A. Lond., L R.C.S. Edin., has been enrolled on the commission of the peace for Worcester.

DONATIONS AND BEQUESTS.—By the will of Mr. Luther Holden, F.R.C.S., St. Bartholomew's Hospital will receive £3000 to found and to endow a Luther Holden Scholarship in surgery and £500 for the rebuilding fund Miss Sleigh, "Sister President" at St. Bartholomew's Hospital, will receive £100. The testator also left a sum of £10,000, subject to his wife's life interest, as to one-half for the Samaritan Fund of St. Bartholomew's Hospital.

AMBIDEXTERITY FROM THE SURGEON'S POINT OF VIEW.—On April 13th, at the rooms of the Royal Statistical Society, Adelphi-terrace, Strand, W.C., Mr. E. Noble Smith delivered the fourth of the series of lectures for the session 1905 to the members of the Ambidextral Cultural Society, of which he is President. There could be no doubt, he said, that the left hand had been very much neglected and it would be an advantage to train that hand equally with the right. The aim of the society, however, should be to teach dexterity as well as ambidexterity. Ambidexterity was of great use to the surgeon who might at any time be called upon to use either hand. In warfare a surgeon might be suddenly deprived of his right hand and it would be an enormous advantage to him if he had already learned to use his left. General Baden Powell, who was a great advocate of ambidexterity, had stated that a soldier is not properly trained until he can use his left hand as well as his right. He (the lecturer) was of opinion that by training the left hand the power of using the right was also developed to a greater degree and he gave several examples to show that not only our manual abilities but our senses also were not trained to their full capacity. The general use of the right hand in preference to the left was probably responsible for a large number of cases of spinal curvature. In 200 cases of dorsal curvature of the spine which he had examined the curve to the right was present more than twice as frequently as the curve to the left and in an examination of 118 cases he found the proportion to be 5 to 1. In the large majority of cases of curvature to the left there were special contributing causes—such as wry neck, short leg, and so forth. A French surgeon had found the proportion in 1000 cases to be 7 to 1. Special desks should be provided for children at school and he advocated the use of a couch that children might read in the prone position. In conclusion, he hoped that the time would come when the bodies of scholars would be as liberally provided for as were their minds. The society was doing a good and useful work and it ought to receive the support of the public who were invited to become members. The first of the series of lectures, Ambidexterity in Music, by Professor W. H. Cummings, which was delivered in February last at the Guildhall School of Music, will be repeated with additional illustrations and artists at the Erard Rooms, Great Marlborough-street, during the month of May.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Vivisection.

Mr. TOMKINSON had a motion on the paper on the evening of Wednesday, April 12th, about the rules governing the practice of vivisection, but the Home Rule debate blocked the way and the matter had to be deferred till a more convenient opportunity, which probably will not occur in the life of this parliament. Had Mr. Tomkinson obtained the ear of the House he would have moved: "That this House is of opinion that the rules governing the practice of vivisection are confusing and contradictory in their tenour, have wholly failed to secure to animals that immunity from pain they were designed to afford, and urgently require revision; and that, as no rules can be devised to effect this object, the practice of vivisection should be wholly prohibited."

Lunacy Bill.

The ATTORNEY GENERAL for England has reintroduced the Bill to amend the Lunacy Acts which he brought in at the end of last session as a result of the debate on the subject which was initiated by Sir JOHN BATTY TUKE.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 12TH.

the attention of
Member. I may

add that 19 additional cases were notified during the week ended on April 8th and I am in communication with the town council as to the circumstances which led to their occurrence.

Sir Walter Foster further asked the President of the Local Govern- [illegible] ast few years the Bradford guardians [illegible] ications for out-relief, and whether [illegible] for medical out-relief by requiring [illegible] on) to attend before the board or a committee, or by making the relief on loan in the first instance, or by other means; and, if so, whether he would send a communication to the guardians recommending them to encourage applications for medical out-relief (by those unable to pay for medical advice) in the early stages of illness and before infectious diseases have developed.—Mr. Gerald Balfour replied: I am aware that some few years since the Bradford guardians adopted a policy of administration of out-relief the effect of which has been to diminish the number of applications, but I have no information to show that the action of the guardians has been such as to render it necessary or desirable to send to them a com- [illegible] ed to in the latter part of the question.

[illegible] Iome Secretary whether his attention had [illegible] Bradford a coroner and jury were under [illegible] re compelled to view the body of a man [illegible] medical officer, had been suffering from malignant small-pox; and whether, in view of the practice of viewing bodies in such cases becoming a possible danger to the community, he would consider the advisability of again introducing the Bill which in 1879 passed its second reading under the care of the then Home Secretary, the object of which was to make the viewing of bodies by coroners and juries no longer compulsory.—Mr. Akers Douglas replied: My attention has not been called to the case mentioned by the honourable Member. With regard to the general question I fear that I cannot add anything to an answer on the same subject which I gave on March 23rd.—Mr. MacNeill asked whether it was not the case that many coroners were opposed to the viewing of bodies.—Mr. Akers-Douglas said: A great many coroners are opposed to the practice of viewing bodies but until I have made further inquiries I am not inclined to introduce a Bill.

THURSDAY, APRIL 13TH.

Litigation with a Medical Officer.

Mr. Cathcart Wason asked the Lord Advocate whether he was aware that the legal expenses incurred by the Durness parish council by its litigation with the parish medical officer had been put upon the parish rates, and whether, seeing that those ratepayers who jointly paid more than two-thirds of the parish rates protested against the action of the chairman and two members of the parish council which led to these legal expenses being incurred, he would say whether the Local Government Board for Scotland had sanctioned the placing of these legal expenses upon the parish rates.—The Lord Advocate answered: I am informed that the Local Government Board has not sanctioned the expenses incurred by this parish council.

The Deportation of Insane Paupers.

Mr. Gilhooly asked the Chief Secretary for Ireland whether he had received a resolution, passed unanimously by the committee of management of the Cork District Lunatic Asylum, calling on him to promote a Bill to enable the committee to deport insane patients of other nationalities and counties who had been committed and remained chargeable to the local rates and pointing out that those patients occupied the places in the institution erected, maintained, and taxed for local patients, thereby contributing to the overcrowding which at present existed in the asylum; and, if so, whether he proposed to give effect to it during this session.—Mr. Long answered: The resolution has been received. I am unable at present to give an undertaking to introduce legislation on the subject.

MONDAY, APRIL 17TH.

Appointment of Highland Medical Officer.

Mr. Weir asked the Lord Advocate whether, in view of the extent of the area of the mainland of the combined counties of Ross and Cromarty and Inverness-shire, he would state whether the proposal to appoint one [illegible] unties had receive [illegible] tland. —The Lor [illegible] es not favour the [illegible]

Alleged Discontent in the Royal Army Medical Corps.

Dr. E. C. Thompson asked the Secretary of State for War whether he [illegible] existing among [illegible] Medical Corps [illegible] Secretary of State [illegible] nany of the members of the board were civil [illegible] ad no personal knowledge of the qualifications [illegible] recently passed over, and were obliged to take their opinion of these officers from others junior to themselves, and that the continuance of the existing system threw the responsibility of promotions from the Secretary of State and the Director-General on the Advisory Board, he would arrange that in future officers passed over with excellent official records would be informed of the reason for their supersession.—Mr. Arnold Forster replied: The honourable Member raised last session the points now brought forward again and definite answers were given to each. I have nothing to add to the answers which I then gave him and I am not aware of the dissatisfaction.

REGISTRATION OF NURSES: EVIDENCE BEFORE SELECT COMMITTEE.

The Select Committee of the House of Commons which has been re-appointed this session to consider the expediency of providing for the registration of nurses commenced the hearing of evidence on April 12th. Mr. H. J. Tennant was in the chair.

Miss Forrest of the Victoria and Bournemouth Nursing Institute and Home Hospital, replying to Mr. Charles Hobhouse, in the temporary absence of the chairman, said she was in favour of a system of State registration. Her position as head of what she believed to be the largest private provincial nursing institute brought to her notice two points, both of which would be lessened, if not entirely obviated, by State registration. On was the great difficulty in discovering what each nurse knew before engaging her, owing to the different standards in different hospitals, the different standards existing at the same hospital at different times or if the officials were changed, or the absolute want of standard. There was also the difficulty of tracing nurses, no register being kept. She had control over 160 nurses resident in four institutions, and they were sent over the south and west of England and also to the Continent. A three years' training was necessary in the case of the nurses she engaged. That rule had been broken once or twice in respect of nurses whom she knew. She expe [illegible] btaining information about nurses who appli [illegible] umber for her needs. As to the different [illegible] hospitals, everything was taught in a hospital if the matron was good and cared for her duties. If not, the teaching went to the wall. Three years was a safe minimum for general training in a hospital of 50 beds if the training was good. She wished to remedy the want of standard by State registration, under which the committee would be bound to see that the matron brought her nurses up to the standard. The central board would set the examination and if the nurses of a hospital passed that examination as a rule, they would know that that hospital gave a proper training, but if the great majority failed they would know that a proper training was not given. She did not think the expenses of training for three years at hospitals were very great. Last year 460 nurses, so-called, applied to her and she took all whom she thought were properly trained and these numbered 65. Nurses who had not been trained or were only half-trained practised a good deal. The number of untrained nurses practising in Bournemouth was large.

Replying to Dr. C. F. Hutchinson, the witness said she herself ran the institution she had been speaking of; it was her private property; it was not inspected or registered.

You have no committee to be responsible to? You employ the nurses as you like and make any arrangement [illegible] your sole will and control?—I do not [illegible] so far as being on my staff is concern [illegible] were audited every six months by a chartered accountant but they were not published. She was responsible only to herself. She thought it would be a very good thing if institutions were registered. There were other institutions not so well known as her own the registration of which would be for the protection of the public and the nurses.

Have you had much trouble as to the inefficiency or want of character of nurses?—Not a great deal, but I have had trouble in getting good nurses.

In the case of a nurse who works on her own account, are not the public protected from fraud because she is not employed except on the recommendation of a medical man or a friend?—I do not know.

So that if a nurse is incompetent she would very soon be found out and would retire? I want to draw out from yo [illegible] between those nurses and the nurses of your instituti [illegible] A large number have got a home and they are [illegible] certain number of them are incompetent. She knew of a monthly nurse whom the medical attendant tried to get rid of but the people would not give her up. Fortunately for the patient and the medical man this nurse fell down and broke her arm. When they then got a trained nurse the people knew the difference and understood why the medical man was so anxious to get her.

But those people who are on their own account have to make their living on their character and ability as nurses, so that the result would be that a nurse not competent would drop out?—No, they have not done so.

In reply to Mr. Douglas Miss Forrest said that she would have the central board appoint a body of experts to examine nurses. She stated in illustration of her evidence that her nephew had been in a nursing home undergoing a very serious operation and that his night nurse was the parlourmaid of the day before.

Answering the Chairman, she could not give direct evidence of cases of scandal and immorality. She could not go into private houses to see how nurses were getting on and she could not send a Government inspector after them. She would like to have State registration with the object of seeing that nurses were women of sufficient knowledge and properly equipped before attending private cases. She did not think there would be any danger of the wrong kind of women being registered for all time under State registration.

Mr. Charles Hobhouse: Would you make the removal from the State register consequent upon the loss of moral character or upon the loss of nursing proficiency?—I think certainly on the loss of moral character and in certain circumstances for the loss of efficiency, for that might mean the life of another person

Replying to Sir John Batty Tuke the witness said that the examination must be to a certain extent theoretical. The nurses must be able to state what symptoms to watch for and to show knowledge as to bed-making and certain things which nurses must do. She did not admit that that would degenerate into mere routine. The registration fee might be two guineas but she thought one guinea would be enough.

The Chairman asked whether the witness saw any fundamental objection to having two classes of nurses—one perhaps on three years' training and the other with one year's training.

Miss Forrest said she did not think there was any fundamental objection but it would lead inevitably to confusion and the public would not be able to distinguish the one from the other.

The Chairman instanced the case of a woman who had had some nursing experience going into a house and cooking the meals and helping generally in the house and asked whether the witness would exclude her from the register.

Miss Forrest replied that she would exclude those women from the register as qualified certificated nurses but she would be quite willing that they should have some kind of registration because they performed a very useful service. They might be registered as cottage helps or nurses' helps.

Sir John Tuke: They are very much more than that. In many cases they actually perform the duties of a nurse. In the West Highlands of Scotland they are essentially nurses.

Mr. Charles Hobhouse said he understood that the committee would at future s [illegible] on this particular point which would bear [illegible] hn Tuke had just said.

Miss E. [illegible] n reply to the Chairman, that she was trained at the London Temperance Hospital and had been engaged at the Middlesex Hospital, St. George's Hospital, Beirut, where she acted as lady superintendent

profession which required education and brain work. Nurses would make a sacrifice and pay a fee of five guineas. The nursing profession ought not to be on a low level. If nursing were made a more dignified profession there would be a sufficiency of candidates to supply the demand. They ought to try for a higher standard. She would have as the first standard the fully trained nurse and another standard for those who were to be teachers and

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thought that the nurses'

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ıds of educated women.—

amount of education un-

at all. have an ignorant woman

Would that not confine the field of candidates?—I do not think so. Once the profession was

pleasure in studying for

Answering Sir JOHN TUKE she said it was her opinion that they could have security for the standard of training

for what the e as perfect as possible was not against ignorance but against the great outcry against nurses women themselves The best method of eliminating inefficiency was by producing as many nurses as possible of a better type. The inefficient ones would have no chance when they did that. Many nurses who were trained went home or got married and there was a great wastage among the best class of nurses. She admitted that there were a good many bad nurses but not so many as was represented. In ten years the London Hospital granted 796 certificates and turned out 619 certificated and qualified nurses who left during that period. Of these 136 left for home or other purposes so that out of 619 only 483 were provided for the use of the public outside. She could not agree with a previous witness

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ing, but it might also exclude many who had absolutely no were able to do useful work. Very go

trained people provided that there was

for certain cases a very little training

In reply to Mr. CHARLES HOBHOUSE she said that if a central

Mr. CHARLES HOBHOUSE: Would an estimate of

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proper inquiries.

This completed Miss Lückes's evidence and the committee adjourned till May 11th.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

Lectures on Clinical Surgery. By H. C. Hinder, M.B., M.Ch., Honorary Surgeon, Royal Prince Alfred Hospital; Joint Lecturer on Clinical Surgery, University of Sydney. Price 12s. 6d. net.

BLACK, ADAM AND CHARLES, Soho-square, London.

Plea for a Simpler Life and Fads of an Old Physician. By George S. Keith, M.D., LL.D., F.R.C.P.E. Price 2s. 6d.

CHAPMAN AND HALL, LIMITED, London

A Modern Utopia. By H. G. Wells. Price 7s. 6d.

CHATTO AND WINDUS, London.

Heirs of Ruben. By Chris. Healy. Price 6s.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

The Royal London Ophthalmic Hospital Reports. Edited by William Lang, F.R.C.S. Eng. Vol. XVI. Part II. March, 1905. Price 5s.

The Principles and Practice of Medical Jurisprudence. By the late Alfred Swaine Taylor, M.D., F.R.S., Fellow of the Royal College of Physicians of London. Fifth edition. Edited, revised, and brought up to date by Fred. J. Smith, M.A., M.D. Oxon., Fellow o

Fellow of the Royal

Medical Jurisprudenc

to the Home Office.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, 16, James-street, Haymarket, S.W.

Surgical Case Book Charts for Rectal Diseases. By Cecil H. Leaf, M.A., M.B., Cantab., F.R.C.S. Eng., Assistant Surgeon to the Cancer Hospital and the Gordon Hospital for Rectal Diseases. Price 1s. 6d. net.

HARRISON AND SONS, St. Martin's-lane, W.C.

R by the Admiralty, the War

Malta for the Investigation

Supervision of an Advisory

art I. Price 3s.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

[illegible] Operations-und Verbandstechnik. [illegible] Professor der Chirurgie, Geh. [illegible] Price M.4.

[illegible] Ein Leitfaden für Offiziere, [illegible] Von Dr. A. Hiller, Oberstabsarzt z.D. und Privatdozent. Price M.8.

Die Soziale Bekämpfung der Tuberkulose als Volkskrankheit in Europa und Amerika. Denkschrift der Tuberkulose-Kommission der Pirogoff-Gesellschaft Russischer Aerzte vorgelegt und dem VIII. Pirogoff-Aerztekongress gewidmet. Von Dr. Philipp M. Blumenthal, Moskau. (Frankreich-Belgien-England-Deutschland.) Deutsche Bearbeitung von Dr. Dworetzky. Mit einem Vorwort von E. v. Leyden. Price M.5.

Der Aderlass. Eine monographische Studie. Von Dr. Alexander Strubell, in Dresden. Price M.5.

HODDER AND STOUGHTON, 27, Paternoster-row, E.C.

The Treatment of Diseases of the Eye. By Dr. Victor Hanke, First Assistant in the University Eye Clinic of Hofrath Professor E. Fuchs in Vienna. Translated by J. Herbert Parsons, B.S., D.Sc., F.R.C.S., Assistant Ophthalmic Surgeon, University College Hospital, and George Coats, M.D., F.R.C.S., Chief Clinical Assistant, Royal London (Moorfields) Ophthalmic Hospital. Price 3*s.* 6*d.* net.

Trixy. By Elizabeth Stuart Phelps Ward. Price 6*s.*

Dr. Grenfell's Parish: The Deep Sea Fishermen. By Norman Duncan, Author of "Doctor Luke of the Labrador." Price 5*s.*

HOLDER, ALFRED, I., Rotenturmstrasze, 13, Wien.

Handbuch der Urologie. Herausgegeben von Dr. Anton v. Frisch, a.ö. Professor der Chirurgie an der Wiener Universität und Dr. Otto Zuckerkandl, Privatdozen [illegible] Universität. Zweiter Band. [illegible] Niere, des Nierenbeckens und de [illegible] Dr. Paul Wagner. Preis, ge [illegible] gebunden, M.30.

KIMPTON, HENRY, 13, Furnival-street, London, E.C.

Radiotherapy and Phototherapy, including Radium and High-frequency Currents, their Medical and Surgical Applications in [illegible]. For Students and Practitioners. By [illegible] M.D., Professor of *Dermatology* in the [illegible] Medical School, with the Coöperation of [illegible], M.D., Lecturer on Electro-radiotherapy, New York Polyclinic Medical School, and Samuel Stern, M.D., Radiotherapist to Dr. Lustgarten's Clinic at the Mount Sinai Hospital. Price 22*s.* 6*d.* net.

A Practical Treatise on Diseases of the Skin. For the Use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-urinary, and Venereal Diseases, Rush Medical College, Chicago, and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-urinary, and Venereal Diseases, Rush Medical College, Chicago. Seventh and revised edition. Price 25*s.* net.

Infectious Diseases: their Etiology, Diagnosis, and Treatment. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris. Translated by M. S. Gabriel, M.D. Price 30*s.* net.

LEWIS, H. K., 136, Gower-street, W.C.

Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. Barrett, M.B. Lond., M.R.C.S., L.D.S.E., Consulting Dental Surgeon to the London Hospital and late Lecturer on Dental Surgery in the Medical School; Examiner in Dental Surgery to the Royal College of Surgeons, England. Fourth edition. Price 3*s.* 6*d.*

MARSHALL, HORACE, AND SON, Temple House, Temple Avenue, E.C.

Divine Dual Government: a Key to the Bible, to Evolution, and to Life's Enigmas. By William Woods Smyth, Fellow of the Medical Society, London, Author of "The Bible and the Doctrine of Evolution," "The Government of God," &c. New edition, revised and illustrated, with new matter Price 6*s.*

MAYNE, ALEXANDER, AND BOYD, 2, Corporation-street, Belfast.

Colles's Fracture and Other [illegible] s at the Lower End of the Radius and [illegible] Seventy Cases recently under the [illegible] Andrew Fullerton, B.Ch., F.R.C.S. Irel., Hon. Assist. Surgeon to the Royal Victoria Hospital and to the Belfast Hospital for Sick Children. Price 1*s.* net.

OWEN, A., AND CO., 286, High Holborn, W.C.

Alcoholic Poisoning and Degeneration. By Prof. G. Bunge, M.D., Ph.D. Price 6*d.* net.

SEEBER, BERNARDO, Firenze.

Le Ferite prodotte dai Moderni Fucili da Guerra. Del Dott. Domenico Taddei, Libero Docente di Patalogia Chirurgica. Con Prefazione del *colonnello medico* Dott. Prof. P. Imbriaco. Price L.8.

SPOTTISWOODE AND CO., LIMITED, 54, Gracechurch-street, E.C.

The Dentists' Register. Printed and published under the direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to an Act passed in the year XLI. and XLII. Victoriæ, Cap. XXXIII., entitled An Act to Amend the Law relating to Dental Practitioners. 1905. Price 3*s.* 4*d.*

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

[illegible] par la Résection Orthopédique et l'Inter[illegible] Par le Dr. Alphonse Huguier, Ancien [illegible] pitaux de Paris (Médaille d'Argent, 1903), Ancien Aide d'Anatomie à la Faculté de Médecine. Price not stated.

Traité de Médecine Opératoire et de Thérapeutique Chirurgicale. Publié sous la direction de Paul Berger et Henri Hartmann. Chirurgie du Système Nerveux: Crane et Encéphale—Rachis et Moelle—Nerfs. Par Georges Marion, Professeur agrégé à la Faculté de Médecine de Paris, Chirurgien des Hôpitaux. Price Fr.18.

STOCK, ELLIOT, 62, Paternoster-row, E.C.

The History of the Society of Apothecaries of London. By C. R. B. Barrett, M.A. Oxon., author of "The Trinity House of Deptford Strond," "Essex Highways, Byways, and Waterways," &c. With numerous illustrations by the author. Price 21*s.* net.

STUBER, A. (C. KABITZSCH), Würzburg.

Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer, a.o. Professor an der Universität Marburg, Direktor der medizinischen Poliklinik. Band III. Heft 4. Price M.3.50.

Die Direkte Besichtigung der Speiseröhre. Osophagoskopie. Ein Lehrbuch für den Praktiker. Von Prof. Dr. Hugo Starck, Heidelburg. Price M.7.

THE LAWYERS' CO-OPERATIVE PUBLISHING COMPANY, Rochester, N.Y.

Wharton and Stillé's Medical Jurisprudence. Vol. II. Poisons. By Robert Amory, A.M., M.D., President of the Sixth National Convention of 1880 for revising the U.S. Pharmacopœia; formerly Professor of Physiology, Bowdoin Medical College, and Lecturer on the Physiological Action of Drugs, Harvard Medical School; and Robert L. Emerson, A.B., M.D., Instructor in Physiological Chemistry, Medical School of Harvard University. Fifth edition. Price not stated.

THE OXFORD SHORTHAND (Percy Kingsford), Dover.

The Oxford Shorthand. Nineteenth edition. Price 6*d.*

THOM, ALEX., AND CO., LIMITED, Dublin (LONGMANS, GREEN, AND CO., London).

The Royal University of Ireland. The Calendar for the Year 1905. Price not stated.

UNIVERSITY PRESS, Cambridge (CAMBRIDGE UNIVERSITY PRESS WAREHOUSE, Ave Maria-lane, London, E.C. C. F. CLAY, Manager).

A Treatise on Plague, dealing with the Historical, Epidemiological, Clinical, Therapeutic, and Preventive Aspects of the Disease. By W. J. Simpson, M.D. Aberd., F.R.C.P. Lond., D.P.H. Camb., Professor of Hygiene, King's College, London; Lecturer on Tropical Hygiene, London School of Tropical Medicine; formerly Health Officer, Calcutta; Medical Adviser to the Government of Cape Colony during the outbreak of Plague in 1901; Commissioner for the Colonial Office to inquire into the Causes of the Continuance of Plague in Hong-Kong. Price 16*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASHTON, GEORGE, M.D. Manch., M.R.C.S. Eng., L.R.C.P. Lond., has been re-appointed Assistant Surgical Officer to the Manchester Royal Infirmary.

BOAKE, SAMUEL, L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health of the Chard (Somerset) Rural District.

BOWEN-JONES, L. M., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Carmarthen District of the county of Carmarthen.

CLUTTERBUCK, L. A., M.B., B.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

CURL, SYDNEY W., M.A., M.D. Cantab., M.R.C.P. Lond., has been appointed Honorary Physician to the Essex and Colchester Hospital.

ELDER, DOUGLAS, M.B., C.M. Liverp., has been appointed Assistant Medical Officer to the Crossley Sanatorium, Delamere Forest, Cheshire.

EVANS, JOHN HOWELL, M.Ch., F.R.C.S., has been appointed Assistant Surgeon to the Cancer Hospital, Fulham-road, S.W.

FERGUSON, J. P., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Misterton District of the county of Nottingham.

HUTLEY, A., M.B., B.S. Edin., has been appointed Senior House Surgeon to the District Hospital, West Bromwich.

JACKSON, A. I., L.R.C.P. & S. Edin., has been appointed Second Assistant Medical Officer to St. Marylebone Infirmary.

KEYSER, C. R., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Surgeon to the Cancer Hospital, Fulham-road, S.W.

McLARTY, A. A., M.D. U.S.A., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MITCHELL, ALEXANDER, M.B., M.S. Edin., has been appointed Assistant House Surgeon at the District Hospital, West Bromwich.

SWAN, R. H. J., M.S., F.R.C.S., has been appointed Surgical Registrar to the Cancer Hospital, Fulham road, S.W.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AUCKLAND, RURAL DISTRICT COUNCIL OF.—Medical Officer of Health and Sanitary Surveyor. Salary £600 per annum, rising to £800.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £60, with board, residence, &c. Also Senior House Surgeon. Salary £120 per annum, with board, residence, &c.

BUXTON, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary [illegible] laundry.

—House Physician, and lodging. Also

—Clinical Assistant

AND DISPENSARY.— £50 per year, with board, apartments, and laundress

EXMINSTER, DEVON COUNTY ASYLUM.—Junior Assistant Medical Officer Salary £125, *rising to £155, with board, residence, and* laundry.

GLASGOW, GARTLOCH ASYLUM.—Junior Medical Officer. Salary £125,

HOSPITAL FOR SICK CHILDREN, Great Ormond street, London, W.C.—House Surgeon, unmarried, for six months Salary £20, with board and residence.

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'esident lging ry £150 per annum

MARGARET STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Cavendish-square, W.—Physician (honorary)

MOUNT VERNON HOSPITAL

CHEST, Hampstead and

Officer at Northwood

Also Senior and Junio

Honorariums: Senior

£50 per annum.

NATIONAL HOSPITAL FOR THE P

AND EPILEPTIC, Queen squ

Officer. Salary £100 a year,

-*Junior Resident Medical* board, residence, and washing.

NORTHAMPTON, ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Junior Assistant Medical Officer. Salary £200 per annum, with

Salary

ssistant at rate

N.W.—

Clinical Assistants

SHEFFIELD ROYAL HOSPITAL.—Two Honorary Anæsthetists Also Honorary Assistant Dental Officer.

SOCIETY OF APOTHECARIES OF LONDON.—Examiner in Surgery.

Honorary Anæsthetist

Lindley Research Studentship in year.

Tite-street, Chelsea, S W.—Two Out-patients. Also Honorary

l Officer, un washing

Salary £100,

Births, Marriages, and Deaths.

BIRTHS.

KIRTON.—On April 6th, at Cairo, the wife of R G. Kirton, P M O of the Prisons Department, Egypt, of a daughter

MASON.—On the 15th inst, at 45, George street, Portman square, the *wife of G. A. Mason* M A, M B, B C Cantab, of a son

STUBBS.—On April 11th, at Brixton hill, S W, the wife of John D Stubbs, M B, B C Cantab, of a son.

VISGER.—On April 11th at Elm Lodge, Clevedon, Somerset, the wife of Charles Visger, M R C S, a son

MARRIAGES.

MASON—JOHNSON.—On April 15th, at St Andrew's Church, Gorleston-on Sea, Alfred Leighton Mason, L.D S R C S Eng, to Mabel Marie, only child of the late George Randall Johnson, Waxham Hall, Norfolk

ORMOND—E Paul's Church, Forest Hill, S E, by Vicar of St Bartholomew's, Sydenh by the Rev. Douglas Scott, LL.D, hool, Arthur W. Ormond, F.R C S, Queen Anne-street, Cavendish square, and Guy's *Hospital, to* Mary Charlotte (May), daughter of Edward H P. Lason, of Eversley, Forest Hill, S E

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE HEALTH AND MORALITY OF THE PITCAIRN ISLANDERS.

Mr. R. T. Simons, who last year was instructed by the High Commissioner for the Western Pacific to inquire into the state of affairs in Pitcairn Island, in the South Pacific, where the mutineers of the *Bounty* were landed to take their chance in 1790, has made a report in *which the following* passages occur —

> "The Pitcairn islanders number 77 males and 92 females, including children and infants, of whom 68 males and 73 females are now resident on the island. They are a hard-working people, more or less healthy, exhibiting certain vicious tendencies which religion has been unable to eradicate Many of them are narrow-minded and unstable. They have adopted an extraordinary patois (derived from the language of the Tahitian women who accompanied the mutineers of the *Bounty* to Pitcairn Island) which is employed in conversation among themselves, although most of the adults can speak the English language fairly well—in some instances very well, considering their circumstances and environment There are persons of ability among them, but a few appear to be lacking in intelligence. The children and young people are *numerous and, if properly cared for, should turn out useful* members of the community
>
> With regard to the morals of the islanders, in the aggregate I fear I can say little in their favour. Fornication, adultery, illegitimate children, petty thefts, brawls, bad language, &c, are faults among them (happily they do not use intoxicants) and it was disquieting to learn that the laws and regulations dealing with those offences had seldom been enforced. Indeed, the general laxity has been so great, that abortion by means of drugs and instruments of local contrivance was not of infrequent occurrence I have made provision for the punishment of that and of other crimes in the future.
>
> On arrival at Mangareva, on my way to Pitcairn, the administrator of the Gambiers, a gentleman born and educated in the Island of Mauritius, who is also in medical charge of the islands under his administrative control, mentioned to me that during the past two years many of the Pitcairn women and girls had visited Mangareva, where venereal diseases are prevalent, and that, in consequence, he feared that some of them had contracted those complaints and had introduced them into their island. Dr. Cassian further expressed his interest in the Pitcairn Island community and generously proffered his medical services without remuneration, provided that those afflicted would go up to him for treatment Accordingly, having ascertained after my arrival at *Pitcairn that a few* such cases were existent on the island, I made known Dr Cassian's kindly proposal and invited the sufferers to accompany me back to Mangareva None, however, responded to my appeal and I can only surmise that the persons in question have preferred to go up in the cutter. I also found at *Pitcairn Island consumption,* lupus, glandular swellings, asthma, and various forms of skin disease These cases will likewise be taken in hand
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> fail to take advan
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> their welfare I
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> the front teeth of most of them are bad, the only visible result of their intermarriage with each other
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> Some years ago the Pitcairn Island community embraced the faith of the Seventh Day Adventists, a religious sect having its origin [illegible]
>
> [illegible] stories and exclamations and *obscene songs are not unknown to* them, and it is an alleged fact that on suitable occasions women will accompany the men on board passing ships ostensibly to sell curios, but in reality for immoral purposes. The Pitcairn people contribute 10 per cent of their produce and of any moneys they may receive as a tithe to *the Church, and they pay subscriptions to* the Sabbath school and other religious funds"

A REPUDIATION.

To the Editors of THE LANCET.

SIRS,—In the *London Magazine* for March is an eight page advertisement of the O Connor Extension Company, entitled "Life's Handicap," by a Fellow of the Royal College of Surgeons In the text my name is [illegible] Will you permit me to state that I am not

ve a letter from the managing

l not be used in such a manner

I am, Sirs, yours faithfully,

Bedford square, W C. CHISHOLM WILLIAMS, F.R.C S Edin

MISCELLANEA.

We are often asked by our readers for advice on the merits of certain articles and firms, and the task of giving such advice is obviously an invidious one. It is for this reason that we mention in brief some catalogues which have recently reached us and appliances to which our attention has been directed, leaving it to the individual to select from them as he may require.

Messrs. Brady and Martin, Limited, Newcastle-on-Tyne, issue a price list which contains, in addition to a useful drug catalogue, illustrations and prices of microscopes, electrical appliances and apparatus, surgical instruments, hospital furniture, and modern appliances required in the practice of medicine and surgery. It consists of 207 pages and will be found to be a convenient work of reference for many members of the medical profession.

A catalogue issued by Messrs. C. A. Hoefftcke, Limited, Woodstock-street, London, W., contains illustrations and descriptions of a large number of appliances used in orthopædic practice. It is not intended to be a complete list but many appliances are described for use in fractures, hip disease, diseases of the knee, and paralysis, scoliosis, kyphosis, and spondylitis. A section is also devoted to apparatus for active and passive movement for working stiffened joints. Some special surgical instruments are also described.

Messrs. W. Martindale, New Cavendish-street, London, W., publish a complete catalogue of their drugs and a price list which includes in addition to surgical appliances reagents and stains for microscopic work, chemical and bacteriological apparatus, and photographic chemicals. It consists of 216 pages.

The catalogue of Messrs. Maw, Son, and Sons, Aldersgate-street, London, E.C., containing 507 pages, is divided into nearly 60 sections and embraces almost everything that a medical man may require in his profession. The index occupies 36 pages and nearly every article catalogued is illustrated. To enumerate even a small proportion of the articles sold by this firm would be impossible in the space at our disposal and it must suffice to say that the firm is prepared to equip in instruments and appliances the smallest surgery or the largest hospital. The section on "Sterilisation of Urethral Instruments" contains illustrations of several apparatus of useful and novel design.

Messrs. Heal and Son, Tottenham-court-road, London, W., publish an illustrated catalogue of furniture—beds, tables, lockers, and so forth—for use in hospitals and private sick rooms. A bed for epileptic patients which this firm has supplied to several lunatic asylums is a useful one and the same may be said of the "labour bedstead" which has been supplied to Queen Charlotte's Hospital. The head- and foot-rails are made exceptionally strong and are removeable, while there is a loose wooden bottom which can be used as a stretcher.

Messrs. Maple and Co., Tottenham-court-road, London, W., call our attention to their completely equipped nurseries and exhibition of nursery furniture now on view at their showrooms. The walls of the nurseries are decorated in bold and simple designs, illustrating in many cases well-known nursery rhymes, while the furniture, which in some cases has moral maxims painted upon it, is exactly suited to the heights of the children for whom it is designed. All corners are rounded off as a precaution against children injuring themselves. The walls are washable and the top panels of the room doors open inwards for the purpose of giving free ventilation, the air passing above the heads of the children to the windows. From a hygienic no less than from an educational point of view this exhibit is much to be commended.

THE "S" WRAP UNDERGARMENT.

We have received from Messrs. John Smedley, Limited, of Lea Mills, Matlock, a specimen of underclothing designed especially for ladies' wear. The material is all wool, is said to be unshrinkable, and is known as the Jay finish. By Jay finish is meant a finishing process which prevents the fabric from "felting" or casting fluff. This quality of woollen garments is a frequent source of annoyance. The special feature of the garment is, however, the "S" flap at the back which gives complete protection to those parts of the body which are not protected by the ordinary combinations. Moreover, the extra length in the back given by the gusset prevents the garment from dragging when the wearer assumes the sitting posture. Buttons are not necessary. The same manufacturers make a "star" seating in the pants and the drawers worn by men. There are thus no seams at the fork to split or to give rise to chafing. Like the "S" wrap undergarment the patent star seat permits free and comfortable movement.

AN EMERGENCY LIGHT.

Apropos of a paragraph which appeared in The Lancet of April 1st, p. 897, on the occasional failure of the electric light-supply, our attention has been drawn to an apparatus designed by Mr. H. McGillivray of Matfen-place, Wingrove, Newcastle-on-Tyne, which automatically switches on emergency lights in the case of electric cars when the line current fails or the trolley slips the wire. The apparatus consists of a battery and automatic switch. The battery (8-cell) is placed underneath the car seat and an electro-magnet or solenoid, which controls a cut-out in the auxiliary lamp circuit, is fixed at the end of the car. The battery is charged automatically from the ordinary car-lighting circuit in series with the lamps and as occasion demands supplies in its turn current to the lamps in the car. It is stated that this apparatus is giving very satisfactory results on the electric cars in Newcastle and we understand that the system has been tested on the "tube" with equal success. There is always some uncertainty about the current for domestic supply, public buildings, &c., being maintained without a break, and the failure of the light is a source of great inconvenience and may easily give rise to alarming consequences. This system of emergency lighting is calculated therefore to remove a serious disadvantage of electric lighting and it may easily be applied, it is stated, to the installation of the house, the theatre, the shop, and so on.

MANNERS IN THE LONDON STREETS.

To the Editors of The Lancet.

Sirs,—Do you not think that much of the confusion on the sidewalks of the streets has arisen from the disappearance of the old notices from the lamp-posts "Foot passengers keep to the right"? Those of us who remember the passengers of, say, 30 years ago will recall how, as a matter of course, each took his proper side on meeting. Now that so many ride bicycles they have learned to keep to the left on the roadway and naturally do the same on the pavement. Others trained in the old fashion keep to the right and there is constant confusion.

The custom of driving and riding on the left side of the road is said to have arisen at the time when everyone who approached was a possible enemy and hence it was advisable to have the sword hand towards him. In the same way one kept to the right on the sidewalk so as to have the sword-hand free in case of being jostled or incommoded by one coming in the opposite direction.

On the continent, where everyone rides and drives on the right of the road, it is proper that he should keep to the right when on the pavement. In the British Isles, where one must conform to the usage of keeping to the left on the roadway, it would seem that the time has come to adopt the same practice on foot. I have often wished that notices could be posted everywhere "Keep to the left."

I am, Sirs, yours faithfully,

April 18th, 1905. Observer.

MINERS AND TYPHOID FEVER.

It appears that at Ashington, the largest coal-mining district in Northumberland, miners and their families are much more subject to typhoid fever than are the workers above ground and their families. It is said that there are twice as many working above ground as below and yet the proportion attacked is nine miners or members of their families to every one person employed above ground. Taking the underground workers alone and comparing them with those working above ground, without reckoning their families, the proportion is 17 to one in favour of the surface men and with the wives and children it is six and seven to one respectively. The men in the mines are said to drink the same water as do those above ground. There is evidently room for sanitation.

A NEW VENTILATING SASH FASTENER.

Messrs. W. and T. Avery, Limited, of the Soho Foundry in Birmingham, have sent us a specimen of the "Lorie" No. 1 reversible ventilating sash fastener, by the use of which ordinary windows may be left open for some distance at either the top or the bottom without risk of intruders entering. A bolt, which is in reality a quick-acting screw working in an adjustable split nut, is fixed on the top bar or rail of the bottom sash close to one side of the window-frame and the end of this bolt when forced outwards presses against a metal plate fastened to the vertical side of the upper sash. If the window is partly opened before the bolt is forced out the two sashes will be securely fixed in this position until the bolt is slackened by some one inside the house. The disagreeable rattling of a window can also be effectually prevented in the same way.

◆

Ethics has asked us a puzzling question. In our view B can remain in attendance upon C without a breach of ethics, but the reverse has been maintained. We propose to return to the subject.

Communications not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, April 19th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
April 13	29·81	S.W.	...	105	62	47	51	55	Fine
" 14	29 70	S.E.	0·03	102	62	53	53	54	Raining
" 15	29·74	W.	0·01	112	61	48	48	51	Cloudy
" 16	29 71	N.E.	...	78	63	47	45	47	Cloudy
" 17	29·89	E.	0·07	90	51	43	43	47	Cloudy
" 18	29·94	N.E.	..	89	48	40	40	45	Fine
" 19	29·88	N.E.	0·01	61	43	37	40	42	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), [illegible] Physicians, 2 P.M.), Soho square

Gt. Northern Central (2.30 P.M.),

Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

[illegible]

London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. [illegible]

Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's [illegible]

FR[illegible]

Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (29th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (26th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Discussion upon Influenza (second evening). Dr. W. Bulloch (Bacteriology), Dr. T. G. Lyon (Clinico-Pathology), the President (Dr. F. J. Smith) (Treatment). The General Discussion will be open to all members of the medical profession.

FRIDAY (28th).—CLINICAL SOCIETY OF LONDON (20, Hanover square, W.).—8 P.M. Exhibition of Clinical Cases followed by discussion. Patients will be in attendance from 8 to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, [illegible] r: Bacteriology.

(West London Hos

Dr. Candler: Blood and Urine Examination. 3 P.M. Mr. Bidwell. Intestinal Anastomoses

THURSDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—11 A.M. Dr. Candler: Bacteriology. 3.15 P.M. Mr. Bidwell: Intestinal Anastomoses. 4.30 P.M. Dr. S. Taylor: Surface Anatomy.

FRIDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.). 2 P.M. Blood and Urine Examination. 5 P.M. Mr. Bidwell: Intestinal Anastomoses.

SATURDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10.30 A.M. Dr. Candler: Bacteriology.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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The Lumleian Lectures

ON

NUTRITION AND MALNUTRITION.

Delivered before the Royal College of Physicians of London on March 28th and 30th and April 4th, 1905,

By W. H. ALLCHIN, M.D. Lond., F.R.S. Edin.,
FELLOW AND CENSOR OF THE COLLEGE; SENIOR PHYSICIAN TO THE WESTMINSTER HOSPITAL.

LECTURE I.

Delivered on March 28th.

Mr. President, Fellows of the College, and Gentlemen,—I desire at once to express to you, Sir, and to my late colleagues on the Censors' board my high appreciation of the honour done me in being selected to hold the Lumleian lectureship this year. For indeed it is an honour to take a place on the roll of lecturers who since the year 1581 have addressed the College and amongst whom is included the illustrious Harvey who in his Lumleian lectures commencing in 1616 expounded his views on the circulation of the blood. The recollection of this circumstance and of the many great physicians who in more recent times have alike instructed and charmed their hearers from the place which I for the moment occupy, whilst it may stimulate your lecturer to his best endeavours, none the less fills him with fear at the responsibility of his task and furnishes him with a claim for your forbearance and generous consideration. For these in fullest meed do I entreat at your hands.

Definition of Normal Nutrition.

It will be obvious that for a satisfactory treatment of the subject upon which I propose to address you it will be desirable and even necessary that I should commence by considering what it is we understand by the term "nutrition" as a normal process or rather combination of processes. And this is the more incumbent on me since a large amount of work of an experimental character has been carried out by numerous observers in various parts of the world which has contributed to establish a certain accuracy in our conceptions on what is admittedly one of the most difficult problems for investigation and at the same time has suggested further hypotheses that still await verification. Clearly no useful notion can be entertained of what *is to be understood* by "*malnutrition*" until some agreement is arrived at as to what is implied by the normal process, though it may well be that many of the facts observed in those experiments which disease offers may, and undoubtedly do, contribute to the elucidation of the healthy living.

Among the various data which form the basis of biology, whether the study be that of animals or plants, of health or of disease, is the recognition of the fact that the manifestations of life are found to be invariably associated with the presence of a certain peculiar material of variable and highly complex constitution denominated protoplasm, or, better, bioplasm, with the further postulate that every vital process is the outcome of the reaction between this material and its environment; every phenomenon which the living organism presents, be it chemical or physical or of that more peculiar character which we speak of as vital, is the expression of the conversion of potential energy into kinetic energy or the reverse. Numerous and varied as these manifestations are in beings so highly organised as ourselves they are all to be seen in their simplest form in the unicellular organisms that maintain an independent existence and may all be regarded as the outcome of those material interchanges between the constituents of the bioplasm among themselves and with the food-stuffs which are brought into relation with it from outside, whereby *the integrity of the* living matter is upheld and its continued activity rendered possible. To the processes by which the bioplasm assimilates or makes use of this outside material the term "nutrition" is applied and underlying, as it does, the characteristic activities of living matter nutrition may in its widest sense be regarded as synonymous with life itself. It is, however, in a somewhat more restricted sense that I am now employing it—viz., to designate those preparatory changes which the ingesta undergo to fit them for incorporation in the protoplasmic molecule and their ultimate fate therein. The subject, it will be at once seen, deals with certain compositions and decompositions of matter, the formation of more and more complex compounds with their subsequent splitting up into simpler substances. As such it comes within that province of knowledge which we term chemistry, but concerned, as it is, with that form of matter recognised as living t
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outset, the bioplasm on the one hand and on the other the food or nutriment, for I leave out of account for the present those portions of the ingesta which are incapable of being made use of by the bioplasm and which are therefore innutritious.

The Bioplasm, its Structure and Composition.

And first as to the bioplasm itself. That this substance, even in the simplest form of it with which we are acquainted, exhibits some degree of structure, some difference in appearance and consistency in different parts, is now all but universally recognised; the view that it is essentially homogeneous in character and that such structural features as it exhibits are the result of post-mortem changes or are actually artifacts is no longer tenable. Of the nature, however, of its structure no little difference of opinion prevails, but as it is in a minor degree that I am now concerned with this aspect of the question it will suffice to say that apart from the obvious separation into cell contents and nucleus which are to be met with in all cells a third structural element known as the central corpuscle or centrosome is to be generally detected. Each of these several constituents of the cell is to be distinguished by easily recognisable differences in the arrangement and appearance of the material of which they are made up. Further, the protoplasm of which the nucleus and mass of the cell are composed exhibits a general appearance of being formed of a more or less distinct reticulum—spongioplasm—the meshes of which are occupied by a semi-fluid substance—hyaloplasm. A similar arrangement obtains in the nucleus, the fibrillar network owing to its behaviour with certain staining reagents being known as the chromatic substance, the clear substance or matrix being termed achromatic Considerable variations are met with in different cells and even in the same cell at different times, marked peculiarities in the disposition of the nuclear fibres appearing previously to the division of the nucleus—mitosis. Doubts have existed as to whether both the network and the hyaloplasm of the cell are living or whether the reticulum alone can be so described. The most recent view, however, of the structure of the protoplasm which shows it to have a "foam-structure," depending "upon the presence within a uniform ground-mass of a large number of extremely fine vacuoles, lying almost at the limits of microscopic visibility and so close together that their walls consist of relatively thin lamellæ,"[1] would seem to suggest that the entire protoplasm is to be looked upon as living matter.

For my present purpose I am more concerned with the chemical composition of the living matter and unfortunately our knowledge of this is much less even than it is of its structural characters. I need not remind you of the fundamental difficulty that meets the investigator—viz., that the very means that are employed for pursuing the inquiry cause the death of the material and consequent elusion of the problem. This much, however, may be affirmed, that invariably there is to be obtained from the bioplasm a certain amount—perhaps as much as 60 per cent.—of those extremely complex bodies termed proteids composed of the five elements. carbon, hydrogen, oxygen, nitrogen, and sulphur, all of them of low atomic weight but combined to form molecules of great size owing to the very large number of atoms of which they consist. Associated with these nitrogenous constituents of the protoplasm there are to be found with varying frequency particles of carbohydrates, of fats, together with *inorganic* salts and water, as well as such substances as urea and purin bodies (xanthin, hypoxanthin, guanin, &c.). Whilst without doubt the proteid constituents are the most important as they are the most abundant, forming in muscle about from 20 per cent. to 25 per cent. solid ter of that tissue, it is by no means probable that it is roteids as we know them that they exist in the bioplasm it may be taken as certain that no one form of matter olely capable of manifesting life, rather is it the oute of interactions among many diverse bodies. This ers it most likely that the other substances mentioned— fats, carbohydrates, and salts—are in varying degree ntial components of the living matter, whether they about to be used by the nitrogenous constituents or the products of decomposition of those nitrogenous conients such as urea and the purin bodies undoubtedly are. eover, it must be remembered that protoplasm is far being of a uniform composition. We are perhaps a too apt in our recognition of the universality of this sical basis of life to assume that it is of constant acter, if, indeed, its actual composition is ever considered. difficulties surrounding the investigation of its chemical cture are such as to offer a barrier to further inquiry and have become so satisfied with the word protoplasm as all cient that we go no further and fail to realise that we are y only on the threshold of the problem. But although re profoundly ignorant of its chemical constitution we nevertheless affirm with certainty that protoplasm does r in this respect, subtle as those differences may be. The oplasm of the plant is not identical with that of the nal, nor that of the nerve cell with that of the muscle , and it may well be that some differences are required in nature of the pabulum necessary for its restitution, or in case that the intimate character of the requisite hetic changes is of a variable range. The nutritive ls, that is to say, of all living matter are not exactly the e.

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[1] General Physiology by Max Verworn, translated by Dr. F. S. Lee, 1899, p. 87.

will be desirable to consider these several varieties of stances a little more in detail, and first the *Proteids.* se bodies, which are met with in both animal and etable, tissues, conveniently fall into two groups which be termed (*a*) the free proteids and (*b*) the combined eids. The former includes the albumins and globulins, gulated albumins and the results of the proteolysis of e bodies—viz., albumoses and peptones. They differ, doubt, in their actual chemical composition but are narily distinguished from each other by differences in r solubility in water or in saline solutions, in the temperaat which they coagulate, &c. The combined proteids compounds of the simple or free proteids with other ies, from which they may often be separated by strong ls. The chief substances of this class are hæmoglobin, ch is an albuminous compound with a complex irontaining body; glyco-proteids, which are compounds of teids with carbohydrates; and nucleo-proteids or comnds of proteids and nucleic acid, which latter is an organic pound of phosphoric acid. It is evident that the comed proteids are more complex in their constitution than the pler proteids; they contain more atoms with consequent ease in size of the molecule and some of them contain ther element than the carbon, oxygen, hydrogen, ogen, and sulphur, of which all proteids are formed, h as iron or phosphorus. Intimately associated with all teids are various inorganic salts which form the ash when se substances are incinerated. Though by no means to regarded as living matter, it is likely that the combined teids are more closely connected with the bioplasm than the simpler bodies and it is certain that the nucleoteids are specially concentrated in the nuclei of the cells ich are probably the most important portion of the living t, whilst the bulk of the cytoplasm is made up of the pler proteids, chiefly globulins.

Nothing definite is known concerning the actual constitu of the proteid molecule as it may be represented by a onal formula—even the empirical formula is for the most t very uncertain. Some attempts at synthesis have been de but as yet with only partial success and such views provisionally obtain as to the intimate nature of the lecular constitution are derived from a consideration of products of their decomposition. From many of the teids, though by no means from all, by suitable treatment arbohydrate may be split off, which, wherever its exact ure has been determined, has proved to be a compound of ar with ammonia, leaving a moiety which contains the k of the nitrogen. This is the basis on which has been nded what is known as the glucoside theory of proteid stitution which is clearly applicable to only some of the teid bodies.

By another method of treatment—viz., by hydration, as effected by heat and mineral acids, or in a measure by the digestive ferments of the alimentary canal—the proteids are split up into amido-fatty acids, such as leucine, tyrosine, &c., and basic bodies, such as lysine and arginine, from the latter of which urea can be obtained. The combinations of these amido-acids, synthesised by Emil Fischer and named by him "polypeptids," throw more light on the constitution of the greater part of the proteid molecule than any other suggestion hitherto put forward. Among the most constant decomposition products of proteids to be found in the tissues and commonly referred to as nitrogenous extractives are urea, purin or alloxuric bodies, such as xanthine, hypoxanthine and uric acid, creatine, and creatinine. Others are met with in but very small quantities.

Of the living matter, at least in the highest forms of life, we have most knowledge of the composition of muscle and nerve, and it is impossible to avoid in reference to this subject mentioning the name of our distinguished Fellow, Professor W. D. Halliburton, whose work in this direction is of the highest order and forms the basis of our information.

The close similarity in behaviour of the juice that may be expressed from fresh muscle—muscle plasma—to that exhibited by blood plasma is generally recognised. In both cases under favourable circumstances coagulation takes place due to the formation of myosin and fibrin respectively, the precursors of
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fluid from its meshes—muscle serum and blood serum. After death the muscle plasma normally clots to a greater or less extent and causes the stiffening termed rigor mortis and it may be further observed that the muscle in its coagulation becomes acid, from the formation of sarcolactic acid, in place of the alkaline reaction that it exhibits when alive. Cold and the addition of neutral salts in both cases delays coagulation for the due occurrence of which in blood the presence of calcium chloride is essential, as there is some reason to believe is also the case with muscle. Further examination of the myosinogen, which practically forms (with the exception of a small quantity of nucleoproteid probably derived from the sarcolemma and from the nuclei of plain muscle plasma in which it is most abundant) the whole of the voluntary muscle fibre, shows that in its natural state it consists of two proteid bodies which coagulate at different temperatures and are precipitated by different amounts of neutral salines; for the more abundant of the two the name myosinogen is retained and the other, which is certainly a globulin "analogous to the cell globulin which is found in saline extracts of all protoplasmic structures," is termed paramyosinogen. Although it may be convenient to speak of these two proteids separately, they are not really independent. "The unit is protoplasm, and if one of its essential constituents is destroyed protoplasm as such ceases to exist."[2]

The ferments of muscle are also to be included among the proteid constituents of the tissue and most probably are of the nature of nucleo-proteids. One of these is a myosin ferment by which the muscle is coagulated; another is of proteolytic character and is "probably concerned in the disappearance of rigor mortis"; a third is amylolytic and converts starch into sugar—dextrose; a fourth which is glycolytic or sugar destroying and most likely is active in carbohydrate catabolism being made able to do so by the addition of the internal secretion of the pancreas.

The proteids of the nervous tissues form a considerable percentage of the solids, varying, according to Professor Halliburton, from 29 in the nerves to 51 in the grey matter of the brain. The most important of these bodies is a nucleo-proteid which contains but a low proportion of phosphorus and constitutes the greater part of the chromatin. In nerve cells this substance is not so restricted to the nucleus as it is in the cells of other tissues, for being distributed throughout the cytoplasm also it forms what are known as Nissl's granules. The other constituent proteids are both globulins. It is nucleo-proteids also that are the most abundant of the organic constituents of secreting glands, a circumstance that would appear to be connected with the specific functions of those organs—namely, the formation of ferments.

The next group of proximate principles of the tissues are the *fats.* The most abundant of these are the neutral fats consisting of the trivalent alcohol glycine $C_3H_5(OH)_3$ combined with fatty acids, palmitic, stearic, oleic, and others, water being lost in the combination and thus forming what are known as compound ethers or esters. By hydrolysis the fats are split up with the addition of water into the glycerine and fatty acids. The chief glycerides are tri-palmitin, tri-stearine, and tri-olein. Their solubility in ether and insolubility in water are among their most characteristic properties.

Constantly associated with protoplasm, of which they are decomposition products, are some extremely complex bodies which are included among fats, though differing considerably in composition and properties from those just mentioned. They are certainly most abundant in the nervous tissues and it is possible that their presence in muscle is due to the involved nervous elements; some are also to be found in the blood corpuscles, yelk of eggs, semen, bile, and milk. Probably the most important are the so-called phosphorised fats of which lecithin is the best illustration. This substance, of which really there are several forms, contains not only phosphorus in addition to carbon, hydrogen, and oxygen but also nitrogen. On decomposition with hydration it forms a fatty acid, glycerophosphoric acid, and cholin; the last named, containing all the nitrogen of the molecule, is an alkaloid allied to neurin and, as shown by Dr. F. W. Mott and Professor protoplasmic decomposition is cholesterin also found very abundantly in nervous tissue It is a monatomic alcohol composed of carbon hydrogen and oxygen

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[2] *Biochemistry of Nerve and Muscle, by Professor Halliburton,* F.R.S., 1904.

Fat is most widely distributed throughout the tissues recent methods of staining having demonstrated its existence in cells not previously known to contain it Except in the cells of adipose tissue it is not to be found in the nucleus but it occurs as granules and droplets of various size in the cytoplasm, which it sometimes almost entirely replaces Besides this fat which is visible, by methods of extraction by ether or other agents, a further amount may be obtained from the tissues which otherwise give no indication of its existence but which clearly has to be taken into account in considering the relationship of fat to the living matter [3]

The *carbohydrates* of the cell closely correspond to the fats both in their distribution, not being met with in the nucleus, and in their relation to the proteid constituents, of which they may be in part decomposition products and in part material about to be dealt with by the bioplasm Like the fats also these substances are composed of the three elements carbon, hydrogen, and oxygen, the two latter in the proportion to form water With one exception the number of carbon atoms is six or some multiple of that number and hence they are known as hexoses They may be conveniently divided into three groups the monosaccharides ($C_6H_{12}O_6$), represented by glucose, galactose, and mannose, the disaccharides ($C_{12}H_{22}O_{11}$), cane sugar, milk sugar and maltose, and the polysaccharides ($(C_6H_{10}O_5)_n$ glycogen starch, dextrine, and cellulose The relationship between these groups is one of progressive condensation with the loss of a molecule of water and conversely, of course, by hydrolysis the higher may be changed to the lower forms Of these various

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obtain entrance to the body are converted, or tend to be converted, and it is in that form that the labile carbohydrate occurs in the body, whilst it is as glycogen or animal starch that they are stored pending metabolism in the liver, the muscles, and the tissues generally

In the muscles also there are to be found dextrine and maltose which are intermediate bodies in the conversion of glycogen into dextrose (Halliburton) There is another body, inosite, to be found in muscle which is of the same empirical composition as glucose, but is not really a sugar, being a member of the aromatic series Galactose can be obtained from cerebrins which are nitrogenous constituents of nervous tissue and to be regarded as glucosides, otherwise carbohydrates are not found as such in these tissues The

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and ammonium, the carbonates of the same as well as of magnesium and calcium, together with sulphates and phosphates Among the less frequent elements found is iron and in very exceptional cells free mineral acids, hydrochloric and sulphuric, are met with In muscle the potash predominates among the bases and phosphoric among the acids and the same obtains in nervous tissues Sodium chloride is the most abundant salt in the blood Some work has been done by a committee of the British Association for the Advancement of Science (which has been appointed to investigate the micro chemistry of the cell) on the distribution of these substances in the cell From the experiments it would seem that potassium is not found in the nucleus and is much less abundant in the animal than in the vegetable protoplasm of unicellular organisms the former apparently being more resistant to its entrance from the surrounding medium than is the latter, but in the intestinal and excretory epithelia of vertebrates considerable quantities of potassium salts are to be found as excretory products The other important elements which enter into the composition of the protoplasm are phosphorus and iron, both of which are to be found in the chromatin of the nucleus, the latter in a "masked" form and probably combined with the carbon of the nucleo proteid Indeed, it may be said that there is good reason to suppose a most intimate and essential association of the various salts with the proteids in the living protoplasm, an association that is broken up when this material dies Oxygen and carbonic acid in a free state are to be found in all living matter, the latter as a decomposition product and the former concerned, as will be seen, not only in the decomposition processes, but also as playing a very considerable part in the consequent restitution

Such, then is an account, most imperfect it must be admitted, of the nature and composition of bioplasm The problem of nutrition is to explain how this composition is maintained, what preparation the ingesta as they are ordinarily presented to us undergo before they actually reach the cell, and, finally the removal of those waste products which result from the interchanges in the living matter attendant on the liberation of its specific energies

THE INGESTA.

In considering what are the essential characters of the ingesta, of the nutrient material, that is, which is needful to maintain the living being in structural integrity and functional capability, it has been usual to draw a distinction between animals and plants and it would appear that this distinction has frequently been made too absolute For although there can be no doubt as to the very different character of the food material required by, say, an oak tree and a man and how both would starve were the nutriment of the one supplied to the other, yet lower down in the scale no hard and fast line can be drawn Moreover, though the difference between the food of the higher animals and plants appears at first sight to be very considerable the distinction affects the nature of the materials as taken from outside, rather than in the form in which the actual nutriment is presented to the living matter For the maintenance in structural integrity and functional activity of the bioplasm, be it of a plant or an animal, the food supplied to it must be of a more complex character than such as is absorbed by plants Proteids and carbohydrates, fats, and some salts are equally necessary to animal and to vegetable protoplasm which correspond therefore closely in essentials In plants there is for the most part a greater extent of preparation of the ingesta before they are finally made use of, the range of synthetic capacity of the plant is so far greater, and animals start with their food where plants left off, the ultimate form of material presented to the bioplasm being similar in both cases

Experience has shown that the nutritive requirements of the animal organism are such that the food should contain certain proportions of different substances which correspond to the materials of which we have seen the living matter is composed A satisfactory diet should therefore consist of proteids, fat, carbohydrates, salts, water, and oxygen, and although the fats and carbohydrates may in great measure be made to replace each other, or may even be entirely withdrawn from the dietary, such modifications can only be tolerated for a limited period and are prejudicial sooner or later to the animal economy Each group of food stuffs is necessary, though perhaps in a somewhat different degree The proteid food is, however, a prime necessity, although, as will presently appear, it may undergo considerable retrogression in chemical complexity before it is presented for assimilation by the living matter This fact of proteid requirement implies that the animal organism is unable to synthesise from simple nitrogenous substances, such as ammonia or the nitrates obtained from outside and ingested as such, the complex proteid molecule which is the chief component of the protoplasm Proteid food stuffs then, are an essential requisite, whether they be of animal or of vegetable origin Not so with plants, however, which for the most part, and especially those which contain chlorophyll, are enabled to construct their proteid constituents from such simple nitrogenous compounds as the nitrates, particularly the ammonium salts There are even some forms which can assimilate free nitrogen, such as certain bacteria found in the soil and even some leguminous plants which are characterised by remarkable nodules on the roots formed as the result of invasion by these soil bacteria In these cases the range of synthetic power is at its maximum, the organism feeding on the chemical element itself and ultimately building up the complex proteid. In contrast to these stand some saprophytic and parasitic fungi which are absolutely dependent for their proteid construction upon some form of proteid, peptone or other, supplied as such, approximating in this respect to the animal requirements.

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[3] By such methods Mr J B Leathes has shown that the different types of muscle vary in the percentage of fat they contain being greatest in the red muscles

Whilst there are many animals—the carnivora—which can exist upon an almost pure proteid diet such a plan could not satisfactorily be followed for an unlimited period in the case of man. In such a case, in order to obtain the requisite amount of carbon and hydrogen, such an enormous quantity of meat or other proteid food would have to be taken as to be almost prohibitive, owing partly to the difficulty of its digestion and partly to the ill effects such a food would entail in various directions. Hence a pure meat dietary within the limits that the individual can deal with falls short in the requirements as regards the carbon and hydrogen which consequently are supplied by the tissues of the individual which is rich in these substances—viz., the fat—and this in great part, though not entirely, explains the action of such a regimen as a treatment for obesity. In consequence carbohydrate and fat foods—one or both and preferably both—come to be a practical necessity. As diminishing the demand for proteid food beyond such an amount as is required to maintain nitrogenous equilibrium they are sometimes spoken of as "proteid sparers," the carbohydrates being of much greater value in this respect, a function that is also performed and more effectively by gelatin, since, though an albuminoid body and so allied to the proteids, it cannot entirely replace them as an article of diet, being apparently unable to supply the nitrogenous requirements of the protoplasm, or, in other words, cannot be built up into tissue.

Now the human organism, and with but few exceptions the animal organism generally, is unable to synthesise from simpler compounds, still less from the elements themselves, the required carbohydrates and fats which they obtain from the vegetable world. In plants these substances are abundantly formed and, indeed, the larger proportion of the constructive material of these beings is of carbohydrate nature—such as sugars, starch, and cellulose. Green plants have the power of so using the energy supplied by rays of light in the presence of chlorophyll as to synthesise carbon dioxide and water into these more complex bodies; the nitrate and nitrite bacteria employ the chemical energy derived from the oxidation of ammonia to nitrous or to nitric acid for the same purpose and it is "possible that organisms may be discovered which are able to make use of other forms of radiant energy for the assimilation of carbon from carbon dioxide."[4]

This dependence of animal and plant life—indeed, this in great measure mutual dependence, since the waste products of the former constitute the food of the latter—is one of the most striking of the harmonies of nature. That master of word-painting, Ruskin, thus expressed it: "The earth in its depths must ever remain dead and cold, incapable except of slow crystalline change, but at its surface which human beings look upon and deal with, it ministers to them through a veil of strange intermediate being; which breathes but has no voice; moves but cannot leave its accustomed place, passes through life without consciousness, to Death without bitterness; wears the beauty of youth without its passion, and declines to old age without its regret."

Although living beings are continuously liberating energy with ceaseless change in the condition of their component materials it does not follow that the intake of pabulum is equally continuous, rather is it periodic. It follows, therefore, that animals and plants must contain a reserve of material suitable for use in tissue construction and force production and so disposed that it may be conveniently drawn upon. In considering the food, therefore, account has to be taken not only of that which is taken into the body from time to time but that which is already stored up in the body in reserve and it is a question whether in some circumstances all the intake may not be stored up for a time before being actually presented to the living matter for disposal—passing as it were through a resting stage. In vegetables this reserve material forms no inconsiderable part of the entire plant. In them the opportunities for the absorption of food are likely to occur at most irregular intervals, sometimes of long duration, dependent as they are upon the amount of light, heat, and moisture. The duration and character of the seasons, the climate, and many other disturbing circumstances, apart from their inability to move from place to place in search of food, render the necessity for a reserve proportionately greater in them than in animals. In plants the reserve food consists chiefly of starch which tends to be accumulated in special reservoirs such as the roots and tubers, but also in the stems and leaves; oils also are stored up and proteids in the form of what is known as aleurone in the seeds, particularly of the leguminous species. Fat in adipose tissue and elsewhere, glycogen, and the proteids of the tissues form the reserve in animals, the first two being probably those which are most properly to be regarded as reserve, since the supply of the needful amount of proteid is commonly forthcoming at sufficiently frequent intervals to meet the demand, but when there is deprivation of food the proteid constituents of the less important organs furnish what is wanted by those structures upon which life depends and to that extent may be looked upon as a potential reserve. It is worthy of note that in plants, and in a great measure also in animals, this reserve which is prepared from the ingesta and represents what is over and above the immediate nutritive needs of the individual is not actually in the form in which it is offered for assimilation; the starch or glycogen has to be converted into sugar before it can be utilised, it has, that is to say, to undergo a change similar to that effected by digestion in the alimentary canal of an animal. This fact has given rise to the comparison of "a plant when living on its reserve materials to an herbivorous animal both as regards the substance of its food and its manner of making it available for nutrition" (Reynolds Green).

Of the inorganic salts sodium chloride is the only one that is purposely added to our food either in the course of its preparation or when being consumed. The other members of this group of substances as previously enumerated which are found in association with the protoplasmic molecule are amply supplied in the ordinary articles of diet; the phosphorus required is derived not from the mineral phosphates but more probably from some organic compound of the element, and it is this circumstance that affords such justification as may be for the employment of glycerophosphates in many cases of impaired nutrition. As bearing on the probable share taken by these substances in the body nutrition it may be mentioned that the proportion of them in the milk of various animals appears to vary directly with the rate of growth of the suckling, thus, e.g., cow's milk is much richer than human in salts and the calf grows much more rapidly than the infant. Further, the food of herbivorous animals contains a much larger proportion of potash than that of the carnivora and the need for extra quantities of chloride of sodium for the former animals is well known. An important purpose subserved by some of these inorganic bodies is the maintenance of the alkalinity of the fluids which bathe the protoplasm, that reaction being a necessity for the exhibition of living activity.

Regarding the quantity of aliment that is necessary to maintain a state of metabolic equilibrium and a condition of general well-being some observations of precision have lately gone a considerable way to confirm what has for long been supposed to be the case—viz., that much more food is ordinarily taken than is absolutely required. The method of estimating the energy-value of food by ascertaining the number of calories that a given weight of it yields on combustion has enabled us to formulate a dietary with greater approach to the needs of the organism and to economy than has hitherto been the case. In a paper read in April last year before the National Academy of Sciences at Washington Professor Chittenden showed as the result of a careful and prolonged series of observations made at the Sheffield Scientific School of Yale on a number of the professors, of the students, and of United States soldiers who were placed at his disposal by the Government that the quantity of the solid ingesta required was but a third to a half of that usually taken by the average man. The amount of meat was gradually reduced but enough bulk of food in all cases was consumed to satisfy the appetite. By a very thorough mastication and insalivation of the food—which was an important part of the experiments—it was found that this sense of satisfaction was attained with a smaller quantity than is usually taken. The general hygienic conditions of the subjects of experiments were carefully regulated, with the result that on the greatly diminished diet the individuals kept their weight and vigour and even increased their muscular power and endurance. Although, as I have said, the outcome of these experiments gave a scientific sanction to ideas that were very widely entertained, they are distinctly at variance with the most authoritative pronouncements of those who have hitherto written on the subject.

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[4] Pfeffer: Physiology of Plants. Translated by Dr. Ewart. 1900. P. 292.

In one of the latest works on the subject of dietetics—viz., that by Dr. R. Hutchison—it is laid down that the requisite diet for a man of ordinary weight doing a moderate amount of muscular work should be of a value in potential energy of from 3000 to 3500 calories and that for such an individual "the daily consumption of proteids should never be allowed to sink below 100 grammes but should preferably be 125." This is fully twice as much as that allowed by Professor Chittenden. Whether the more thorough mastication and insalivation insisted on by the latter observer explain the adequacy of the much reduced amount of food remains to be proved, but certainly general experience so far has been against any such reduction in the intake. The time is not yet ripe to accept the dictum "that the animal functions, the tonicity of the structures and organs, in short the normal intra-systemic equilibrium, are the better maintained, the more the sum of the ingested assimilable nutrients is limited to the amount absolutely necessary to keep the body in metabolic balance."[5] The actual character of the food as it is presented makes a good deal of difference. If it be of a coarse nature, such as forms the bulk of that of the working population, a good deal of the energy obtained from the food is used up in the preparation of the rest of it, so that the total and the assimilable nutrients are not by any means the same. It is here perhaps that the advantage of thorough mastication is to be found, but at the same time the general tendency of the diet of the population is to improve in the digestible and assimilable character in which it is offered for consumption.

It will be obvious that the relative proportion in which the constructive and destructive phases of metabolism prevail, which especially governs the amount of food wanted, will in great measure be conditioned by the period of life. Until maturity is attained—i.e., during the period of growth—a large proportion of the intake is devoted to the building up of the tissues and as the demand for chemical energy and for heat is then at its greatest in order to effect the requisite syntheses, the need for fuel food is relatively at its greatest also, hence the total amount of food required per given body weight is far greater in the growing stage than it is later when full bulk is reached. During that time and previously to the decline of life the main purport of the ingesta is to supply the requisite energy and just enough only to maintain the mechanism. A lessened quantity is appropriate to old age when tissue construction has ceased and a diminished energy is manifested in all directions.

THE RELATION OF THE BIOPLASM TO THE INGESTA.

Such, then, are the two material factors of the nutrition problem—the living matter of unknown and perhaps unknowable exact composition, of the chemical nature of which we have any conception from its derivatives only; and, on the other hand, its food which corresponds in great measure to these same derived substances. It now behoves us to consider the active relation of these factors to one another, how it is that the bioplasm deals with the food and the outcome thereof. I need scarcely remark that very much of what one can say in reference to this question is quite hypothetical; but at the same time it may be observed that some ground for these hypotheses is furnished by the results of experiments and such hypotheses but serve to explain in our present state of knowledge the problems with which we have to deal, whilst it is perfectly admitted that such concepts are subject to modification or even overthrowal, should well ascertained facts render this necessary.

Foremost among these fundamental notions is that the living matter in mass, as also in its constituent molecules, "consists of a permanent part which is not concerned in the performance of function and of a collateral part which is used—i.e., disintegrated in every transition of the molecule from the inactive to the active state, to be immediately reconstituted when action ceases."[6] Such an assumption does not exclude the idea of the "permanent part" undergoing a certain amount of wear and tear which necessitates its repair or renewal. And it is further very certain that the "collateral part," the changes in which underlie the manifestations of energy which the living matter exhibits, is of a higher degree of chemical complexity than the ingesta which are destined to replace it and maintain the supply of fuel material which has undergone disintegration. There is, therefore, a series of synthetic changes which the ingesta undergo to enable them to become integral parts of the bioplastic molecule, as there is another series of changes associated with the breaking down of the molecule. Whilst [illegible]

We are often in the habit of speaking of a progressively ascending series of changes which the food undergoes in its passage towards assimilation by the existing living matter, becoming as it does living, and then passing downwards through another series of changes, forming in our minds somewhat the conception of a pyramid up the slopes of which the requisite food-stuffs travel with ever-increasing complexity of composition until when the summit is reached the molecule topples over, as it were from sheer instability, to pursue its descent towards those simpler atom groups which we recognise as waste products, liberating in its progress that energy which it had accumulated in the progress of its synthesis. Although I say we conceive of the anabolic processes as succeeded by those of katabolism it is more than probable that they are in great part coincident and even mutually involved. It may even be the case also that the stimulus to restitution is to be found in the preceding disintegration, the former taking place at the moment that the living molecule splits up.

It has also to be remembered that for the carrying out of the synthetic changes energy is requisite—kinetic energy, that is, which becomes potential in the advancing molecule, later to be reconverted into kinetic as the molecule undergoes decomposition. It is generally believed that the requisite energy for this purpose is derived, in the higher animals at least, from the heat and chemical energy liberated in the course of katabolism—that is to say, the very constructive changes are dependent for their production upon coincident decompositions—and one cannot but marvel at the character and nature of this energy which effects both the synthetic and analytic changes if we compare it with what is requisite to effect those same integrations and disintegrations in the comparatively few cases which we have been as yet able to imitate in our laboratories. The following illustrations will suffice. Indol is a product of proteid decomposition which is readily formed by certain bacteria in the intestine; to produce the same result in our test tubes it is necessary to fuse the proteids with caustic alkalies—a proceeding that would be absolutely destructive, of course, of the living tissues. By passing an alternating current through a solution of ammonium carbonate or by the action of heat on ammonium carbamate urea may be formed and the same occurs on boiling proteids for some hours with hydrochloric acid. Now these processes, which require very strong reagents and some considerable time, are rapidly and easily effected by the living cells or their products.

It is the dependence of the synthetic processes upon the energy supplied by katabolism that justifies my saying, as I did just now, that both anabolism and katabolism are in a great degree coincident and in a measure mutually involved. So far as we know it is by chemical energy that synthesis is effected in the animal body, just as "muscular work is accomplished by the transformation of a corresponding amount of chemical energy,"[7] but green plants have the power of effecting the required combinations by means of sunlight and a few members of the vegetable kingdom can utilise the heat rays of the sun for the same purpose; in both these cases the presence of a pigment, chlorophyll or other, is essential Whether the hæmoglobin of the blood can play a similar part in animals or whether electrical energy or any other forms of radiant energy are equally capable I do not know.

But whilst we realise that a complex series of anabolic changes intervene between the nutriment as taken into the body and its final incorporation into the protoplasmic molecule, changes which are closely related to those of a katabolic character which result in the production of the body waste, there still remains to be explained the essential point of the whole problem which I have just spoken of as the incorporation into the molecule of the pabulum. The most plausible hypothesis that has been put forward to give an exact meaning to this process which we denominate to a right angle as he lies in bed and then extend the knee. 5. Lumbar puncture is an important aid to diagnosis. The object of this operation is to withdraw for examination some of the cerebro-spinal fluid from the lower part of the spinal canal. The patient is put in such a position as makes the lumbar spines prominent and a long fine trocar and cannula are introduced in one of the lumbar interspaces, usually the third, because the level of this space is easily found, being on a line drawn between the highest points of the crests of the ilium. Some operators introduce the trocar in the middle line, others at a point slightly to one side of it, with an inclination towards the middle line. The operation is easy in children but in adults rather more difficult owing to the depth at which the tube of dura mater lies. The fluid thus obtained is in the normal subject clear but in most cases of meningitis it is turbid or even purulent. The sediment obtained from it after standing or by centrifugalisation can be examined microscopically or by cultural methods and it may be possible in some cases to tell by these means not only that there is meningitis but to what micro-organism the meningitis is due. But a negative find does not disprove the existence of disease and it is said that in tuberculous meningitis there is often very little sediment and that no tubercle bacilli are to be found. I will now consider the cases which form the subject of this lecture.

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[5] Dr. H. Stern: New York Medical Record, May 21st, 1904.

[6] Professor Sir J. Burdon Sanderson, British Association for the Advancement of Science meeting, 1904.

[7] Burdon Sanderson: loc. cit.

CASE 1.—A young man, aged 20 years, was admitted to the casualty ward on Nov. 28th, 1904, in a semi-conscious condition. A meagre history was obtained from his companion to the effect that for some little time he had not looked well and that six days before admission he went to bed with pain in the lumbar region and in "the ribs"; next day he coughed, and the day after that —i.e., four days before admission—he vomited twice and was feverish. Three days before admission he had headache which soon became worse. Two days before admission he became delirious and noisy, "yelling" for an hour together, and he refused food. It was supposed that he had had hæmoptysis during his boyhood. On admission he was quiet when left alone but would answer no questions nor would he tell his name, only saying, "Let me alone," resisting when examined and wrinkling up his nose and upper lip when disturbed. Thus examination was very difficult, but it was made out that his temperature, pulse, and respiration were natural, that there were no abnormal physical signs in his chest, and that he had no optic neuritis. It might have been thought, therefore, that he was either insane or hysterical, but two symptoms of importance told against this—viz.: (1) that his head was held rigidly and it appeared to give him pain when attempts were made to bend it forward; and (2) that his knee-jerks were almost absent. These two points, coupled with his state of cerebral irritation, suggested a meningitis. The next day (Nov. 29th) he was quieter, but as no urine had been passed a catheter had to be used; this upset him again. He refused his food and had to be fed nasally, which was the occasion for more violence. The bowels, which had not acted during the week's illness, were now relieved by calomel. There was a slight rise of temperature (99° to 100° F.), a further indication that his illness was not due to mere nervousness. Things continued thus till Dec. 1st (three days after admission), when he seemed distinctly quieter and better, though his temperature had risen further (102°) and this apparent improvement was maintained till the 6th. He could be examined more thoroughly now; Kernig's sign was found to be present; the knee-jerks were still absent. A blood count gave 19,000 leucocytes; the Widal test was negative. There was pain in the left hypochondrium but the spleen could not be felt. Though conscious and though not paralysed in his limbs he began to pass his excreta beneath him. There were still no signs of disease in the lungs (Dec. 4th). On the 7th he suddenly became comatose, his breathing being stertorous and his colour bad. Although he came round in half an hour his general condition soon after this began to get much worse; his temperature rose (with fluctuations), reaching on the 8th a maximum of 102·5°. His pulse became frequent and feeble, his respirations rapid, and his colour bad. He died at midday on the 10th, having been ill for 19 days. No lumbar puncture was made on account of his restless, irritable condition, in which he resisted all manipulation. Meningitis was diagnosed but we did not expect that it would prove to be a tuberculous meningitis.

Necropsy.—At the post-mortem examination an irregular cavity with a calcareous wall was found at the extreme apex of the right lung and a focus of caseation with some adjacent pleural adhesions at the upper part of the right lower lobe. Neither of them had been detected during life. The rest of the lungs was simply stuffed with discrete, firm, miliary tubercles. As the patient had neither sign nor symptom of lung disease at first, it seems probable that this outbreak of tubercle took place during the last few days of his life. The spleen was also crammed with miliary tubercles and there were very many on the surface of the liver. All the other organs were natural excepting the meninges. The condition of these was as follows. In the arachnoid and pia mater at the base of the brain was a turbid gelatinous exudation distending the membranes and gumming together the Sylvian convolutions. These parts, the chiasma, the perforate spaces, and the under-aspect of the cerebellum were the principal seats of the effusion, but there was some on the upper surface of the cerebellum. There was an increase of fluid in the ventricles. (No miliary tubercles could be plainly seen and the lymph looked rather more opaque than is usual in tuberculous meningitis, but taking the condition of the other organs into consideration we can hardly doubt that the meningitis was tuberculous.) The spinal cord was covered by a similar effusion, fading away gradually towards the filum terminale.

The following remarks may be made on this case. 1. The meningitis, as is the rule in tuberculous meningitis, was associated with a general tuberculosis. But to judge from the symptoms the tuberculosis of the meninges distinctly preceded the acute outbreak in the lungs. 2. The acuteness of the onset and the severity of the mental symptoms (the patient was practically maniacal) did not resemble the ordinary form of tuberculous meningitis in children, when the development of the disease is much more gradual. But you will find, I think, that tuberculous meningitis in the adult very often presents unusual features of this kind. 3. The spinal meninges were as deeply involved as the cerebral. There are, I know, rare cases of tuberculous meningitis in which the spinal lesion predominates, but usually the cerebral lesion is most marked. In this case the brain and the cord were equally affected. The spinal meningitis could be diagnosed during life by the presence of Kernig's sign, the absence of the knee-jerks, and possibly by the condition of the sphincters.

CASE 2.—The second case was that of a servant girl, unmarried, aged 22 years, who was admitted to Elizabeth ward on June 21st, 1904, her chief complaints being retraction of the head and loss of power in the legs. Her personal and family history was unimportant. The history of her disease was as follows. Three weeks ago she had pain in the back, thought to be rheumatism; for this she left her place and went home. Ten days ago she vomited, once only; the same day her head was noticed to be retracted. Three days ago her knees gave way so that she could not walk. Her memory began to fail at the same time. I find no mention of headache but if I remember right she had headache after admission. She was said to have had otorrhœa and earache but nothing wrong was discovered with her ears after admission, so that possibly this may be discounted. On admission she looked flushed and anxious, her temperature was but slightly raised (99° to 100° F.), but her pulse was very frequent (144 per minute). There was marked retraction of the head and the back was rigid and showed a certain degree of opisthotonos. Her mental condition was peculiar; she was not delirious or violent but she talked in a childish excitable way and appeared to have frequent lapses of memory. There was severe insomnia. Dr. H. M. Fletcher, who saw her on the first day for me, noticed a distinct weakness of the left facial muscles (in both the upper and lower parts of the face). Though this passed off very quickly it is important as showing that the disease probably affected at the outset the base of the brain as well as the cord. The upper limbs were not affected at first. The chest was natural, there was some tenderness in the abdomen, especially in the region of the spleen, but nothing abnormal could be felt there. The lower limbs were tender to touch; there was flaccid paralysis of both, complete in the left and almost complete in the right. There was a certain amount of anæsthesia or rather blunting of sensation in the legs, but not sufficiently definite to be set forth in a chart. The knee-jerks were absent; no plantar reflexes could be obtained. Kernig's sign was obtained in both lower limbs. The bladder was distended and 33 ounces of urine were drawn off. In the sacral region there was a small shallow sinus, the nature of which was not quite obvious, but a probe entered only a very short way. It certainly did not penetrate to the spine and we finally came to the conclusion that it had nothing to do with her disease. The tenderness of the lower limbs, the flaccid paraplegia, with absence of the knee-jerks, coupled with the peculiar mental state, suggested a peripheral neuritis, but this would hardly account for the paralysis of the bladder, still less for the retraction of the head and rigid spine. A diagnosis of meningitis seemed best to cover the facts. A lumbar puncture was made on two occasions but no fluid was obtained. Probably the interior of the meninges was not reached, seeing that post mortem an abundance of pus was found there. The course of the case was as follows. The retraction of the head improved so that by the end of June it had almost disappeared. The sleeplessness, very troublesome at first, yielded slowly to regular doses of bromides. She remained odd mentally, though she improved slowly in this respect. In the course of the first three weeks the paralysis spread to the hands. She complained of "pins and needles" in them and loss of power so that she could not feed herself. The bladder did not recover, but instead of dribbling from over-distension, as on admission, there was reflex incontinence—i.e., the urine passed involuntarily at intervals. In spite of all care some cystitis developed. The patient became very wasted, as generally happens in prolonged cases of meningitis. Nevertheless, after about six weeks' time she appeared to be improving slightly and I began to think she might eventually recover when events took place for which we were not prepared and which brought about her death. On August 10th there was a discharge of greenish pus per rectum, about eight ounces in amount. A rectal examination made a few days later disclosed a boggy patch on the posterior aspect of the gut. The pus continued to discharge. Early on the 21st she complained of abdominal pain; the abdomen was found to be more distended than usual, resistant, tender, and dull in the flanks. The pulse, never good, became steadily more frequent and feeble and she died that morning.

Necropsy.—The post-mortem examination (made by Dr. Horton Smith Hartley) explained the manner of her death. The brain and its membranes were natural, save that over the cerebellum and the medulla the pia mater was possibly more opaque than usual. The spinal cord showed a purulent meningitis most marked in the lower part of the cord but extending in a less degree up to the cervical region. The tube of the dura mater was full of pus. This pus had made its way along the nerve roots and set up irregular abscesses behind the spinal column in the muscles of the lower dorsal and lumbar regions, on either side of the spinal column anteriorly, and also a large abscess behind the rectum. This last-mentioned abscess had burst into the rectum a little way above the anus, [illegible] producing the [illegible] the general [illegible] the pelvis, thereby setting up a peritonitis from which the patient died. There was pus in the bladder and in the pelvis of the kidneys and the mucous membrane of both these parts was injected. The bones of the spinal column, the sacrum, and the sacro-iliac joints were carefully examined but no source of infection could be found such as might have produced a meningitis. The conclusion arrived at, therefore, was that there was a primary spinal meningitis with secondary abscesses, one of which had perforated the peritoneum and so caused death. The pus from within the meninges of the cord yielded a pure culture of staphylococcus pyogenes albus.

A CASE OF EXCISION OF THE RECTUM FOR CARCINOMA RECTI.

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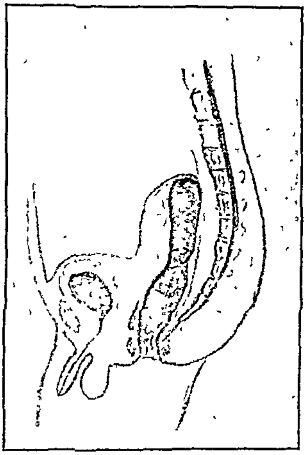
THE following case is so satisfactory in the ultimate result obtained that it seems worth while to record it, having regard to the fact that the practical results in these operations are often so disheartening.

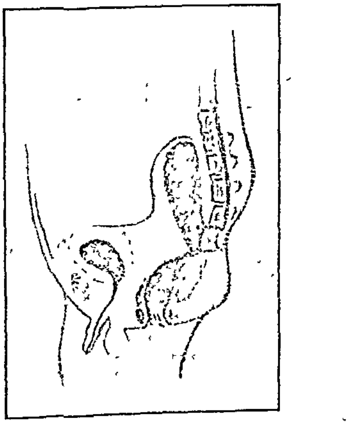
A man, aged 72 years, was admitted to St. Mark's Hospital on Jan. 25th, 1904, suffering from carcinoma recti. The patient had always enjoyed good health until eight months previously to admission when he noticed a "stoppage of water" which was followed by diarrhœa. The diarrhœa had persisted ever since and was accompanied by loss of blood. There was no offensive discharge or any great pain. He had lost 21 pounds in weight during the last three months. He had always been a strong healthy man. Rectal examination revealed an ulcerated growth, mainly in the posterior wall but extending also on to the anterior wall, commencing about three and a half inches from the anus. The growth appeared to be fixed to the deeper tissues. It was decided to prepare the patient for operation and to examine him again under an anæsthetic, being prepared to remove the growth if it was thought possible to do so.

FIG. 1.



Sagittal section of pelvis showing diagrammatically the condition before the first operation. Growth seen in rectum.

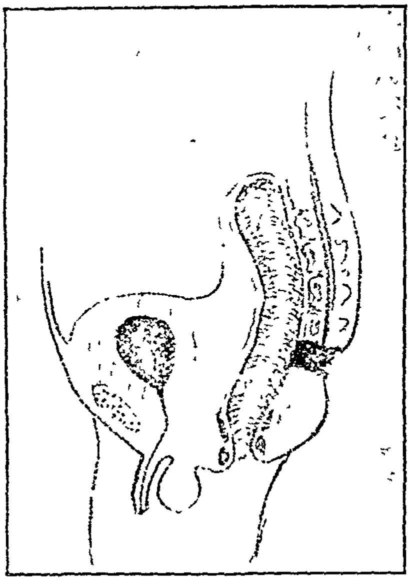
FIG. 2.



Showing condition after the first operation. Sacral anus formed. Growth removed.

Operation was performed on Jan. 28th. The patient was anæsthetised and the rectum was examined. It was then found that the growth was freely moveable and that the upper limit could be felt. A skin incision was made from the fourth sacral spine to the tip of the coccyx and all structures were divided down to the bone. The coccyx was removed but the sphincters were left untouched and a portion of the sacrum was taken away by bone forceps. The rectum was freed above and below the growth, the peritoneum being freely opened. A stout silk ligature was passed round the bowel above the growth and the rectum was divided and turned down and again divided below the growth, about three inches of bowel being removed. The two ends could not be united, but one or two sutures approximated the cut surfaces anteriorly and then the upper end was sutured to the sacral opening. The remainder of the incision was closed with silkworm-gut sutures after the wound had been thoroughly irrigated with hot hazeline solution and packed with iodoform gauze. A large tube was passed into the bowel and packed round with iodoform gauze. The operation was remarkably free from hæmorrhage, the bleeding being largely controlled by swabs saturated with hot hazeline solution. The patient made a good recovery and left the hospital three weeks later with a sacral opening.

FIG. 3.



Showing present condition. Sacral anus closed. Upper part of rectum brought down to anal margin. Sphincters intact.

He was readmitted on May 9th, when an ineffective attempt was made to close the sacral opening by freeing the edges of the mucous membrane and suturing the mucous membrane posteriorly, approximating the skin edges and leaving a gauze drain in. This all broke down and he left the hospital in much the same condition as when admitted. He was admitted again on Oct. 10th as the want of control caused him great mental distress. Operation was performed on the 13th. The bowel was freed from its attachment round the sacral opening and separated upwards for about three inches, the peritoneum being again freely opened. The distal part of the mucous membrane between the anus and the sacral opening was entirely removed and the bowel was brought down to the anus and stitched to the skin. The patient made an excellent recovery with the exception that on the eighth day he had a bad rigor and a rise of temperature to 105·6° F. During the rigor the bowels acted freely. This was the first action since the operation. He has now to all intents and purposes a normal rectum with perfect sphincteric control and is in excellent health.

The following points are of practical interest: (1) The control of the hæmorrhage by means of hot hazeline solution of the strength of one drachm to the pint at a temperature of about 100°; (2) the wound was irrigated twice daily after the first 48 hours with either saline or boric solution (this I make a routine custom in all operations for rectal carcinoma); (3) as few stitches as possible were applied to the approximated edges in order that drainage might be as free as possible; (4) the greatest care was taken to divide the bowel well above the growth and when possible well below it and to avoid infecting the wound from the bowel (this was avoided by ligatures and guards); (5) the patient sat up in bed as soon as possible for better drainage from the wound; and (6) the fact that perfect control and practically normal sensation were obtained after such an operation is particularly interesting, having regard to the statements which are made as to the loss of sensation following excision of the lining membrane of the anus.

Harley-street, W.

ON THE ABSENCE OR MARKED DIMINUTION OF FREE HYDROCHLORIC ACID IN THE GASTRIC CONTENTS, IN MALIGNANT DISEASE OF ORGANS OTHER THAN THE STOMACH.[1]

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IT is well known that free hydrochloric acid is absent in nearly all cases of cancer of the stomach. This was first noticed by Reinhard von den Velden[2] in 1879 and has been the subject of much observation and criticism since then but may now be taken as a well-established fact. For example, Osler[3] records that in 94 cases of cancer of the stomach in which the contents were examined free hydrochloric acid was absent in 84 cases. The absence of the free hydrochloric acid has till now chiefly been studied as a diagnostic sign in doubtful cases of cancer of the stomach and has scarcely been considered from any other standpoint. The presence of free hydrochloric acid in a small percentage of cases of cancer of the stomach, as well as the undoubted absence or diminution of the acid in other conditions of the organ or in general disease arising from other causes than cancer, take away greatly from the value of the absence of free hydrochloric acid as a diagnostic sign in doubtful cases suspected of being carcinoma ventriculi. While the above statement may be freely admitted the observed fact remains that in 90 per cent. or over of cases of cancer of the stomach there is no free hydrochloric acid or the acid is reduced to a minimal trace.

Looking away entirely from the question of diagnosis, this is one of the few established pieces of knowledge that we possess regarding cancer and the cause of the absence of the acid deserves careful inquiry on its own account, since knowledge of this may increase our information regarding the disease with which it is associated. Local conditions in the stomach itself have hitherto been made to furnish explanations of the absence of the acid in the gastric secretion in cases where a cancerous growth has invaded that organ. Such growths in many cases are situated in the pyloric region and in process of growth begin to constrict the exit from the stomach. The consequences are dilatation and retention of food in the stomach which causes continued irritation of the secreting mucous membrane and this in time alters the normal character of the secretion which in the end ceases to be acid and becomes simply a catarrhal secretion. Hence the absence of acid, as in long-continued irritation of the mucous membrane by any other means, is due to chronic gastritis giving rise to a catarrhal flow. That this view, which is the usual one with regard to the absence of the acid, does not exactly fit the known facts is seen from the observations of G. Honigmann and C. von Noorden[4] who examined series of cases of dilatation and retention of food in the stomach due, on the one hand, to cancer and, on the other, to different causes. In the cancer cases the acid was absent or reduced to traces while in the dilatations unaccompanied by cancer soon after ingestion of food free hydrochloric acid was present. Secondly, in many cases the absence of acid has been proven early in the development of the growth before there has been any dilatation or marked gastritis. An alternate hypothesis which has been advanced is that the acid is neutralised by alkali poured in from the ulcerating surface of the growth, but this view is also negatived by the early suppression of the acid which often occurs before the surface breaks down from ulceration.

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[1] Abstract of a paper communicated to the Royal Society on Feb. 28th and read on March 16th, 1905.

[2] Deutsches Archiv fur Klinische Medicin, vol. xxiii., 1879, p. 31.

[3] Principles and Practice of Medicine, third edition, p. 491.

That a small cancerous patch in one region of the stomach occasionally so situated that it leads to no marked dilatation of the organ nor to any continued retention of food should, *by some local irritation*, cause the suppression of the acid secretion in the remaining apparently healthy portions of the mucosa, does not seem to present a very feasible explanation. But if the suppression be not due to local action to gastritis, or to the pathological condition of one portion of the mucosa affecting all the remaining portions what can the explanation be?

The idea presented itself that the suppression of the acid [illegible] lition in the body, to altera[illegible] some way, either by products [illegible] or as a result of changes in the blood which might lead both to the abnormal growth and atypical mitosis of the cancer cells and to such changes in the nutrient medium of the oxyntic cells that these could no longer separate hydrochloric acid from the inorganic constituents of the plasma. Such a view if it could be substantiated experimentally, would naturally give a new importance and a different aspect to what is already one of the most important experimental facts known about carcinoma. The testing of this view was the object set forth in the observations recorded below which have shown that *the absence of free hydrochloric acid in cancer of the stomach is not due to local action in that organ, for hydrochloric acid is absent or reduced greatly in amount whatever may be the situation in the body of the malignant growth.* It follows that the absence of the acid is due to some change in the blood which change may either be a common cause of the growth and the absence of the acid or may be the result of the growth and the cause of the absence of the acid. The significance of this fact will be reverted to after the results of the observations have been described.

The amount of free hydrochloric acid present in the stomach contents was determined in 17 cases of malignant disease situated in different situations such as the uterus mamma prostate, rectum tongue cheek and mouth and in about two thirds of the cases the free hydrochloric acid was found to be entirely absent while in the remaining cases the amount found was much below the normal being reduced to a mere trace in all except one case where it reached about one fifth of the average amount obtained in control determinations carried out upon ourselves.

METHODS OF EXAMINATION.

The test meal given in each case was that recommended by Ewald of a pint of tea without sugar or milk and a round of dry toast.[5] The length of time before withdrawal of the contents of the stomach was noted in each case and was usually about one hour. The contents before testing were filtered from undigested residues of the food and the tests in all cases were commenced as soon as possible afterwards.

The quantitative volumetric testing was performed by neutralising with deci normal caustic soda solution with the indicator mentioned in each case. For convenience of comparison the results are expressed in terms of the equivalent amounts of hydrochloric acid. But it must of course be understood that in the case of the phenol phthalein and di methyl amido azo benzol indicators the figures do not represent actual free hydrochloric acid but acidity expressed as the equivalent amount supposing it were all hydrochloric acid.

(*a*) *Total acidity.*—This was determined in the usual way by titration of ten cubic centimetres of the gastric contents with phenol phthalein as indicator. The amount so obtained gives the total acidity due to hydrochloric acid (when present) organic acids and acid salts (such as acid phosphates).

(*b*) *Acidity to "di methyl indicator.*—This indicator does not give as originally supposed by its introducer (Topfer[6]) the free hydrochloric acid alone but in addition any acidity due to free strong organic acids such as acetic lactic and butyric. Accordingly, this figure is usually higher than that for the free hydrochloric acid given by the other methods described below and the free hydrochloric acid may safely be taken as below the value of this reading. When the organic acids are low in value it gives an approximation to the free hydrochloric acid and as it is often used as a clinical method it is here given for purposes of comparison.

(*c*) *Acidity to Gunzburg's reagent*[7] (phloroglucin and vanillin).—We have found this reagent most trustworthy both as a qualitative and a quantitative test. We have convinced ourselves by experiment that the test unmistakably shows 1 part of free hydrochloric acid in 30 000 parts by volume and can be relied upon for accurate results in rapid clinical work where quantitative results are desired as they always should be.

The use of the Gunzburg reagent in conjunction with titration with deci normal alkali which was first recommended by Mintz[8] was carried out by us as follows. Ten cubic centimetres of the filtered gastric contents are taken two drops are removed with a glass rod to a porcelain capsule a drop of the reagent is added from a dropping bottle and the mixture is evaporated to dryness preferably on a steam or water bath. If even a trace of free hydrochloric acid is present the characteristic red colour appears. In that case a quantity of deci normal alkali is added to the ten cubic centimetres of filtered contents from one or two tenths of a cubic centimetre to one cubic centimetre according to the depth of colour obtained on the initial testing. The process of testing is then repeated, if a positive result is obtained *more alkali is added the testing repeated and so on until* a negative result is obtained. Near the end when the reaction is less marked the alkali is added in quantities of 0·1 cubic centimetre at a time. A little practice enables one to carry out the testing in about five minutes in all and reduces the number of operations to four or five. As only [illegible] removed for each test and the [illegible] removed [illegible] e cases of [illegible] he outset [illegible]

[illegible] *f free and combined hydrochloric acid.*—We have used this method as a grav[illegible] von Jaksch[10] The [illegible] present into bariu[illegible] te (previously tested and found free from soluble barium salts). Ten cubic centimetres of the gastric contents are taken and about half a gramme of the fine dry barium carbonate powder is added. The mixture is well shaken up and allowed to stand for about an hour, it is then evaporated down to dryness in a platinum or nickel crucible and incinerated. In the process of incineration the barium salts of the organic acids if any are present are destroyed and barium carbonate is re formed while the barium chloride formed from the hydrochloric acid (free or combined with proteid) present in the gastric contents is unchanged in the process of incineration. After incineration the incinerated mass is extracted several times with hot water and the washings are filtered free from barium carbonate. The end of the process consists in determining the amount of barium salts in solution which we have done by precipitating as barium sulphate collecting on a Gooch crucible and weighing. From the weight the amount of available hydrochloric acid uncom[illegible] is easi[illegible] stated [illegible] acid free or combined with proteid but [illegible] of inorganic acid (hydrochloric or other acid possessing a

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[4] Zeitschrift für Klinische Medicin vol xiii 1887 p 87.

[5] Except in one case (Case 9) where the toast could not be taken on account of the situation of the growth and the test meal was a pint of gruel and two pints of water administered by the stomach tube and withdrawn after one and a half hours.

[illegible] Klinische Diagnostik

soluble barium salt) free or *combined with organic matter or a volatile base.*

The amount of hydrochloric acid combined with organic base is small in normal cases but in the carcinoma cases it is clear from the results of this and the succeeding method that there is a certain amount of acid neutralised by volatile or organic bases present in the gastric contents.

(*e*) *Total free and combined organic acids.*—An attempt was made to investigate this quantity by the following method. Ten cubic centimetres of the filtered gastric contents are taken and titrated with phenol-phthalein as in (*a*) for determination of total acidity. In this process, as mentioned above, there are neutralised, the hydrochloric acid, the organic acids, and the acid salts (such as acid phosphates). The neutral solution is next evaporated to dryness, incinerated, taken up with hot water, and boiled. In this process the sodium chloride formed from the hydrochloric acid remains unaltered and the neutral salts formed from the acid salts remain neutral; but the neutral organic salts formed from the organic acids, as well as any neutralised organic salts originally present in the gastric contents, are converted into carbonates and give an alkaline reaction. Accordingly the total organic acids present in the gastric contents, whether free or combined, are given by now titrating the solution with excess of acid, boiling to remove carbonic acid and back titration with deci-normal alkali. The results of this method show a very low amount of organic acids in both normal and malignant cases; in fact, in the latter the results are often negative, indicating the presence in the gastric contents of inorganic acid united with organic bases.

The presence under such pathological conditions of such compounds of organic bases with inorganic acid is in itself of high interest and requires further investigation. The small quantity of material obtainable in each case renders it difficult to determine the nature of the bases present but it has been shown not to be ammonia, and that it is not proteid is shown by the controls and the acidity given by the other methods.

(*f*) *Concentration of free hydrogen ions in the gastric contents.*—The usual methods of determining the acidity of a solution give only the potential or total acidity—that is, the amount of standard alkali which must be added in order to render it neutral to an indicator. This is quite a different quantity to the effective acidity, for chemical purposes, of the solution. For example, titration in presence of an indicator will show that a deci-normal solution of the hydrochloric acid and of an organic acid, such as acetic acid, are equal in acidity. This is not, however, the case, the effective acidity of the solution of acetic acid is only about 3 per cent. of that of the hydrochloric acid. The effectiveness as a chemical agent of any acid is proportional to the degree of its dissociation into its ions. For example, hydrochloric acid in the neighbourhood of such concentrations as are found in the gastric contents is over 95 per cent. dissociated into its ions and is correspondingly effective as an acid, while acetic acid in similar concentration is only dissociated to the extent of about 3 per cent. and is correspondingly weakened in its activity as an acid, and the same is true of all the other organic acids occasionally present in the gastric contents.

In the process of titration, as the fraction of dissociated acid is combined with alkali, fresh quantities of previously undissociated acid become dissociated and the indicator does not show neutrality until these also have been combined with alkali. Hence the process of titration does not show the amount of dissociated acid free for chemical work at the commencement of titration. This is, however, the really important thing to determine and to do so some method must be employed which, without altering the condition of dissociation of the acid solution, gives its power of doing chemical work.

A method usually employed in physical chemistry is that of testing the velocity with which the acid solution inverts a solution of cane sugar, or more conveniently a solution of methyl acetate, which becomes changed into methyl alcohol and acetic acid at a rate proportional to the concentration of the hydrogen ions in the solution, which is the real measure for the effective acidity of the solution. The use of the methyl-acetate method not only gives the effective acidity of the solution but by comparison with the total acidity given by titration in presence of a delicate indicator such as phenol-phthalein shows in what degree the acidity is due to hydrochloric and in what degree to organic acids. The method was first used in the case of the gastric contents by F. A. Hoffmann[11] at the suggestion of Ostwald.

The determinations have been carried out by us as follows. Ten cubic centimetres of the gastric contents are taken in a small corked Erlenmeyer flask, 0·5 cubic centimetre of the methyl acetate is added, and five cubic centimetres of the mixture are titrated at once with deci-normal alkali, free from carbonate, using phenol-phthalein as indicator. The flask is then placed for a definite time in a thermostat at a temperature of 45° C. (we have used a period of eight hours but a shorter period would suffice) and at the end of the period the contents of the flask are titrated again; the increase in the amount of alkali required for neutralisation gives the amount of acetic acid set free by the action of the hydrogen ions of the gastric contents during the interval and hence an indication of the concentration of these ions. A simple calculation then gives the concentration of the hydrogen ions. For the purposes of this calculation the total amount of acetic acid capable of being set free from the 0·5 cubic centimetre of methyl acetate added is required and to obtain this a control is made in which deci-normal hydrochloric acid is allowed to act on methyl acetate in the same concentration until the titration gives a constant figure for five cubic centimetres of the mixture. This figure can be obtained once for all for any series carried out about the same time with the same sample of methyl acetate.[12]

A comparison of the results given in the table of the titrations for acetic acid, formed from the methyl acetate in the cases of malignant disease, as compared with those in the case of the normal control specimens, demonstrates clearly the value of the method and shows the great contrast between the cases of malignant disease and the others.

The equation giving the velocity constant of the reaction (K), which is proportional in each case to the concentration of the hydrogen ions, takes the form—

$$K = \frac{1}{t} . \log \frac{A}{A - x},$$

where t is the time, expressed in minutes, A is the amount of methyl acetate available for hydrolysis in the beginning, and x the amount of methyl acetate hydrolysed at the end of the time t. The column in the table gives the values of $K \times 10^5$, to which the concentrations of hydrogen ions or the effective acidities are proportional, and the last column gives the percentage concentration reckoned as effective hydrochloric acid, by comparison with the constant for a deci-normal solution (0·365 per cent.) of hydrochloric acid.

DEDUCTIONS FROM THE RESULTS.

1. The *total acidity* in malignant disease, wherever situated, is, as a rule, very low. In the 17 cases recorded the total acidity only rises above 0·1 per cent. in four cases (Nos. 5, 6, 11, and 16) and reaches the normal amount of approximately 0·28 per cent. in one case only (No. 16). In the great majority of the cases one or two drops of deci-normal alkali added to ten cubic centimetres is sufficient to render the reaction alkaline to phenol-phthalein. In the few cases where the total acidity rises above a trace only the other tests demonstrate that the reaction is not due to free hydrochloric except in minute traces.

2. The "di-methyl" indicator shows entire absence of acidity in nine out of 16 cases in which it was applied and in the remaining cases gives very low values approaching half-way towards normal in only one case (No. 5).

3. The Günzburg test shows entire absence of free hydrochloric acid in 11 out of 17 cases and in the remaining cases the quantitative use of the test shows that with one exception (Case 5) the amount of hydrochloric acid present was only a minute trace (from 0·0036 to 0·0109 per cent.). Case 5 was the only one which had an appreciable amount of free hydrochloric acid and even here the amount present was less than one-fifth the normal quantity.

4. The Mörner-Sjöqvist method gave, as a rule, low results, but in Cases 11, 16, and 17 much higher results were given than by the other methods. There is little doubt that this result arose in those cases from the presence of salts of inorganic acids with organic bases and not to hydrochloric acid either free or loosely combined with proteid.

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[11] Verhandlungen des Internationalen Medicinischen Congresses, 1890, Abtheilung v.

[12] The methyl acetate should be as pure as possible, give practically no acetic acid on titration alone, and a control, as indicated above, should be carried out at intervals, if the series of experiments is a prolonged one.

TABLE OF AMOUNT OF ACIDITY OF GASTRIC CONTENTS IN CASES OF MALIGNANT DISEASE IN DIFFERENT SITUATIONS AS DETERMINED BY METHODS INDICATED IN TEXT.

No. of case.	Sex.	Age.	Disease and region	Period of digestion.	Total acidity to phenolphthalein.	Acidity to di methyl.	Free hydrochloric, Günzburg.	Total hydrochloric, i.e., free and organic combined, Mörner and Sjöqvist.	Alkali after incineration, reckoned as HCl.	Increase in [illegible]			[illegible]	[illegible]
1	F.	49	Carcinoma of uterus.	1 hour.	0·0219	Negative	Negative	—	—	—	—	—	—	—
2	M.	—	Carcinoma of prostate.	,,	—	—	,,	—	—	—	—	—	—	—
3	F.	—	Sarcoma, general, liver, &c	1¼ hours	0·0146	Negative	,,	—	0·0329	—	—	—	—	—
4	F	71	Carcinoma of uterus.	,,	0·0036	,,	,,	—	0·0066	—	—	—	—	—
5	F.	50	,,	1 hour.	0·1460	0·0821	0·0365	—	0·0146	—	—	—	—	—
6	M	61	Sarcoma of neck.	,,	0·1861	0·0036	0·0072	—	0·1533	—	—	—	—	—
7	F.	65	Carcinoma of liver.	1¼ hours.	0·0018	Negative	Negative	—	0·0000	—	—	—	—	—
8	F.	32	Carcinoma of rectum	1 hour.	0·0584	,,	,,	0·0013	0·0036	0·8	0·95	0·15	1·1649	0·00100
9	F.	—	Carcinoma of tongue.	1½ hours	0·0292	0·0186	0·0109	0·0295	0·0000	0·4	2·2	1·8	14·429	0·01239
10	M.	61	Epithelioma of floor of mouth.	1 hour.	0·0018	Negative	Negative	Unweighable	0·0000	0·1	0·1	0·0	0·000	0·00000
11	F.	49	Colloid cancer of mesentery.	1¼ hours	0·1058	0·0401	0·0072	0·0738(?)*	–0·1350*	1·55	3·65	2·1	16·934	0·01455
12	F.	59	Carcinoma of breast, removed 10 weeks previously.	1½ ,,	0·0182	0·0091	0·0036	0·0023	0·0000	0·25	1·30	1·05	8·295	0·00713
13	F.	59	Recurrence of carcinoma in breast, removed 4 years before	,,	0·0511	0·0219	0·0036	—	0·0000	0·85	2·10	1·25	9·913	0·00852
14	M.	65	Epithelioma of cheek.	1 hour.	0·0018	Negative	Negative	0·0044	0·0000	0·025	0·05	0·025	0·1937	0·00017
15	F.	66	Carcinoma of breast.	,,	0·0548	0·0019	,,	0·0020	–0·0402*	0·8	1·05	0·25	1·945	0·00179
16(a)	M.	63	Epithelioma of cheek.	3 hours	0·2665	Negative	,,	—	0·1533	2·7	2·8	0·1	0·7759	0·00067
(b)				1 hour.	0·2847	,,	,,	0·1479(?)*	0·2044	2·7	2·7	0·0	0·0000	0·00000
17	M	57	Recurrence of carcinoma of tongue, removed 6 years ago	2 hours.	0·0365	,,	,,	0·1140(?)*	–0·0657*	0·4	0·4	0·0	0·0000	0·00000
Control Cases in Normal Individuals.														
R.E.K.	M.	25	—	1 hour	0·2117	0·1789	0·1533	0·1579	0·0018	3·65	17·9	14·85	167·300	0·14373
B. M. ...	M.	38	—	,,	0·3285	0·2884	0·2519	0·2571	0·0000	4·8	25·5	20·7	305·740	0·26266
H. E. R.	M.	23	—	,,	0·3139	0·2482	0·1862	0·3296(?)*	–0·0376*	4·0	21·1	17·1	208·248	0·17892
Average	—	—	—	,,	0·2847	0·2385	0·1971	0·2482	—	—	—	—	227·096	0·1951
N/10 HCl	—	—	—	—	—	—	—	—	—	4·8†	23·2†	23·4†	424·870	—

* See remarks on these two methods in the text

† Total amount hydrolysed in 24 hours, 31·6 cubic centimetres; in 48 hours, 31·7 cubic centimetres, leaving 26·9 as total available amount of acetate hydrolysable.

5. The presence of inorganic acid combined with organic base is shown by the zero or negative value obtained on incineration with excess of alkali in the attempt to determine the amount of organic acid.

6. The methyl-acetate inversion method shows clearly what small traces of effective acid are present as compared with the normal cases. In all the cases tested the concentration of hydrogen ions never exceeds one-fifteenth part of the normal amount and in the majority of cases sinks incomparably lower even than this low fraction.

7. After removal of the growth, as far as observations have gone, there is not a reappearance of acid. This tends to show that there is a persistence of those conditions in the body tending to favour the re-formation of new growths, but the subject requires more extended observation.

PROBABLE CAUSE OF THE ABSENCE OF THE ACID.

The cause of the absence of the acid from the gastric contents in malignant disease is not yet determined. Various points require elucidation, such, for example, as whether the oxyntic cells are atrophied, whether the acid secretion recurs after removal of the growth, whether any toxic substances are in circulation in the blood which paralyse the activity of the oxyntic cells, and whether the degree of alkalinity of the blood plasma is altered in malignant disease.[13]

A study of the alterations in the alkalinity of the blood seems at present to be one of the most hopeful lines of research on the subject but such observations are most difficult to carry out. For it is not the total alkalinity of the blood which is the determining factor in the power of the oxyntic cells to separate a fluid of acid reaction due to free hydrochloric acid from the blood plasma, but rather the effective concentration in hydroxyl ions and hydrogen ions respectively in the sense indicated above in speaking of the methyl-acetate method

In order that hydrochloric acid may be separated by the cells of the gastric glands it is necessary that there must be some concentration of hydrogen ions, however low that concentration may be, in the circulating plasma Further, the concentration of hydrogen ions in the plasma being very low it follows that any agency which depresses that concentration, such as increased alkalinity of the plasma, must increase the difficulty and lessen the rate of separation of acid.

The reactions to indicators of the plasma show that it is a fluid which is, at the same time, alkaline and acid; in other words, [illegible]
Thus, it is *ac* [illegible]
to litmus, [illegible]
reaction to [illegible]
[illegible] concentra-
[illegible] The con-
[illegible] sively low,

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[13] Observations upon this point are now being made.

so low that it cannot be estimated by such a method as methyl-acetate inversion or by any physical method at present known. It is accordingly difficult, without some new method of attack, to investigate the effective acidity of the blood and it is probable that in the end some physiological method alone, some application, for example, of the effect of minute quantities of acid or alkali upon the rate of growth or activities of living cells, will furnish a delicate enough test for such measurements of reaction as are here required.

We are hence at present without a method delicate enough to show us how the concentration of the hydrogen ions is varying in the blood plasma in health or in conditions such as malignant disease; but if we suppose that the failure or reduction in quantity of the acid is an indication *through the mechanism of the oxyntic cell* that the concentration of the hydrogen ions in the blood of carcinomatous patients is decreased, and the concentration of the hydroxyl ions increased, then we have indications from analogy with the changes which occur in other growing cells under like conditions that such a change would probably give rise to increased cell growth and division. Thus, Loeb[14] has shown that addition of one cubic centimetre of deci-normal caustic soda solution to 100 cubic centimetres of sea water, that is, an addition of only 0·04 gramme per litre, increased the development and growth of the eggs of the sea urchin at such a rate that one could scarcely believe that the two sets of eggs belonged to the same culture. It is only a trace of additional alkali which causes the increased growth, more than a trace stops it entirely.

Now, given a potential tendency to a typical cell growth and mitosis, to reversion to the sexual type of cell reproduction, it is possible that an increased concentration of hydroxyl ions and diminished concentration of hydrogen ions, would form just the necessary chemical stimulus to start a new growth and determine its continuance and exuberance when started. It might be urged that the testing of such a view was exceedingly simple, merely by the administration of acid, so as to give hydrogen ions to the blood plasma, but the matter is not so simple as it at first sight appears. It certainly is indicated that some attempt should be made to modify the reaction of the blood plasma and if possible to restore the acid-secreting function of the oxyntic cells and we are at present making attempts in this direction. But to keep permanently altered, even by continued therapeutic action, the reaction of the blood plasma is by no means easy of attainment. The reaction of the blood is determined by the agency of the liver and kidney cells, and if these have become set at a definite wrong level of action, all the regulating mechanism of the body is then at work against change of the reaction by therapeutic means. When acid is administered urea is taken and broken up in the body and ammonia obtained which is used to neutralise the administered acid. Hence it is only with large and continued doses of acid, and on approaching the limits of acid intoxication, that any diminution in alkalinity can be hoped for and as soon as the administration of acid is slackened the acid is neutralised by more ammonia obtained from oxidised proteid. Thus, even admitting that the diminished acid secretion is due to diminished concentration of hydrogen ions in the blood plasma, we are still face to face with the problem of how to maintain that hydrogen ion concentration in the blood plasma permanently at a higher level against the competition of the kidney and other cells in the body which are all the time tending to reduce it to its old vicious level.

LATENT PNEUMOTHORAX.

By B. CROSSFIELD STEVENS, M.D., M.S. DURH., F.R.C.S. EDIN.

TEXT-BOOK descriptions of pneumothorax divide the *causes* into phthisical and traumatic and the *varieties* as open, closed, and valvular. The following notes of a case under my care go, I think, to prove that in an asthmatic subject (where there is sure to be emphysema as well) one of the distended air vesicles on the surface of the lung may also attenuate its pleural covering and that this condition plus some slight extra strain may cause the vesicle to burst and allow air to enter the pleural cavity. In the museum of St. Thomas's Hospital, London, is a specimen which I obtained from a post-mortem showing two such vesicles; one was of the size of a hen's egg and the other (joined to it) of that of a pigeon's egg. Had either of these ruptured during life I take it that one would have had a latent pneumothorax to deal with. In Mr. R. Bevan's case[1] a sudden nipping of the edge of the lung with the air vesicles in an over-distended condition was probably the cause of the pneumothorax. In Mr. E. F. Coghlan's case[2] it seemed to be a phthisical patient and the recovery from the lesion was rapid, though no quicker than a non-phthisical case ought to be with proper rest and care.

The case which I wish to quote was that of a young and energetic curate. His history is interesting and is as follows. On the morning of the day before I saw him he was taken ill at Y——. Previously to this attack he had felt quite well but had been thoroughly tired out the day before from considerable manual exertion (he was a keen gardener). On the morning in question he was kneeling in church and experienced a feeling of discomfort round the heart; this was greatly increased on attempting to move. Owing to considerable pain round the heart he was given brandy but with no relief. He then took a cab to see a medical man who called it "wind round the heart" (meaning distension of the stomach) and gave him some carminative. Needless to say, this did no good. The only relief he could obtain was by lying on the sofa on his left side. Feeling relieved he got up and walked away but in a few minutes he was as bad as ever and took refuge in a station waiting-room and was at once relieved by lying down again on the left side. After a while he returned to his medical adviser and asked him to examine his chest. The verdict was "indigestion" and some purgative pills were prescribed. After this he walked about Y—— in great discomfort until his train started for M——, a run of over an hour. He found it difficult to climb the hill to his house but suffered no actual pain as was the case in the morning. Having had practically no food since breakfast he made a hearty supper and went to bed. During the night he got very little sleep and sent for me. I saw the patient within 24 hours of the onset of the illness and found him in bed lying on his left side, in great distress from dyspnœa but not cyanosed. The pulse was quick but good; there was no rise of temperature. There was no distension of the stomach but the heart was nowhere to be found in the left chest. The right lung was working vigorously and was full of rhonchi and emphysematous wheezing. The left side of the chest was quite still and fixed and the lower half appeared bulged out; the general appearance of the chest was barrel-shaped. The voice and breath sounds were absent on the left side. The heart was beating in the epigastrium and to the right of the xiphoid cartilage. On the left side also the percussion note was hyper-resonant from the first with slight dulness at the base behind, the axillary hyper-resonance being the more pronounced. Bruit d'airan was very pronounced and the metallic tinkling was as of water dropping in a cavern. The treatment prescribed was rest in bed, a sedative mixture, and an anti-flatulent diet and alcohol. The breath sounds began to return in less than a week and the heart very gradually came back to the left. In three days the patient was comfortable on his right or sound side. In ten days he was up and walking about but breathless on slight exertion. In just under three weeks he went to Cornwall—his native air—and after staying there for three weeks he was quite well. Of his visit to Cornwall he says: "I got steadily better day by day and after ten days at home could walk up the steepest hill or cliff as fast as any one and without discomfort. A sudden jolt or jar, however, was unpleasant. When there a sudden fall in temperature one night when the windows were wide open in the bedrooom brought on an attack of asthma which lasted six hours." I have forbidden him to cycle up hills or to do heavy gardening or lifting and a year later I hear that he is in good health.

Remarks.—This patient is an asthmatic and his sister is described as a martyr to asthma. As a curate he has been taught to use the lower part of his lungs in phonation so as to save his larynx. This has no doubt been an extra strain on his already over-distended lungs. The treatment in these cases is the expectant one. . Put the patient under the best hygienic surroundings, give alcohol if there is distress; the nutriment must be easily assimilable and not such as might give rise to flatulent dyspepsia. Of drugs iodide and arsenic are useful at first, and some petroleum emulsion later.

Lancaster.

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[14] Archiv fur Entwickelungsmechanik, vol. vii., 1898, p. 631. Quoted from Höber, Physikalische Chemie der Zelle und Gewebe, p. 235.

[1] THE LANCET, June 11th, 1904, p. 1652.

[2] THE LANCET, April 16th, 1904, p. 1052.

THE EFFECT OF CERTAIN BATHS AND FORMS OF ELECTRICITY ON THE BLOOD, BLOOD PRESSURE, AND METABOLISM;

WITH REMARKS ON THEIR THERAPEUTIC USES.

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THE following investigation was undertaken to ascertain the effect of certain baths and electrical procedures in use at Harrogate on the blood, on the blood pressure, and on metabolism as indicated by variations in the urinary constituents. It was primarily intended to investigate these points with reference to the more recently introduced electrical "baths" but it was thought that the usefulness of the research might be enhanced by extending it to include some of the other baths which have been long in use with the object of determining whether the physiological results obtained would furnish a rational basis for their therapeutic application. The subjects of the experiments were the authors themselves and the observations extended over 40 days. Their health was normal throughout; the results must therefore be regarded as purely physiological.

Points examined.—These consisted of the determination of the total daily excretion of urea, uric acid, sulphates, phosphates, chlorides, and acidity, the estimation of the hæmoglobin and red corpuscles, the enumeration of the leucocytes, and the measurement of variations in the blood pressure.

Methods adopted.—For the determination of urea the hypobromite method was adopted, Gerard's instrument being chosen. Uric acid was estimated by the Gowland-Hopkins' process; sulphates by the barium chloride method; phosphates by titration with uranium acetate; chlorides by Allen's modification of Mohr's method for the first three [illegible] of the red corpuscles was estimated by Oliver's capacity tube. The leucocytes were counted in the Thoma-Zeiss chamber, the diluting fluid being acetic acid 0·3 per cent. with methyl violet, and the amount of dilution 1 in 25. Blood pressure was determined by means of Oliver's hæmodynamometer. The total urine of the 24 hours was collected daily for the estimation of its constituents. The blood was examined once a day, the time chosen being immediately after rising in the morning when the blood is at its most constant point, before being disturbed by bath, exercise, or breakfast. It was also occasionally examined immediately before and after the baths, as will be detailed presently.

Diets: Subject A (weight 11 stones 1 pound 7 ounces).—Breakfast: bacon, 2 ounces; egg, 1; toast, 2 ounces; coffee, 15 ounces. Lunch: meat, 2 ounces; bread, 2 ounces; cheese, ½ ounce; biscuits, 2 ounces; banana, 2 ounces; water, 10 ounces. Tea: tea, 8 ounces; biscuits, 2. Dinner: meat, 4 ounces; bread, 2 ounces; cheese, ½ ounce; biscuits, 2; apple, 1; water, 10 ounces. Coffee; 4 ounces. Bed-time: water, 10 ounces.

Subject B (weight 12 stones 12 pounds).—Breakfast: egg, 1; toast, 1½ ounces; coffee, 10 ounces. Lunch: meat, 2 ounces; ham, 1 ounce; toast, 1½ ounces; cheese, 1 ounce; celery; milk, 10 ounces. Tea: tea, 12 ounces; milk biscuits, 4. Dinner: meat, 3 ounces; toast, 1½ ounces; cheese, ½ ounce; apple, 1; water, 10 ounces. Bed-time, water, 10 ounces.

Subject C (weight 13 stones 3 pounds).—Breakfast: bacon, 2 ounces; egg, 1; bread, 1½ ounces; tea, 20 ounces. Lunch: meat, 2 ounces; cheese, ½ ounce; bread, 1½ ounces; water, 10 ounces. Tea: tea, 8 ounces; biscuits, 3. Dinner: meat, 6 ounces; cheese, 1 ounce; bread, 2 ounces; apples, 2; water, 20 ounces.

Normal standards of the three subjects.—Before determining these and to arrive at a condition of approximate equilibrium the diet was taken for a week before testing. Estimations were then made daily for four days (in the case of Subject C. for five days) and the average taken, the result being shown in Table I.

TABLE I.

—	A.	B.	C.
Quantity ...	1287 c.c.	1243 c.c.	1167 c.c.
Urea	32·33 grammes	33·92 grammes.	27·62 grammes.
Sulphates ...	2 30 "	2 15 "	2·13 "
Uric acid ...	0 701 "	0 528 "	0 656 "
P_2O_5	2 49 "	2·32 "	2·31 "
Chlorides in terms of NaCl	12 81 "	11·93 "	13 29 "
Acidity in terms of *oxalic acid* ...	3 53 "	3 41 "	3 56 "
Leucocytes ...	7085 per c mm.	12,090 per c.mm.	7766 per c mm.
Hæmoglobin	95 0 per cent.	107 8 per cent.	101 6 per cent.
Corpuscles ...	95 8 "	109 2 "	100·4 "
Value	0 99	0·986	1·01

THE D'ARSONVAL HIGH-FREQUENCY CURRENT.

The extent to which this form of electricity has been used [illegible] the last few years rendered the [illegible] cal action on metabolism a [illegible]. In examining the literature of the subject we were unable to find any detailed statements as to its effects in this direction. The following facts appear to have been established. Apart from its effects on motor and sensory nerves the respiratory combustion is increased, there being an increased excretion of CO_2 under the current amounting to 37 litres per hour; a more active oxygenation of the blood takes place, leading to a plus heat production of from 79 to 127 calories per hour, the body temperature remaining normal; the excretion of nitrogen and P_2O_5 in the urine is increased. Nutrition is modified and a definite loss in weight varying from one to 28 ounces takes places during the passage of the current.[1] The statements of various observers regarding its effect on blood pressure are contradictory, some finding a rise in arterial tension and others a fall.

For the present investigation the current was administered by the method of auto-condensation (from 350 to 450 milliampères) for 30 minutes on four successive days, followed by the effleuve of maximum intensity obtainable without sparking, applied to the whole surface of the body in succession for 30 minutes on two consecutive days.

Effect on blood pressure.—The effect varied according to the mode of application. Auto-condensation produced a slight transient rise in arterial pressure of from five to ten millimetres of mercury, rapidly falling, however, to normal, the net effect appearing to be *nil*.

TABLE II.

Subject A.

		Mm. Hg.
Before current	Radial pressure (recumbent)	95
30 minutes' auto-condensation from 350 to 450 milliampères—		
Immediately after ...	Radial pressure (recumbent)	105
5 minutes after . ..	" "	95

Subject C.

Before current	Radial pressure (recumbent)	110
30 minutes' auto-condensation from 350 to 450 milliampères—		
Immediately after ...	Radial pressure (recumbent)	118
5 minutes after	" "	110

The effleuve applied continuously to the whole surface of the body produced a distinct fall in blood pressure amounting to 10 or 15 millimetres of mercury. When applied, however, to the *abdomen* the pressure rose somewhat, though not to its original level. The duration of the fall in pressure after the current ceased *to* flow was variable but in no case prolonged. Sparking (from 100 to 150 milliampères) combined with gentle massage caused rapid hyperæmia when vigorously done and gave rise to a papulo-erythematous rash which disappeared after 36 hours. The effect of this form is to cause a more persistent fall of arterial pressure.

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[1] Nightingale: Journal of Balneology and Climatology, July, 1904.

TABLE III.

Subject A.

		Mm. Hg.		Weight. st.	lb.	oz.
Before effleuve ...	Radial pressure (sitting)	105	...	10	13	11
,, ,,	,, ,, (semi-recumbent)	98	...	—		
5 minutes' effleuve	,, ,, ,,	95	...	—		
15 ,, ,,	,, ,, ,,	90	...	—		
20 ,, ,,	,, ,, ,,	85	...	—		
30 ,, ,,	,, ,, ,,	85	...	—		
After effleuve ...	,, ,, (sitting)	90	...	10	13	7
10 minutes after effleuve	,, ,,	98	...	—		

Subject C.

	Radial pressure (semi-recumbent) Mm. Hg.		Weight. st.	lb.	oz.
Before effleuve	112	..	13	2	9
After 7 minutes' effleuve	107	...	—		
,, 20 ,, ,, ...	105	..	—		
,, 30 ,, ,, ...	103	...	13	2	8

Subject A.

	Radial pressure (semi-recumbent). Mm. Hg.		Weight. st.	lb.	oz.
Before effleuve to abdomen	100	... ...	10	13	12
After 15 minutes' effleuve	90	... ...	—		
,, 20 ,, ,, ...	85	... ...	—		
10 minutes' effleuve to abdomen	90	... ...	—		
5 ,, afterwards	90	... .	10	13	10

Subject A.

		Mm. Hg.
Before sparking	Radial pressure (semi-recumbent) ...	96
After 15 minutes' auto-condensation and 15 minutes' sparking to limbs and body ...	Radial pressure (semi-recumbent) ...	85

It would thus appear that the divergent results on arterial pressure previously obtained may be due to the different forms of current employed, auto-condensation causing a temporary rise and the effleuve a decided fall, both results having been obtained on all occasions. From the above table it will be seen that a slight loss of weight, varying from one to four ounces, occurred in normal subjects, thus corroborating Nightingale's results.

Effect on the blood.—Observations on the blood immediately before and after the application of the current were not made. The morning observations, however, showed an increase in the amount of hæmoglobin during the days on which the current was taken over the average of the preceding days on which no current was applied. The corpuscles, on the other hand, were relatively diminished on the bath days, consequently there was in both the subjects of experiment an increase in the hæmoglobin "value" of the corpuscle; in one case (Subject C) from 1·01 to 1·025 after six applications and in the other (Subject A) from 0·99 1·025 after nine applications.

Effect on metabolism.—The effect on the urinary constituents is shown in the following table:—

TABLE IV.—*Subject C.*

—	Average of five preceding days.	Average of four days' auto-condensation, 30 minutes daily, from 350 to 400 milliampères.	Average of two days' effleuve, 30 minutes each day.
Quantity	1167 c.c.	1197 c.c.	1355 c c.
Urea	27·62 grammes.	33·39 grammes.	32·85 grammes.
Sulphates	2·13 ,,	2·50 ,,	2 88 ,,
Uric acid	0 656 ,,	0·718 ,,	0 769 ,,
P_2O_5	2·32 ,,	2·46 ,,	2 61 ,,
Chlorides	13·29 ,,	10·75 ,,	15·37 ,,
Acidity in terms of oxalic acid	3·56 ,,	3·25 ,,	2·84 ,,

It will be seen that the application of the current in these two forms in succession produced a marked increase in the excretion of urine, an increase in urea, uric acid, sulphates, and phosphates, and a marked diminution in acidity. In Subject A the results were in the same direction though to a somewhat less extent. It would thus appear that the passage of the high-frequency current has a distinct effect upon the metabolic processes, a result which must be tentatively explained as the outcome of increased tissue change. It may be mentioned as a point of interest that both subjects were struck by the fact that the effleuve to the abdomen excited marked peristaltic action, leading to the free passage of flatus for some hours after exposure to the current and in one subject to repeated diarrhœa. This accords with the results of Crombie and Bokenham[2] on the effect of the effleuve in promoting contraction of the stomach in cases of dilatation. Further, the rise in blood pressure which results when the effleuve is applied to the abdomen is in all probability due to stimulation of the splanchnic vessels.

CONSTANT CURRENT AND SINUSOIDAL CURRENT IMMERSION BATHS.

Sinusoidal current.—This bath was taken on three successive days. The water used was a mild alkaline sulphur water derived from the Beckwith Spring. It was given at a temperature of 98° F., the duration of the bath being 20 minutes, during which time the alternating current (60 milliampères) was passing through the water.

Effect on blood pressure.—No effect was observed other than that usually found as the result of an ordinary sulphur bath at a temperature of 98°—viz., a fall of about 15 millimetres of mercury which returned, however, to the normal immediately after the bath, for example:—

TABLE V.

Subject B.

		Mm. Hg.
Before bath	Radial pressure (recumbent)	95
Bath: Beckwith sulphur water (98°), sinusoidal current, for 60 milliampères, 20 minutes:—		
In bath 10 minutes	Radial pressure (recumbent)	85
,, ,, 15 ,, ...	,, ,,	80
Immediately after bath ...	,, ,,	95

Effect on blood.—This was practically *nil*, no changes worthy of note being observed.

Effect on metabolism.—The sinusoidal current produced no distinctive change in the urinary constituents.

Constant current.—This bath was taken on four successive days, the same (Beckwith) water being used at a temperature of 98° F.; the duration of the bath was 20 minutes with a current of 200 milliampères.

Effect on blood pressure.—No change in the blood pressure before and after the bath was observed. A warm sulphur bath at 98° has usually the effect of reducing the blood pressure for a variable period after the bath and the effect of both sinusoidal and constant currents appears to be to abolish this fall and to maintain the pressure.

Effect on metabolism.—In contradistinction to the sinusoidal the constant current determined a slight increase in the excretion of urea and uric acid.

TABLE VI.—*Subject B.*

—	Average of three free days.	Average of three sinusoidal baths.	Average of four constant current baths.
Quantity ...	1047 c.c.	1178 c.c.	1102 c.c.
Urea	34·96 grammes.	34·78 grammes.	35·95 grammes.
Sulphates ...	2·23 ,,	2·27 ,,	2·35 ,,
Uric acid ...	0 519 ,,	0·514 ,,	0·541 ,,
P_2O_5	2·29 ,,	2·19 ,,	2·33 ,,
Chlorides ...	8·47 ,,	8·32 ,,	7 8 ,,
Acidity in terms of oxalic acid	2·87 ,,	2·78 ,,	2·78 ,,
Leucocytes ...	8346 per c.mm.	8200 per c.mm.	8135 per c.mm.
Hæmoglobin..	103 3 per cent.	101·6 per cent	106·0 per cent.
Red corpuscles	100·6 ,,	102·3 ,,	106 0 ,,
"Value" ...	1 027	0·993	1·00

LIGHT AND OZONE BATH.

This bath is essentially an electric-light bath with the addition of the high-frequency current and the inhalation of an ozonised atmosphere. It consists of a large cabinet in which the patient lies on a glass shelf, exposed to the rays from a series of incandescent electric lamps suspended about 18 inches above the body, the eyes being protected from the glare by the interposition of a green shade. The temperature of the interior of the cabinet is usually about 100° F., that of the surface of the body exposed to the heat being about ten degrees higher. During the bath a continuous manufacture [illegible] means of a high-frequency current [illegible] ush electrode placed in a corner of [illegible] of the bath is usually 25 minutes, during the last ten of which a high-frequency current is passed through the body from a glass vacuum electrode held in the hand. After the bath a sponge down is given preparatory to cooling off.

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[2] THE LANCET, Oct. 18th, 1902, p. 1043.

A good deal of work has been done on the physiological effect of electric light baths, notably by Kellogg[3] and M. Cleaves,[4] but, as in the bath under consideration, the two additional factors of the high-frequency current and the inhalation of ozone are introduced the results are not strictly comparable. Kellogg states that in the electric-light bath, sweating sets in earlier and is more profuse than in any other form of hot bath; that the elimination of CO_2 is greater; that there is a rise in body temperature during the bath; that there is an increase in the blood count—especially of the red cells—of from 10 to 20 per cent., which appears within half an hour and persists for some time and that in cases of marked anæmia the increase is usually permanent if daily application be made. Cleaves states that in some cases the hæmoglobin and corpuscles are increased but not in others. The bath was taken by two observers; by one four days in succession, by the other three days.

Effect on blood pressure.—The blood pressure always showed a great fall—greater than is usually obtained by exposure to a similar degree of heat in any other form of hot bath. The fall, however, is of brief duration, disappearing soon after the bath, e.g.:—

TABLE VII.

Subject A.

		Mm. Hg.	Body temperature.
Before bath	Radial pressure (sitting) ...	97 ...	96° F.
„ „	„ „ (recumbent)	87 ...	—
Bath; temperature of cabinet, 100° F.; that of surface of body exposed to light, 110° F.—			
In bath 5 minutes ...	Radial pressure (recumbent)	70 ...	—
„ „ 10 „ ...	„ „ „	60 ...	—
„ „ 15 „ ...	„ „ „	55 ..	100·0° F.
High frequency current passed through body—			
In bath 20 minutes ...	Radial pressure (recumbent)	50 ..	100·2° F.
5 minutes after bath ...	„ „ „	75 ...	99 8° F.
10 „ „ „ ...	„ „ „	80 ...	—
25 „ „ „ ...	„ „ (sitting)	95 ...	99 0° F.
40 „ „ „ ...	... ...	...	98·6° F.

Effect on the blood.—The immediate effect on the blood taken before and after the bath was to cause an increase in the number of erythrocytes which attained its maximum about half an hour after the bath.

TABLE VIII.

Subject A.

	Red corpuscles.
Before bath	98 per cent.
Immediately after bath	95 „
30 minutes after bath	104 „

The morning examination of the blood showed that the series of baths caused a slight decrease in the amount of hæmoglobin and a marked decrease in the number of the corpuscles, with a consequent striking rise in the value of the corpuscle: in Subject A, from 0·99 to 1·045; and in Subject B, from 0·986 to 1·07.

TABLE IX.

Subject B.

	Average of four free days.	Average of four light and ozone baths.
Hæmoglobin	107·8	105·3
Erythrocytes	109·2	98·3
Value	0 986	1·07

Subject A.

	Average of all free days (10).	Average of free days immediately preceding light and ozone.	Average of three light and ozone baths.
Hæmoglobin ...	94·3	97·0	95·2
Erythrocytes ...	94·1	98·0	90·7
Value	1·00	0·99	1 045

This conspicuous result raises the question, to which of the factors concerned is it to be attributed? It will be shown that the Dowsing radiant heat, which is essentially an incandescent electric-light bath, causes a fall in the value of the corpuscle—hence the rise obtained must be attributed to some other factor; and as the high-frequency current alone causes a slight but not marked rise the ozone remains the probable cause. To determine this point exposure to the ozonised atmosphere within the cabinet for 25 minutes daily was undertaken on three successive days without the electric light and the high-frequency current, and the blood was examined each morning and for three days previously. The result showed a rise in value from 0·986 to 1·043, thus clearly proving ozone to be the factor concerned. The blood examined before and after inhalation of the ozone showed an immediate rise in value, in one case of 7 per cent. after 35 minutes in the cabinet, in another of 4 per cent. after 25 minutes.

TABLE X.

Subject C.

	Value of corpuscle.
Average of three morning observations prior to ozone...	0·986
Average of three days' inhalation of ozone atmosphere 30 minutes each day	1·043

Subject C.

	Red corpuscles, per cent.	Hæmoglobin, per cent.	Value of corpuscle.
Before exposure to ozone ...	100	98	0·98
Immediately after 35 minutes' exposure	100	105	1·05
Subject A.			
Before exposure to ozone ..	98	95	0 97
Immediately after 25 minutes' exposure	98	99	1·01

The suggestiveness of this result in the treatment of [illegible] need no comment. [illegible] ence to Table VII. will show [illegible] raised about 2° F. during the bath. The effect of these baths on the urinary output appears to be slight. They produced in both subjects a diminution in the quantity of urine passed, a slight fall in the excretion of urea due probably to loss in the perspiration and a slight rise in the excretion of uric acid and phosphates, the sulphates being unchanged.

SUPERHEATED AIR BATHS—DOWSING-GREVILLE.

The Dowsing and Greville systems of applying very high temperatures to the [illegible] are too well known to req[illegible] Dowsing being a luminous heat supplied by ordinary incandescent lamps and the Greville a non-luminous heat engendered by the passage of an electric current through a large number of fine wires. The object of this investigation was to determine the effect of these baths on metabolism and the advantages, if any, possessed by one system over the other.

Dowsing radiant heat bath.—This bath was taken by two observers, A. and C., in both cases on four successive days and at a temperature of from 280° to 300° F. applied to the whole body for 30 minutes.

Effect on the blood pressure.—Like all hot baths the Dowsing produces a marked fall in arterial blood pressure but, as will be seen on comparison with the results obtained in the Greville bath, the fall is greater at a lower temperature when the factor of light is introduced.

TABLE XI.

Subject C.

		Mm. Hg.	Red corpuscles.	Temperature.
Before bath...	Radial pressure (sitting) ...	115 ...	98% ...	97·2° F.
„ „ ...	„ „ (recumbent)	105 ...	— ...	—
Bath (280° F.) to whole body for 30 minutes.				
In bath 20 minutes.	Radial pressure (recumbent)	65 ...	— ...	99·2° F.
5 minutes after bath.	Radial pressure (recumbent)	72 ...	94% ...	—
15 minutes after bath		— ...	— ...	99 4° F.
45 minutes after bath.	Radial pressure (sitting)...	107 ...	102% ...	97·8° F.

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[3] Cohen's System of Physiologic Therapeutics, vol. ix.

[4] New York Medical Journal, 1899.

Effect on the blood.—As will be seen in the above table the immediate effect on the blood is to cause a primary diminution in the number of corpuscles with a subsequent increase after the bath. The remote effect on blood examined on successive mornings is a marked reduction in the value of the corpuscle, in one case from an average of 1·00 to 0·973 (Subject A), in another from 1·002 to 0·957 (Subject C), as the result of 4 baths.

TABLE XII.

Subject A.	Average of free days.	Average during Dowsing	*Subject C.*	Average of free days.	Average during Dowsing.
Hæmoglobin...	94·3% ...	95·0%	Hæmoglobin	101·3% ...	95·7%
Erythrocytes	94·1% ...	92·5%	Erythrocytes	101·0% ...	100·0%
Value	1·00 ...	0·973	Value	1·002 ...	0·957

Effect on urinary constituents.—A marked reduction in quantity of urine and a slight reduction in urea and acidity were observed, and a marked increase in uric acid output and in phosphates.

TABLE XIII.—*Subject A.*

—	Average free days.	Average Dowsing baths.
Quantity	1251 c.c.	848 c.c.
Urea	32·01 grammes.	30·41 grammes.
Sulphates	2·21 ,,	2·19 ,,
Uric acid	0·687 ,,	0·776 ,,
P_2O_5	2·41 ,,	2·86 ,,
Chlorides	9·77 ,,	8·44 ,,
Acidity	3·22 ,,	2·54 ,,

Greville bath.—This bath was taken by Subject C. on four successive days at a temperature of 300° F. for 30 minutes. This temperature was more comfortably borne than a temperature of 280° in the Dowsing bath, the scorching sensation experienced in the latter being notably absent. Sweating in this Subject (C) began sooner and was more profuse in the non-luminous heat than in the luminous heat.

The effect on blood pressure is shown in the following table:—

TABLE XIV.

Subject C.

		Mm. Hg.	Body temperature.
Before bath	Radial pressure (sitting) ...	115 ...	97·4° F.
,, ,, ...	,, ,, (recumbent)	105 ...	—
Greville bath: reaching	250° F. in 13 minutes ...	— ...	—
,, ,, ,,	295° F. in 15 ,, ...	— ...	97·6° F.
,, ,, ,,	302° F. in 27 ,, ...	— ...	99·8° F.
In bath 32 minutes...	Radial pressure (recumbent)	80 ...	—
15 minutes after bath	,, ,, (sitting) ...	90 ...	98·6° F.
30 ,, ,, ,,	,, ,, ,, ...	100 ...	—
80 ,, ,, ,,	,, ,, ,, ...	112 ...	—

It will be seen that the reduction in blood pressure at a temperature of 300° F. in the Greville bath is not so great as that caused by a temperature of 280° in the Dowsing.

Effect on the blood.—A similar immediate diminution in the volume of the corpuscles took place during the bath with a subsequent rise about half an hour afterwards. The remote effect on the value of the corpuscle, however, differed from that obtained in the Dowsing bath, for a notable increase in hæmoglobin value was observed as the result of the four baths, the average value rising from 0·99 on the days prior to the bath to 1·02 on the bath days.

Effect on metabolism.—The following table gives the results obtained.

TABLE XV.—*Subject C.*

—	Average of free days (before bath).	Average, Greville baths.
Quantity	1190 c.c.	1320 c.c.
Urea	29·25 grammes.	29·62 grammes.
Sulphates	2·06 ,,	2·96 ,,
Uric acid	0·654 ,,	0·729 ,,
P_2O_5	2·17 ,,	2·45 ,,
Chlorides	11·13 ,,	11·65 ,,
Acidity	3·57 ,,	3·14 ,,

Contrasting these results with the Dowsing bath it will be seen that the quantity of urine is markedly increased. Now an increase of urine is usually accompanied by an increased excretion of urea, which, however, as the result of the baths, is not apparent in the table. There was, therefore, probably a relative diminution in the quantity of urea excreted by this channel. The uric acid was markedly increased, as occurred with the Dowsing bath, and an increase was observed in the sulphates and phosphates. It will therefore be seen that the great circulatory changes induced by both forms of baths have a marked effect in modifying the metabolic processes.

Comparing the results obtained from the two baths respectively it would appear that the effects common to both are an initial reduction of the volume of the corpuscles with a subsequent increase and a marked plus excretion of uric acid. On the other hand, the most important points of dissimilarity lie in the reduction of hæmoglobin value of the blood by the Dowsing bath and its increase by the Greville bath, and in the greater fall in blood pressure induced by the former than by the latter at corresponding temperatures. The explanation of these points of difference is not obvious. The only factor present in the Dowsing system, beyond those at work in the Greville system, is the presence of the light rays; these, however, do not impinge directly upon the skin —a layer of lint intervening through which they must pass before reaching the surface.

It has been shown by one of us[5] in experiments performed on the dog that luminous heat causes a greater reaction at a lower temperature and raises the body temperature both local and general, to a greater degree than the non-luminous heat. The hind limb of a dog was exposed to a temperature of 250° in the Dowsing box for 45 minutes, at the end of which time the temperature of the venous blood returning from the limb had risen from 95·8° to 111°, and the general temperature of the body from 95·8° to 99·3°. A similar experiment performed with the non-luminous heat by the Greville system at a temperature of 300° for 45 minutes (i.e., 50° higher than the Dowsing bath) caused a rise of only 6·6° in the venous blood returning from the limb, and a rise of 1·8° in the general body temperature.

BERTHE AND VICHY BATH.

This bath was taken by Subject A on four successive days. It was investigated, since it is a bath in frequent use in this country and on the continent for chronic gout and other nutritional disorders. The bath consists of a preliminary exposure to steam heat at a temperature of 120° F. for 15 minutes in the Berthe box—a closed cabinet in which the patient sits with his head protruding through an aperture in the top. This proceeding is then followed by massage administered for 20 minutes in the recumbent posture under a spray douche of from 98° to 100° projected upon the patient from a bracket suspended above the table and pierced by innumerable pin-holes. A needle douche begun at 98° and gradually reduced to cool or cold completes the bath, after which the patient rests for half an hour or more till perfectly cool.

Effect on blood pressure.—The following table will illustrate the changes which take place in blood pressure:—

TABLE XVI.

Subject A.

		Mm. Hg.
Before bath	Radial pressure (sitting)	95
After 15 minutes in steam box at 120° F.	,, ,, ,, ...	75
After 20 minutes' massage and one minute in needle bath reduced from 98° to 55° F.	,, ,, ,, ...	110
5 minutes after	,, ,, (recumbent)	85
15 ,, ,, ...	,, ,, (sitting)	107
30 ,, ,, ...	,, ,, ,, ...	105

It will be seen that the net effect is a rise in blood pressure, which may help to explain the notably invigorating properties of this bath.

Effect on the blood.—The remote effect on the blood was to cause a slight rise in hæmoglobin value from 1·01, average on the three days prior to the baths, to 1·02, average on the four days on which the bath was taken.

Effect on metabolism.—The effect on metabolism was not marked, as might have been expected, a slight rise in the urea, sulphates, and uric acid being noted.

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[5] Bain: Journal of Balneology and Climatology, April, 1900.

TABLE XVII.—*Subject A.*

—	Average three free days.	Average four days (Berthe and Vichy).
Quantity	1141 c.c.	1087 c.c.
Urea	32·18 grammes.	33·10 grammes.
Sulphates	2·06 ,,	2·19 ,,
Uric acid	0·686 ,,	0·695 ,,
P_2O_5	2·46 ,,	2·37 ,,
Chlorides	6·76 ,,	7·80 ,,
Acidity	3·05 ,,	2·95 ,,

PEAT BATHS.

The material for these baths is obtained from the moors in the neighbourhood of Harrogate and consists of peaty earth highly charged with organic acids and containing a small proportion of iron. It is mixed to the consistence of thick pulp and raised by steam to a temperature of from 98° to 104° F. The duration of the bath was 20 minutes: it was taken by Subject B. on three successive days. The main object was to ascertain its effect, if any, on metabolism. Its effect on the blood pressure and on the blood was found to be the same as that of plain water at the same temperature.

Effect on metabolism.—The effect on the urinary output was as follows. A marked diminution in the quantity of urine passed was noted and in the excretion of urea, the other constituents showing no distinctive change. (*Vide* Table XVIII.)

TABLE XVIII.—*Subject B.*

—	Average excretion of free days.	Average excretion, three peat baths.
Quantity	1206 c.c.	957 c.c.
Urea	33·51 grammes.	30·94 grammes.
Sulphates	2·03 ,,	1·96 ,,
Uric acid	0·501 ,,	0·494 ,,
P_2O_5	2·19 ,,	1·89 ,,
Chlorides	9·42 ,,	8·46 ,,
Acidity	2·82 ,,	2·27 ,,

THERMAL SULPHUR BATH.

The so-called thermal sulphur bath is the strongest form of natural sulphur bath administered at Harrogate and consists of the pure sulphur water, undiluted, raised to the required temperature by passing through a "therma" or heating apparatus of coiled tubing. It contains about 235 grains per gallon of total solids, consisting chiefly of chlorides and carbonates of sodium, calcium, and magnesium, the chloride of sodium being largely in excess and the carbonates forming relatively a very small proportion of the whole. Sulphur occurs in the bath in the form of sodium sulphydrate, amounting to about two grains per gallon, and as sulphuretted hydrogen gas, about two cubic inches per gallon. It is the staple bath at Harrogate and was investigated to determine whether any effect on metabolism could be detected as the result of a short series. It was taken by Subject C on four successive days at a temperature of 98° F. for 20 minutes. No appreciable effect was observed on the urinary constituents beyond a marked increase in the quantity voided, though possibly a more prolonged trial might be found to have a more distinctive influence.

SUMMARY OF RESULTS AND THERAPEUTIC INDICATIONS.

The high-frequency current since its introduction has been used in the treatment of a great variety of affections, both local and general. Among the general affections may be mentioned gout, chronic rheumatism, obesity, diabetes, neurasthenia and hysteria, anæmia and chlorosis, phthisis [illegible] on of the stomach, and chronic [illegible] ffections, skin diseases—such as [illegible] psoriasis, chronic eczema, acne rosacea, rodent ulcer, chronic callous ulcer, pruritus ani and vulvæ—and local affections of the nerves—such as sciatica, neuralgia, local neuritis—are frequently treated by this form of electricity. In the treatment of hæmorrhoids good results are obtained from its use.

The physiological action of the current in its general application tends to confirm its use in cases of nutritional disorders, such as chronic gout, chronic rheumatism, and obesity, by reason of the changes effected in blood pressure and the stimulus given to metabolism, as shown by the plus heat production, the plus excretion of urea, of uric acid, and of CO_2, and the loss of weight. The rise produced in the hæmoglobin value of the corpuscle points to its use in the above cases when anæmia is a prominent symptom and also as a useful adjunct in cases of simple anæmia and chlorosis. T[illegible] istriped muscle fibre excited by [illegible] the method in cases of atony [illegible] y also account for the striking results sometimes observed in the shrinking and disappearance of hæmorrhoids after repeated applications. The evidence for its real value in cases of diabetes and phthisis does not appear to rest upon a sufficiently large number of cases to carry conviction as to its superiority over other modes of treatment. With regard to its action in local affections of the nerves and skin the foregoing results offer no evidence for or against. In our judgment, after considerable experience of the methods, the results obtained from the local application of the current are, on the whole, more favourable than those obtained from its general use.

Electric immersion baths are used largely to induce restoration of contractile power in cases of muscular weakness or atrophy resulting from nerve lesions or essential muscular dystrophy; and in cases of neurasthenia and the latent form of hysteria. They are also useful as a general tonic measure in cases presenting no definite disease but suffering from slackness and want of tone. It is also claimed that they exercise a favourable influence in cases of chronic gout, with or without local manifestations of the disease. The fibrillary muscular contraction excited by the current furnishes a basis for its use in the first class of cases. To this muscular contraction is probably due the inhibition of the fall in blood pressure that would otherwise result from the effect of the warm bath; and this may account to some extent for the tonic and invigorating effect experienced after the bath. The results obtained on metabolism are not sufficiently striking to justify the frequent employment of these baths in cases of chronic gout unless the slight increase in elimination of urea and uric acid which followed the constant current may be considered an indication in this direction.

The light and ozone bath.—The introduction of the factors of the inhalation of ozone and the passage of the high-frequency current differentiate this bath from the ordinary electric-light bath. The striking results obtained on the hæmoglobin value of the blood point to its use in cases requiring sweating baths, in which anæmia is present, and further tend to show that the daily breathing for a stated time of air highly charged with ozone may be a useful auxiliary measure in the treatment of intractable cases of chlorosis and secondary anæmia.

The Greville and Dowsing baths are both used for much the same class of cases and their application may be considered under the head of general to the whole body and local to various parts. Touching their general application for the cure of diseases other than those affecting the joints, much more is claimed for them than we think can be substantiated. Thus they have been advocated for the cure of phthisis, chronic bronchitis, asthma, chronic kidney disease, heart disease, anæmia, dyspepsia, obesity, chronic alcoholism, skin diseases, and others, in each of which good results are said to have been obtained by one or other system. In some of these, as for instance, chronic kidney disease, the indications are clear for their use. In others, though a few cases of each are recorded as having derived benefit, the evidence is not sufficiently strong to warrant the supersession by these baths of better known and longer tried methods. It is in the chronic general diseases of which the prominent manifestation is arthritis that they are of most service, such as gout, rheumatism, arthritis deformans, gonorrhœal rheumatism, and especially in local affections of the joints, fibrous tissues, or nerves, such as chronic arthritis (gouty, rheumatic, traumatic), sprains, lumbago, sciatica, neuritis, and neuralgia. In these conditions better results are obtained and are probably to be accounted for by the profound alteration in nutrition which results from the marked variations in blood pressure produced and from the rapid changes that take place in the volume of the blood—alterations in nutrition which are in part evidenced by the considerable changes that occur in the excretion of urea and uric acid. Whether one system presents any real advantage over the other we are not prepared to say.

The Berthe and Vichy bath.—This is chiefly used in cases of chronic gout and rheumatism or in functional derangement of the alimentary tract. The initial lowering of blood pressure by the steam heat and its subsequent restoration after the full bath excite changes in the volume of the blood and changes in the relation of blood plasma to tissue fluid, effects which are aided by the vigorous massage administered and which result in the liberation of waste products from the tissues and their elimination from the body. The urinary constituents do not show as marked a change as has been previously found by us to result from a similar bath, the Aix douche,[6] in which there is no preliminary steam bath; and the difference is probably to be accounted for, at least in the case of urea, by the fact that some of the urea is carried off in the perspiration excited in the Berthe box.

The peat baths.—These are largely used in cases of chronic pelvic disorder of an inflammatory nature. Their action, which resembles that of a wide-spread poultice, materially aids in the absorption of effused products. They are also used for cases of chronic intractable rheumatism and gout and in local manifestation of these disorders, such as lumbago or sciatica. The results obtained by us are not conclusive enough to indicate strongly in which direction they are likely to be of service.

The thermal sulphur bath.—These baths are largely used at Harrogate in the treatment of gout, rheumatism, and functional derangements of the liver and also for their local action on the skin in cases of skin disease. In the former, as well as the latter, experience shows that they are of undoubted value, though their mode of action is by no means clear. Apart from their marked effect upon blood pressure, which has been previously shown,[7] this investigation proved nothing conclusive as to their influence on metabolism.

In conclusion, we wish to record our appreciation of the courtesy shown to us by Mr. A. H. Marshall, the chairman, and the late Mr. A. H. Davis, the manager of the Royal Baths, in affording us facilities for the use of the baths during the investigation.

A CASE OF EXTENSIVE CUTANEOUS DIPHTHERIA WITH AN EXAMINATION OF THE NERVOUS SYSTEM.

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THAT diphtheria may attack a wound and lead to death by systemic poisoning is a familiar fact to every medical practitioner. The following case, however, presents several points of interest and from its extent and pathological characters vividly recalls to mind those cases of cutaneous diphtheria which were so common during the epidemics of the early part of the nineteenth century and concerning which the physicians of that period wrote but which are now comparatively rare and almost forgotten. We have, therefore, by the courtesy of Dr. E. W. Goodall, taken the opportunity of placing it on record.

Before Bretonneau's time Chomel[1] in 1759, Starr[2] in England and Samuel Bard[3] in America in 1771 had drawn attention to a membranous affection of the skin. Bretonneau in his first memoir gives examples of this affection and demonstrates that diphtheria in whatever locality it occurs in the body has everywhere the same characters. In 1828, during the epidemics at Sologne, Trousseau and Ramon[4] collected many cases which are described with great care. According to Trousseau diphtheria never develops on the skin unless the latter is previously deprived of its epidermis or ulcerated and the lesions which he has found to be affected with diphtheria are blisters, leech-bites, cuts, herpes, cracks of the breast, excoriations of the genital organs, of the ears, of the hairy scalp, of the nose, of the anus, and different wounds. He describes a case in which the vulva and the skin of the folds of the thighs were affected and which appears to have been very similar to our own. The commonest starting-point appears to have been in a blister applied to the neck.

With regard to the pathological appearances of a wound affected with diphtheria Trousseau says that it first becomes painful, a "colourless fœtid serosity" escapes, and a thick greyish flabby membrane appears on the surface. The edges of the wound are swollen and violet-red in colour. The disease does not usually extend but remains stationary for months. When the *epidermis alone is removed* the raw surface becomes covered with a white membrane and a kind of "erysipelas" soon develops round it. On the surface of the latter the epidermis is elevated in many points by small masses of "lactescent serosity." The vesicles thus formed run together and burst, the exposed dermis being then covered with a white membrane. These new centres join to the main centre and to each other and so the disease spreads. The pellicular concretions gradually become thicker and the most exterior layers become softened, putrid, greyish-black, and fœtid. In one case he saw gangrene attack the part. The invasion generally takes place from the superposed parts towards the dependent parts, this probably being due to the irritation of the serous secretion. He has seen it commence on the hairy scalp and spread to the loins. When the disease extends rapidly the fever may be very acute but it is usually like the hectic fever accompanying suppuration. The patients died after the manner of those suffering from malignant diphtheria. Daviot[5] states that he had most commonly seen cutaneous diphtheria occur *spontaneously*, although Trousseau maintains that it is always preceded by a breach of surface.

The preceding remarks are quite sufficient without any further references to the literature to show that cutaneous diphtheria was a frequent and fatal affection during the epidemics of that period and that it was liable to be very extensive.

In the case under consideration the patient was sent to the Homerton Fever Hospital on Sept. 30th, 1903, by Mr. A. F. Cole, certified to be suffering from diphtheria. Mr. Cole gave the following history of the case: "The patient, a female child, aged one and a half years, was brought to the out-patient department of the Mildmay Mission Hospital, Bethnal Green, E., on Sept. 29th, 1903. The mother stated that there was a 'sore' in the left groin which had been increasing gradually for seven days: that it had come 'by itself,' and even on careful inquiry *no history of any scratch or wound of any kind could be obtained*; her brothers and sisters were quite well. On examination there was a gangrenous patch with sinuous edges and about three by two inches in extent surrounded by an inflammatory areola about half an inch in width. It commenced in the groin where the site of ulceration was occupied by a blackish scab and was apparently spreading upwards mainly on the abdominal wall. This more recent ulceration showed what were evidently sloughing portions of skin of a dirty white colour. There was nothing to be seen approaching the appearance of a membrane and the edges gradually merged into healthy skin, but in the more central portion the loss of substance was considerable. The left labium majus was greatly swollen but no trace of ulceration could be found upon it. No glandular enlargement was observed. The child did not seem to be very ill at this time; dressings saturated with 1 in 4000 biniodide of mercury were applied and she was taken home. On seeing the child again that evening she was admitted to the children's ward. Within one hour of her admission smears and cultures from the surface of the gangrenous patch were taken. The smears revealed typical bacillus diphtheriæ and the same organism was grown in pure culture upon the serum."

Journal of Physiology, vol. xxiii., 1899.

Effect of Baths, Massage, and Exercise on T, June 10th, 1899, p. 1652.

Clinique Médicale, tenth edition, book i., p. 472.

[2] Quoted by Bretonneau, First Memoir, New Sydenham Society, 1859, p. 18.

[3] Ibid.

[4] Dictionnaire de Médecine, 1835; Archives Générales de Médecine, 1830, tome xxi., p. 541, and tome xxiii., p. 383.

[5] Relation d'une Épidémie de Diphthéropathie, Gazette Médicale, 1846, p. 178.

The following is a brief *résumé* of the course of the disease obtained from the Fever Hospital notes: "On admission to the Homerton Fever Hospital the lesion was seen to be limited to the left iliac region and upper part of the thigh, extending from the upper limit of that region to a line [illegible] inches below it. [illegible] in outline. There [illegible] and the left labium majus was swollen, red, and tense. There were no vaginal discharge and no fœtor. There were a few scattered ulcers about the size of split-peas in Scarpa's triangle below the general mass of ulceration. The child was pale; pulse regular and of good size and tension; temperature 97° F.; fauces pale and clean. 12,000 units of antitoxin were given and local treatment was applied. Cultures taken from the lesion showed the bacillus of diphtheria growing quite pure. The bacilli were mainly of the long variety. Oct. 1st: The [illegible] t and several times during [illegible] rectum and the vomiting [illegible] set in. The local lesion [illegible] vomiting was profuse and persistent and the urine was loaded with albumin. The wound was clean and granulating. From Oct. 5th to 18th: The child vomited persistently. Oct. 28th: The patient was very pale and losing flesh rapidly. There was no obvious palsy but the child was very limp and helpless. Oct. 30th · Face without expression. Breathing jerky and irregular. No obvious palsy. Knee-jerks not obtainable. On Nov. 1st the following note was made: 'The child is lying in an absolutely helpless state, unable to move its legs which remain in whatever position they are placed. The arms, hands, and fingers can be moved slightly. All the muscles are flaccid and wasted. The knee-jerks cannot be obtained and the superficial reflexes are absent. The child can swallow. The respirations are jerky, with sucking in of the abdomen and [illegible] *is of the* diaphragm. T[illegible] now and then. The wo[illegible] healed.' The child died at 10 P.M. on the same day (the forty-first day of the disease)."

Pathological examination.—A post-mortem examination was performed on the morning after death. The local lesion consisted of a patch of healthy granulation tissue about three-quarters of a square inch in extent and surrounding this was a narrow zone of thin very slightly contracting cicatricial tissue. The scarring [illegible] lesion had been much more [illegible] ance at the beginning had sug[illegible] had left no scars. The body was thin and emaciated. All the vital organs appeared healthy to the naked eye.

Histological report.—The heart was fixed in Muller's fluid and stained by Marchi's method. It showed a small amount of fatty degeneration comparable in extent with that found in a case of diphtheria proving fatal at this stage of the disease. *There were no increase in the connective tissue of* the heart and no intermuscular infiltration. The heart failure in this case was secondary. The amount of degeneration would probably not have given rise to any symptoms of heart failure except as the result of some strain. This is the usual course of events in diphtheria, death from heart failure in the *later* stages of that disease being secondary to a general failure of the nutritive processes, to some complication, or to some strain which the weakened heart is unprepared to meet. Extensive fatty degeneration was present in the liver but in no way to be compared with the almost total degeneration [illegible] which occurs in many fatal cases of late [illegible] the vast majority which were normal. On the whole, each region of the central nervous system examined was regarded as practically normal. The vagi, phrenics, median, intercostal, and anterior crural nerves were examined. All these nerves were normal except the anterior crural and here [illegible] but a small portion of the visible fibre. The changes consisted of cloudy swelling, the fibres being irregular in outline and finely granular in appearance. Many fat globules were seen and in these cases the myelin sheaths were completely broken up. In many fibres the axis cylinders were irregular in outline, in *some places swollen and in others broken across. The* majority of the degenerated fibres were lying singly in the middle of bundles of normal nerve fibres.

As mentioned at the beginning of the paper this case is interesting from the point of view of the rarity of this type of the disease nowadays and important in that it might easily have been undiagnosed except for a prompt bacteriological examination. As far as we are aware this is the first case which has been examined histologically and the findings agree with those which might have been expected to occur in a case of diphtheria proving fatal at a late period of the disease. The results of the pathological examination also afford confirmation of the fact that in the later stages of diphtheria very little fatty degeneration of the heart or degeneration of the cells of the central nervous system *is to be found but that degeneration of the peripheral* nerves is quite likely to be met with, whereas in cases dying from acute diphtheritic toxæmia extensive fatty degeneration of the heart and acute degeneration in certain cells of the central nervous system are the rule. This question has recently been discussed by one of us (C. B.) in THE LANCET[6] and therefore will not be entered into in this paper. Whether this was a case of primary cutaneous diphtheria or a diphtheritic infection of a previous lesion must remain an open question.

TUMOUR OF THE RIGHT CAUDATE NUCLEUS AND FRONTAL LOBE.

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THE following case of a glio-sarcoma of the caudate nucleus and prefrontal lobe of the right side appears to us to be of sufficient clinical *interest to be put on record, not only* on account of the difficulty of arriving at a definite diagnosis but also on account of the peculiar set of signs and symptoms *exhibited by the patient.* The degree of difficulty in the localisation of tumours of the cerebrum varies with the site, and the difficulty is very much greater if the tumour should be situated in those parts of the brain to which the name of "silent areas" has been applied. The prefrontal lobe has generally been considered to be one of these areas. It has been pointed out by many observers that a lesion of *the frontal lobe does give rise to a fairly* well-defined group of symptoms. In a most interesting and instructive paper in THE LANCET of Feb. 8th, 1902, p. 363, Dr. W. Elder and Mr. A. Miles have recorded a case of tumour of the left prefrontal lobe successfully removed by operation and they have fully discussed the diagnosis and symptoms observed in their case. The perusal of this paper gave great assistance in arriving at an opinion of the true nature of the condition of our patient. The symptoms observed in lesions of the frontal lobe they consider to be produced by "an interference with inhibition, with attention, and with judgment, which are probably the highest functions of the brain, rendering man pre-eminent amongst living creatures."

The patient, a man, aged 35 years, was an engineer [illegible] from England to [illegible] of syphilis, alcohol, or mental troubles. On the arrival of the ship in Calcutta on Feb. 20th, 1904, the patient was admitted to the General Hospital for pain in the right side of the head and *fits of giddiness.* He was found to have some loss of memory, particularly with regard to recent events, and to have lost in a great measure all sense of decency and shame. While in hospital he improved to some extent and left to rejoin his ship, but was taken ill immediately again and was brought to the Medical College Hospital and admitted on April 5th, 1904.

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[6] THE LANCET, Feb. 4th, 1905, p. 278.

On admission the patient, who was a strong, powerfully built man, was very dull and slept practically all the time. He could be roused easily enough but was very slow in answering questions and evidently could not keep his attention fixed on any one subject for any length of time. On being left alone he immediately went to sleep again. On being questioned as to where he was he always replied "in the General Hospital," although repeatedly informed that he was in the Medical College Hospital. Hearing was normal; there was no aphasia and cerebration appeared to be slow and deliberate. Reading and writing could not be tested, as he refused to oblige us. There was paresis of the lower part of the face on the left side and of the left arm and leg; there were no sensory symptoms. The reflexes were lost; there were no ankle clonus and no trophic disturbance. The patient could only walk a few steps and then by throwing most of the weight of the body on the right side; he was distinctly unsteady in his movements and he showed a great tendency to fall to the right when sitting up in bed or on attempting to walk. He complained of headache all the time, which was limited to the frontal region of the right side. The skull over the right frontal lobe was painful and tender on percussion and appeared to be slightly swollen. There were no real involvement of the sphincters of the rectum and bladder, no vomiting, and no optic neuritis; the bowels were constipated. He still took a marked interest in his food, though listless and apathetic to a marked degree concerning everything else. With regard to the circulatory system the heart was normal and the pulse was slow and regular and of moderate tension; there were no signs of atheroma. The temperature was 98° F. and continued normal till after the operation. The other systems were normal.

As to the progress of the case there was a steady increase in the dulness and apathy and on April 8th he passed urine and fæces in the bed, probably not from any real loss of control of the sphincters but from carelessness regarding the impropriety of doing so. On the 12th his bowels were moved with difficulty and he began to have some trouble in swallowing. By the 19th the lethargy passed into stupor and he could only be awakened with great difficulty; all desire for food also seemed to have gone. The paresis did not become any more marked and there was never any real paralysis. The tenderness and bogginess over the right frontal region increased and he always winced on percussion over it. The chief points on which we had to rely for a diagnosis were headache, giddiness, loss of memory, loss of modesty and sense of decency, slight paresis of the left lower face, arm, and leg, listlessness and apathy, slowness of pulse, with persistent normal temperature, and tenderness over the right frontal region. Speaking generally a picture such as this points to increased intracranial pressure. The diagnosis had to exclude hæmorrhage, embolism and softening, dementia and atrophy of the brain, and abscess.

A. Against hæmorrhage we had: (1) the gradual development of the symptoms; (2) the loss of memory and mental symptoms developing first; and (3) absence of any associated lesions—e.g., albuminuria, high-tension pulse, hypertrophied left heart, atheroma, &c.

B. Against softening due to embolism or thrombosis. Embolism is excluded for the same reasons as hæmorrhage and the absence of any endocarditis or septic condition still further supports its exclusion. Thrombosis may be excluded from the absence of any history of syphilis, starvation, malaria, no general paralysis of motion or sensation, and the age of the patient.

C. Dementia and gradual involution of the nervous system, beginning in the psychical centres, might have explained the case but the history of the case and the short duration of the symptoms were sufficient to exclude dementia.

D. Against abscess we had: (1) no evident source of infection—ear disease, pyæmia, &c.; (2) persistent slowness of the pulse with normal temperature; and (3) no history of injury, &c.

E. In favour of tumour we had: (1) the gradual onset and steady increase in severity of the symptoms, indicating a gradual increase in the intracranial pressure; (2) the persistent headache, slow cerebration, and lethargy; (3) the slowness of the pulse, with normal temperature; and (4) the paresis of the left side of the body. Against this view was the fact that some of the most important signs of tumour of the brain were absent, more particularly vomiting, optic neuritis, and loss of reflexes, in what was considered a lesion of the upper motor segment.

With regard to the locality we had the following localising points: (1) paresis of the left lower face, arm, and leg; (2) the peculiar mental symptoms; (3) headache chiefly confined to the right frontal region; and (4) tenderness and bogginess of the same region. The paresis pointed to an implication of the fibres passing from the Rolandic area to the internal capsule, and as the paresis was very imperfectly developed we considered that the pressure of the tumour backwards was limited. That the cortex was not involved was evidenced by the fact that there were no convulsions, no aura, and no epilepsy. The peculiar mental symptoms—loss of memory, apathy, loss of sense of shame, loss of inhibitory power—we thought to be strong evidence of the lesion being situated in the frontal lobe. All these symptoms are intimately associated with abolition of the functions of the frontal lobe and are largely due to a loss in the power of inhibition of the individual, so that the patient is reduced almost to the condition of an animal deprived of its cerebrum. These points are extremely interesting in our case, as from a perusal of the literature of the subject one would be inclined to consider the left prefrontal region of more importance than the right as far as the above functions are concerned. (At the time we took pains to make sure that the patient was right-handed.) Allan Starr, from a study of the cases recorded of this region, concludes: "The form of mental disturbance in lesions of the frontal lobe does not conform to any type of insanity. It is rather to be described as a loss of self-control and a subsequent change of character. The mind exercises a constant inhibitory influence upon all action, physical and mental, from the simple restraint on the lower reflexes, such as the sphincters, to the highest control over the complex reflexes, such as emotional impulses and their manifestation in speech and expression. This action of control involves judgment and reason—the highest mental qualities. Thus we would expect the partial destruction of the frontal lobes to be accompanied by errors of judgment and reason of a striking character; one of the first manifestations would be a loss of that self-control which is the constant accompaniment of mental action and which would be shown by an inability to fix the attention to follow a continuous train of thought or to conduct intellectual processes. It was this very symptom that was present in one-half of the cases collected. It did not occur in lesions of any other part of the brain."

The absence of vomiting in our case may be due to the fact that the tumour was situated so far forward; as the nearer the tumour is to the vomiting centre in the medulla the greater the tendency to vomit. Our patient was examined for optic neuritis on admission, before the increase in intracranial pressure was marked, which may account for its absence. On the above evidence a definite diagnosis of tumour of the frontal lobe of the right side was made and the patient was transferred to the surgical side with a view to operation. On April 21st Captain Thurston opened the skull over the area of the tenderness; further than an evident increase in the intracranial pressure nothing abnormal appeared on the outer surface of the brain. An incision was made in the cortex and a finger inserted and the brain around was gently and carefully palpated for any mass but nothing was found. Although nothing could be discovered during the operation of the nature of a tumour, the diminution of the intracranial pressure alleviated the more pressing symptoms. Consciousness returned and the patient could answer questions and he made marked use of his arms, wiping his mouth with the sheet after coughing. He still passed urine and fæces in bed. Next day there was a good deal of coughing and expectoration. He tried to undo the bandages. He vomited and the temperature rose to 101·5°. On the 24th he became unconscious; his temperature was 103·2°. He never recovered consciousness and died on the evening of the 26th.

Necropsy.—At the post-mortem examination the following was the condition of the brain. 1. The right ventricle was distended with fluid and dilated anteriorly, bulging forwards into the frontal lobe. 2. The floor of the right ventricle showed a reddish-brown tumour of the corpus striatum, projecting into the cavity of the ventricle and pushing the third ventricle over towards the left. 3. The left ventricle contained excess of cerebro-spinal fluid. Nothing else abnormal was found. The tumour was a glio-sarcoma of the caudate nucleus, rapidly growing and projecting into the frontal lobe, pressing on and infiltrating the bundles of fibres coming from the frontal lobe to the internal capsule. The posterior part of the tumour was pressing on the internal capsule and would thus account for the motor paresis. The greatly increased amount of cerebro spinal fluid with the accompanying increase in intracranial pressure explained the gradually increasing stupor. The several connexions of the frontal lobe with other parts of the brain would assist in explaining the mental condition of our patient. Our reason for recording this case is to add another to the list of lesions of this region already reported, where it has been possible to localise the site of the lesion before death.

TWO CASES OF TETANUS TREATED BY ANTITETANIC SERUM.

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As the serum treatment of tetanus is still on its trial I think that no apology is needed for the following brief records of two cases which have recently been under my care in the Royal City of Dublin Hospital.

CASE 1.—The patient, a male, aged 34 years, was admitted to hospital on Oct. 31st, 1904, suffering from severe burns of both hands and legs, the result of his bed taking fire from the ashes of his pipe while he was asleep. He was found by his wife unconscious in bed with the bedclothes smouldering. Both hands and wrists were severely burned, three fingers on the right and two fingers on the left hand being completely destroyed. The burns on the lower extremities were less severe and were situated chiefly around the ankles and heels. After admission the temperature [illegible] to 101° on the fourteenth evening but came down the next morning.

On Nov. 16th—that is, the seventeenth day after the accident—the patient complained of some stiffness of his neck. During the day this increased and in the evening there were some stiffness of the jaws and difficulty in opening the mouth fully. He was removed to the observation ward and powders containing 30 grammes of chloral hydrate and one drachm of bromide of potassium were ordered to be given by the rectum every six hours. On Nov. 17th the patient had frequent spasms during the day, chiefly affecting the abdominal muscles and lasting only two or three seconds; he was given a subcutaneous injection of [illegible] the mo[illegible] up, hea[illegible] able to [illegible] P.M. wa[illegible] had very frequent spasms. While under observation he had 31 distinct spasmodic contractions of the abdominal muscles in two minutes; after this chloroform was administered to induce sleep. He slept only at short intervals for about four and a half hours. On the 18th the temperature was 103·4°. He had constant spasms. Ten cubic centimetres of antitetanic serum were injected into the spinal canal by lumbar puncture. The spasms became more severe and the patient died at 1 P.M. [illegible] an hour before [illegible] termination.

[illegible] mitted to hospital on the evening of March 9th, 1905, complaining of stiffness of the jaws and difficulty in swallowing. Three weeks before he got a splinter of wood under the nail of his right middle finger; it was removed at once and on admission the wound was completely healed and [illegible] unday, March 5th, pr[illegible] ident, the patient fir[illegible] ecame worse and pa[illegible] The bowels had not been opened since the previous Monday. He was unable to swallow anything except liquids. On examination [illegible] unable to open [illegible] could only be [illegible] contraction of [illegible] raction of the abdominal muscles were present. There were no stiffness or contraction of the muscles of the extremities and no spasms. The temperature on admission was normal and remained so throughout his stay in hospital.

The patient was ordered a large simple enema which had a very good result. He was ordered powders containing one drachm of bromide of potassium and half a drachm of chloral hydrate by the rectum every six hours. On March 10th he had slept for six and a half hours during the night. He felt better except for the stiffness of the neck which had increased. Ten cubic centimetres of Pasteur's antitetanic serum were injected subcutaneously. He passed a quiet day, he had no spasms, and his neck was less stiff in the evening. In the evening one slight spasm was observed while the patient was half asleep. On the 11th he had slept well during the night and was feeling better though his neck seemed stiffer. Ten cubic centimetres of antitetanic serum were injected. He slept a good deal during the day. On the 12th he had slept all night. His neck was still very stiff. The abdominal muscles were very hard and well-marked opisthotonos was present. Ten cubic centimetres of antitetanic serum were injected. He was better able to open his mouth. On the 13th he had slept well all night. Ten cubic centimetres of antitetanic serum were injected. The patient was given some bread soaked in milk and beef-tea which he swallowed without difficulty. He was feeling much better, though the stiffness of the neck still continued and there was pain in the chest on drawing a deep breath. On the 14th he had slept all night. He had no pain in the chest, his neck was less stiff, and he was able to open his mouth better. The powders were ordered to be given every eight hours. From this time onwards the course of the case was uneventful, though the contraction of the abdominal muscles and the stiffness of the neck disappeared very slowly. On March 24th the powders were stopped and on the 31st the patient was allowed out into the grounds and was discharged on April 7th.

These two cases present a marked contrast to one another. In both the incubation period was long, in the first case 17 days and in the second case probably 18 days. In both the temperature was normal on the first appearance of the symptoms, in the second case it remained normal throughout the course of the disease; but in the first case after a preliminary fall it rose rapidly through 10·2° in 20 hours. In both cases the treatment was the same—i.e., injection of serum and the administration of large doses of bromide of potassium and choral hydrate by the rectum. In the one case death occurred within 60 hours of the onset of the first symptoms whereas the second patient recovered. In the first case the spasms were both frequent and severe, while in the second only one was observed. Case 1 may, I think, be regarded as hyperacute in spite of its long incubation period and Case 2 was certainly chronic. The only conclusion that I can draw from these two cases is that the result was due to the degree of infection and was not materially altered by the treatment.

Dublin.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Bacillus Influenzæ as a Cause of Endocarditis.—Gonococcu Endocarditis.—The Vitality of the Typhoid Bacillus in Shell-fish.

A MEETING of this society was held on April 18th, Dr. E. KLEIN, Vice-President, being in the chair.

Dr. T. J. HORDER read a paper on the Bacillus Influenzæ as a Cause of Endocarditis and dealt with two cases of influenza septicæmia in which the bacillus was cultivated from the blood. The first case was that of a man, aged 31 years, who was admitted to St. Bartholomew's Hospital in May, 1904. Blood cultures were undertaken upon four separate occasions and were positive each time. Some of the cultivations obtained consisted of very large numbers of colonies, as many as 100 per cubic centimetre of blood. The method adopted was to puncture a vein with a sterilised needle attached to a five cubic centimetre glass syringe and to inoculate broth and agar tubes immediately. The morphological and cultural characters of the organism obtained were those of the bacillus influenzæ, as described by Pfeiffer and others. Post-mortem [illegible] the diagnosis which had been arrived [illegible] was a single mass of vegetation [illegible] left auricle which yielded a good growth of the influenza bacillus on cultivation. Sections through the endocardium also showed masses of bacilli. The second case was that of a boy, aged 13 years, who was admitted to the Great Northern Central Hospital in November, 1904. Blood cultures were undertaken twice and each time a good growth of the bacillus influenzæ was obtained. This case also was fatal. The diagnosis was again confirmed by obtaining the organism from a single large vegetation which projected into the mitral orifice. In the first case the diagnosis had been arrived at by blood culture six weeks, and in the second case five weeks, before death. In both cases a marked leucocytosis occurred. Extensive investigations were made into the cultural properties of the organism. The pathogenicity was also tested in several animals but no positive results were obtained. No other organism was demonstrable either in the blood cultures or in the hearts post mortem. Several lantern slides were shown.—Dr. W. BULLOCH said that of late years he had had considerable difficulty in recognising the influenza bacillus, whereas during the epidemic of 1892-93 he had no difficulty in doing so. He thought that the organism shown was stouter than that originally described and figured by Pfeiffer. He congratulated Dr. Horder on the manner in which he had worked out two most difficult cases.

Dr. HORDER reported the first instance of successful cultivation of the gonococcus from the blood in this country. It was accomplished in the case of a man, aged 21 years, who was admitted to St. Bartholomew's Hospital three and a half months after an attack of gonorrhœa. He was at the time of his admission suffering from malignant endocarditis. Blood cultures were made twice which yielded copious growths of the gonococcus both times. The patient died a month after the diagnosis had been established. Post mortem the gonococcus was cultivated from the vegetations upon the mitral valve. Lantern slides of the cultures, films, and sections through the endocardium were shown.

Dr. KLEIN having explained the scope of the inquiry and the methods for determining in a given oyster and other shell-fish at a given period the number of bacillus typhosus as also of bacillus coli communis with which the shell-fish had been supplied, summarised his results thus: 1. Oysters readily took up into their interior the bacillus typhosus which had been introduced into their shell or into the surrounding sea water. 2. Oysters, clean at starting, rapidly cleared themselves of the ingested bacillus typhosus if they were kept in clean sea water which was frequently changed. 3. Oysters, clean at starting, cleared themselves of the ingested bacillus typhosus to a less extent and more slowly if they were kept in a "dry" state—i.e., out of the sea water. 4. Oysters from a polluted locality cleared themselves of the ingested bacillus typhosus to a less extent and at a slower rate, even if kept in clean sea water, than oysters clean at starting. 5. Oysters from a polluted locality retained the ingested bacillus typhosus to a markedly larger extent if kept "dry"—i.e., outside the water. 6. The process of "clearing themselves" of the ingested bacillus typhosus could not be owing to the oyster merely "passing out" the ingested bacillus typhosus but must be due to a large extent to an inherent power of the oyster of *directly devitalising the microbe*. The experiments with the "dry" oysters proved this and it was also evident from the rapid rate at which this microbe disappeared from the oysters kept in clean water if compared with the very small number of the microbe (bacillus typhosus) found at the same time in the surrounding sea water. 7. Oysters which had been infected with the bacillus typhosus and which were then kept in a "dry" state till they had practically cleared themselves of the microbe, when subjected to reinfection with the bacillus typhosus appeared less capable of dealing with this microbe even if they were kept in clean sea water than the reinfected oysters which had always been kept in the water. This could be explained by the obvious supposition that oysters, by being kept for some days out of the water, were not possessed of the same degree of vitality and activity of their tissues as oysters were which had always been kept under normal conditions—i.e., in water. 8. Oysters from a polluted locality and containing a large number of bacillus coli very rapidly cleared themselves of this microbe, both those kept in as also those kept out of the water. This showed that the bacillus coli was foreign to the oyster and was rapidly destroyed by it. 9. However largely infected with the bacillus typhosus the oysters at no time presented to the eye any sign of such infection; they remained in all parts normal in aspect. This was the case not only with the infected oysters kept in sea water but also with the infected oysters kept in the "dry" state. There was only one exception—viz., an oyster derived from a polluted locality, which oyster had been for 11 days out of the water. 10. During the time of these experiments (part of September, October, and part of November) the oysters lived quite well in *sterile* sea water frequently changed. There was no alteration noticeable in the aspect of the fish; they remained plump and juicy and capable of promptly and tightly closing the shell. 11. Cockles readily embodied the bacillus typhosus present in the sea water. While the number of these latter appeared at first to diminish in the body of the cockles it soon increased to a considerable degree, for five days after the cockles had been removed from the infected water and kept in clean sand the number of bacillus typhosus exceeded three times the number initially present. Their subsequent diminution proceeded only slowly since even ten days after removal from the infected water the cockle examined still contained in its body 69,000 bacilli. 12. Mussels also readily embodied the bacillus typhosus—in fact, the analysis seemed to show that mussels did so to an extent greater than oysters or cockles. As regards the fate of the bacillus typhosus in the mussels these appeared to stand between oysters and cockles, since in mussels the bacillus typhosus underwent gradual diminution, but this diminution was incomparably slower than in oysters although it took place somewhat more quickly than in cockles. Direct experiments were made by placing clean oysters—free from bacillus coli—in sea water infected with normal human fæcal matter or with domestic sewage in which the number of bacillus coli communis was ascertained. It was found that while the oysters readily ingested the bacillus coli communis they as readily cleared themselves of this microbe if afterwards placed and kept in clean sea water; from which it followed that just as the bacillus typhosus so also the bacillus coli communis was a microbe alien to the oyster and when present in it must have been derived from the surroundings.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Labour occurring in Synostic Pelvis.—Report of Rotunda Hospital.

A MEETING of this section was held on April 7th, Professor ALFRED J. SMITH, the President, being in the chair.

Dr. H. JELLETT showed a Fallopian Tube with Calcified Nodules filling its lumen, the remains of tuberculous infection.—Dr. R. J. ROWLETTE, Mr. E. H. TWEEDY, Dr. R. D. PUREFOY, Professor E. J. MCWEENEY, and the PRESIDENT took part in the discussion, and Dr. JELLETT replied.

Professor MCWEENEY showed a specimen of Ruptured Tubal Pregnancy with Demonstration of Chorionic Villi which had been removed by Mr. A. J. M. Blayney at the Mater Misericordiæ Hospital from a woman, aged 24 years, who had been suddenly seized with acute abdominal pain and collapse. The abdomen on being opened 24 hours after the onset of symptoms was found to contain much blood. The ruptured tube was discovered and removed, whereupon the patient made an uneventful recovery. The sac was of about the size of a large hazel-nut and lay near the uterine end of the tube which was widely ruptured and contained a mass of blood clot to which some whitish shreds adhered. The fœtus was not seen. Microscopic sections showed the shreddy matter to consist of tufts of chorionic villi, some of which were inclosed in a thin epithelium-covered membrane of doubtful nature. The stroma of the villi exhibited marked metachromatism on staining with Ehrlich's hæmatoxylin. It was covered with a double layer of cubical cells (Langhans' cells) on the outside of which were scattered without any regularity large multi-nucleated masses of protoplasm (syncytia). In the intervillous spaces were groups of large mononuclear cells without intercellular substance (trophoblastic cells). The mass of blood clot contained isolated syncytia in its clefts and also large groups of [illegible] elements lying at a considerable distance [illegible] illi. The syncytial cells [illegible] and were identical in appearance with the multi-nucleated so-called "foreign-body" giant-cells found wherever intrusive matter was undergoing absorption. Professor McWeeney suggested that their function was to cause the natural structures to melt away and thus provide nourishment for the ovum prior to the establishment of vascular connexions with the mother. Their nuclei seemed to be proliferating by gemmation, not by mitosis. The mucosa of the Fallopian tube was intact save at one spot where it was replaced by a fibrinous mass. The delamination of its muscular bundles was apparently being accomplished by swarms of small mononuclear cells resembling lymphocytes. The excellent state of preservation of the structures mentioned was his chief reason for exhibiting the specimen.—Dr. PUREFOY, Dr. JELLETT, and the PRESIDENT spoke and Professor McWEENEY replied.

Dr. JELLETT read notes on a case of Labour occurring in a Unilateral Synostic (Naegele's) Pelvis.—Dr. W. J. SMYLY, Dr. PUREFOY, and Dr. T. G. MOORHEAD spoke and Dr. JELLETT replied.

Mr. TWEEDY read the report of the Rotunda Hospital for the year 1903–04.—The discussion was postponed until the next meeting of the section.

HARVEIAN SOCIETY OF LONDON.—A clinical meeting of this society was held at the Paddington Infirmary on March 23rd, Mr. C. B. Lockwood, the President, being in the chair.—Dr. Maurice F. Squire, the medical superintendent of the infirmary, showed the following cases: 1. A case of Mitral Stenosis complicated with Complete Paralysis of the Legs terminating in Recovery. The patient was a woman, aged 40 years. On admission she suffered from marked cyanosis and dyspnœa with dilated and hypertrophied heart and presystolic murmur. She appeared to be improving when a fortnight later she was suddenly seized with cramp, loss of power, and numbness in the legs. She was very collapsed, there was incontinence of urine, and knee-jerks were absent, but there was no girdle pain. She recovered from the collapse in a few hours but her legs remained paralysed for about three weeks, when they began to recover gradually and now she was able to walk well. 2. A case of Neuro-retinitis in the Left Eye. The patient was a woman, aged 59 years, who had suffered from rheumatism seven or eight years ago. Her eyes had been weak for two years and one year ago she found that she could not see anything with the left eye. In her right eye there was now a commencing cataract. [illegible] clear but the fundus showe[illegible] white area in the region of [illegible] hypertrophied and there was a double mitral murmur. 3. A case of Myopathic Dystrophy. The patient was a man, aged 37 years, whose mother had been similarly affected. His eyes had always been prominent. He first noticed weakness in his legs ten years ago and it gradually came into his arms also. There was no sensory disturbance. He had been treated by means of electricity, strychnine, and otherwise without benefit. He said that he was able to walk a long distance but could not raise himself from the ground if he happened to fall. The muscles of the face, the shoulder, the upper arm, and the thigh were especially affected. 4. A case of Neuritis due to Lead (wrist-drop). The patient was a man, aged 33 years, and a painter. There was no history of colic. He had been addicted to alcoholic liquor and began to lose power in his hands and feet a few weeks before Christmas, 1904. There was complete paralysis of the extensors of both wrists, the supinator longus was very weak, and all reaction to electricity was lost in the affected muscles. There were no sensory changes. There was a marked blue line on the gums. Under treatment, which consisted in the use of magnesium sulphate and electricity, some power had returned in the extensors of the thumb. 5. A case of Tabes Dorsalis. The patient was a man, aged 54 years, whose illness dated from a severe attack of influenza in 1892. In June, 1895, he was bedridden and unable to walk at all. The symptoms included retention of urine, five or six "lightning pains" per diem, occasional gastric crises, rectal tenesmus, marked incoördination of the legs but not any of the arms, and absence of knee-jerk; the pupils were variable, being sometimes contracted and sometimes unequal but the Argyll Robertson phenomenon was not present. In January, 1897, he could walk a short distance with assistance. At present he walked with two sticks. He had the Argyll-Robertson pupil and primary optic atrophy. There had been no treatment. 6. A case of Friedreich's Disease in a man, aged 38 years. There was no history of either syphilitic infection or hereditary predisposition. The illness commenced ten years ago with trembling of the limbs and difficulty in walking which had gradually increased. At present he was quite unable to stand, there were incoördination of the hands, and irregular swaying movements of the head and the arms. His speech was thick, slurred, and slow; there were nystagmoid movements of the eyes when he turned to one side; knee-jerks were absent but the plantar reflex existed. The reactions of the pupils were normal. There was no sensory disturbance, scoliosis, or pes cavus. 7. A case of Paralysis Agitans in a man, aged 61 years. The first symptom of the disease was tremulousness of the hands which was noticed in April, 1903. At present the patient had a mask like expression of the features and a general "set" appearance of the upper part of the body. 8. A case of Firm Ankylosis of both Hip-joints. The patient was a man, aged 35 years. Both his hip-joints were operated on 18 years ago on account of "diseased bone." A tuberculous abscess near the left trochanter was evacuated in November, 1904.——A meeting was held on April 13th, Mr. C. B. Lockwood, the President, being in the chair.—Dr. Edmund Cautley read a paper on Convulsions in Children. In infancy the main predisposing causes were the incomplete development of the higher nerve centres and the possibility of hereditary influences. Alcoholism was an indirect rather than a direct cause, by leading to bad feeding, unsuitable surroundings, and neglect. Tuberculosis, syphilis, and other nutritional disorders conduced to fits by causing general debility in the child. Out of 300 cases 44 began in the first six months of life, 52 in the second six months, 76 in the second year, 44 in the third year, and 27 in the fourth. After that the age incidence varied little. Rickets was a factor by impairing nutrition and giving rise by its complications to numerous exciting causes. Enormous importance was attributed to dietetic causes and their influence was regarded as partly reflex and partly toxic. The younger the infant the more probable was it that a simple reflex intestinal irritation was present. In almost every case under six months of age the fit could be definitely traced to unsuitable food. In the second six months errors of diet were the main cause but there was often associated rickets, bronchitis, or gastro-enteritis. After the fourth year a few cases could be definitely ascribed to food, such as pork, bacon, peas, and similar indigestible foods. Dentition might be regarded as a mild exciting cause in infants who had had fits or who were strongly predisposed to them. Usually the fits did not cease with the eruption of the teeth and numerous other factors were present. The canine teeth were the ones most frequently to blame. Teething was often associated with fever and resulted in imperfect digestion of food. The fits were due to the intestinal irritation rather than directly to the teething process. Worms were regarded as of comparatively little importance but were an occasional cause by producing irritation or intestinal catarrh. Dr. Cautley then gave an outline of the course of treatment and reminded his hearers that in all cases careful watch must be kept for the development of signs of disease. It must never be forgotten that in the presence of numerous possible causes of a fit the actual exciting cause might be overlooked.—A discussion followed in which Dr. J Taylor, Dr. Sydney P. Phillips, Dr. J. F. H. Broadbent, and Mr E. Laming Evans took part.—Mr. H. S. Clogg then read a paper on Appendicitis in Childhood, in which he remarked on the relative infrequency of appendicitis in children, estimating that about 10 per cent. occurred before 15 years of age.—The paper was discussed by Mr. F. Jaffrey, Mr. Raymond Johnson, Mr. Peyton T. B. Beale, Mr. T. Crisp English, and the President.

HUNTERIAN SOCIETY.—A clinical meeting of this society was held on April 12th at the London Institution, Dr. F. J. Smith, the President, being in the chair.—The President showed a case of Sprue or Hill Diarrhœa in a woman, about 35 years of age, recently returned from India. Th[illegible] and sicknes[illegible] they had [illegible] offensive. [illegible] India there [illegible] were reduced to 20 and in England to six, whilst in hospital single days had passed without a motion; however, the volume of these motions was vast. As soon as vomiting commenced the mouth became blistered and very sore along the edge of the tongue and on the lips and cheeks. Her weight during the nine months of the illness had fallen from 8 stones 12 pounds to 4 stones 6 pounds and the wasting had continued in spite of the amelioration in her symptoms in England.—Sir Patrick Manson agreed provisionally with the diagnosis as the symptoms appeared fairly typical. He pointed out that the characteristic change in sprue was an almost total atrophy or erosion of the mucous membrane from the mouth to the anus. Secondary shrinkage of other organs such as the liver followed. No micro-organism had been certainly identified as the cause of the disease. He was inclined to regard the atrophy rather as the result of exhaustion due to long-continued over-stimulation of the alimentary glands but especially the liver by tropical residence. The prognosis was exceedingly grave and although sprue was not of the same dramatic character as plague and cholera yet with typhoid fever it produced more European deaths in tropical countries. When the destruction of glandular tissue had passed a certain point recovery was impossible. He then reviewed the symptoms which were as in the above recorded case. He laid great stress on the cleanness of the tongue when there was so much alimentary disturbance. The treatment was directed by the idea of exhaustion of the alimentary glands. The food must be the least possible in the smallest quantities and most easily digested. The patient should be placed in bed and kept warm to economise energy. Milk should then be given with a teaspoon or through a straw slowly every two hours and at first during the night. Not more than three pints should be given in the day. Nothing further should be done until increased appetite and solid fæces indicated a commencing convalescence. The milk might then be slowly increased to six pints a day and for at least six weeks nothing more should be given. When milk properly given did not agree the patients did not recover. No drugs were of any use and most were harmful. Raw strawberries, however, had in many cases a most remarkably curative effect. The prognosis was almost hopeless after 50 years of age.—Dr. M. M. Bernstein spoke highly of the extract of bilberry in the treatment of chronic diarrhœas and this could be obtained at all seasons.—Mr. H. L. Barnard referred to a case of long-continued diarrhœa cured by the daily use of preserved raspberries, currants, and blackberries.—Dr. O. K. Williamson showed a case of Chronic Swelling of the Arytenoids. The lungs were healthy and he regarded the case as a very early one of primary tuberculous laryngitis.—Dr. Bernstein showed a man, aged 25 years, with Fibrous Ankylosis of the Left Shoulder Joint of two years' duration. There was no history of trauma and in spite of the rather acute onset he regarded the case as tuberculous. The muscles moving the shoulder joint were wasted. The opinion of the meeting was against wrenching or excision as the movements of the scapula were free and good.—Dr. W. J. M. Ettles showed a case of Aneurysm of the first part of the Right Axillary Artery. The subclavian was not apparently much involved. The patient was a ship's officer and the swelling had been first noticed after he had been pinned between a bull and the side of the ship during heavy weather. Medico-legal questions had arisen as to whether the aneurysm was then produced. Dr. Ettles asked for opinions as to treatment by (1) pressure, (2) electrolysis after introducing gold wire, (3) excision, or (4) proximal ligature.—Mr. Barnard strongly recommended proximal ligature of the subclavian at the outer border of the scalenus anticus. The aneurysm itself was deep and inaccessible; the brachial plexus was in close relation; several arteries originated from this part and probably a fusiform enlargement extended up beneath the clavicle.—Dr. Stanley B. Atkinson showed sections of Bilateral Inguinal Tumours removed by Dr. Wheelton Hind from a woman, aged 37 years. The sections were apparently testicular in structure and Mr. Shattock had supported this opinion. The vagina was imperforate but otherwise the patient was strictly feminine.—Dr. J. Dundas Grant showed a patient suffering from Slight Difficulty in Swallowing for over a year with occasional regurgitation of small quantities of unchanged food several hours after its consumption. There was a small elongated swelling on the right side of the neck, close behind the hyoid bone; when this was compressed a frothy fluid could be seen by the laryngoscope, welling up in the right hyoid fossa. The radiogram taken after the swallowing of bismuth showed a dark patch corresponding to the swelling, which was, therefore, almost certainly a diverticulum of the pharynx.

Manchester Medical Society.—A meeting of this society was held on April 5th.—Dr. J. Dreschfeld showed four members (mother, two sons, and one daughter) of one family affected with Thomsen's Disease. In the mother the affection was only slightly marked; the elder of the two sons, aged 16 years, showed the symptoms well. The muscles of the forearm and hands and the muscles of the leg were chiefly affected and of the facial muscles the orbicularis palpebrarum. The younger brother (aged ten years) and the girl (aged 12 years) showed the same symptoms but in a slighter degree. Dr. Dreschfeld referred to the various groups of cases belonging to this type of disease. Besides the characteristic hereditary form described by Erb, to which most of the published cases belong, there are some cases in which only one member of the family is affected and in which the symptoms come on later in life. A third group of cases has been described by Eulenburg and others in which there is the hereditary element but in which the symptoms only appear during the cold weather and not during the hot season, and a fourth group may be distinguished in which besides the hypertrophy of the muscle and the myotonic reactions there is also noticed muscular atrophy. In many cases of the ordinary and typical Thomsen's disease examination of the muscles has shown besides the hypertrophy of muscular fibres that also some muscle fibres are markedly degenerated.—Mr. F. A. Southam mentioned a case of Pyloric Obstruction due to Fibrous Stenosis, the result of contraction of a cicatrised gastric ulcer, occurring in a male, aged 58 years. Loreta's operation (digital dilatation of the pylorus) had been performed six years previously and for about four years the symptoms were relieved. Obstructive symptoms then began to recur and about 12 months subsequently gastro-enterostomy was performed with a very satisfactory result.—Mr. Alexander Wilson read a paper upon the Treatment of Accidents from Chloroform. He pointed out that the initial symptoms of grave danger were not diminished respiration but acceleration of the respiratory movements due to anæmia of the respiratory centre resulting from failure of the circulation. For treatment he advocated the prompt application of vigorous artificial respiration, which to be successful must be begun before cessation of the respiratory movements. In cases where there is engorgement of the right side of the heart the patient should be temporarily raised into the sitting position.—Dr. W. E. Fothergill endeavoured to afford an explanation of the occurrence of both amenorrhœa and menorrhagia as symptoms of anæmia. While the ancient "plethoric" theory of menstruation had been dropped long ago it had a modern equivalent in the view that menstruation is an expression of the predominating anabolism characteristic of the female organism. On this view an anabolic surplus would exist in the healthy female from puberty to the menopause. During pregnancy this would be expended upon the fœtus, during lactation in milk, and at other times in a periodic menstrual discharge. The time of occurrence of this discharge would appear to be determined by the glandular activity of the corpus luteum. Amenorrhœa could thus be of two kinds—it could be due either to the absence of an anabolic surplus or to the absence of a normal corpus luteum. The amenorrhœa of anæmia was doubtless of the former kind, as the occurrence of pregnancy during anæmic amenorrhœa indicated the continuance of ovulation and corpus luteum formation. The occurrence of menorrhagia during, and secondary to, anæmia (as opposed to the occurrence of anæmia secondary to menorrhagia) was doubtless observed in certain cases. This was best explained by the assumption that in certain circumstances the uterine muscle together with the cardiac and other muscles are so deteriorated in anæmia that their usual control over the vascular supply of the uterine mucosa is lost. In support of this view the causation of various other forms of uterine hæmorrhage was shown to be due to muscular insufficiency.

Society for the Study of Disease in Children.—A meeting of this society was held on April 14th, Mr. R. Clement Lucas being in the chair.—Dr. C. W. Chapman read notes on a case of Hysteria in a girl, aged ten years. At first she suffered from anorexia, excitability, and morbid affection for her parents. Gradually the excitability was replaced by listlessness, so that she hardly answered questions. Subsequently she was seen by two other physicians who diagnosed cerebral tumour. The child became bedridden with complete loss of power and sensation in the legs, emaciation, and incontinence of urine and fæces. At times she declared that she was quite blind. Dreadful screaming fits occurred daily, attracting the attention of passers-by. She was then separated from her friends, put in a hospital, and made a rapid recovery. 20 years had elapsed since without any return of the former symptoms.—Mr. R. C. Dun (Liverpool) described a case of Congenital Deformity of Both Forearms in a boy, aged five months, in a position of complete pronation. A bridge of bone extended downwards and inwards from the neck of the radius to the upper end of the shaft of the ulna. There was absolute fixation but the muscles contracted properly. He had been unable to find any record of a similar condition.—Mr. C. Batchelor (Staines) reported a case of Exophthalmic Goitre in a girl, aged three years, the daughter of healthy parents in a good position of life and without any evident cause. The earliest signs were prominence of the eyes and attacks of passion. Later, there was distinct enlargement of the thyroid and the attacks of passion became more frequent. The heart's action was accelerated. A year after the onset the exophthalmos was very marked; the pulse was between 120 and 140; there were marked carotid pulsation, breathlessness on exertion, and von Graefe's sign, but no tremors. She died from exhaustion after an attack of diarrhœa and uncontrollable vomiting at the age of six years and four months. Admirable photographs of the case were exhibited.—Dr. Edmund Cautley showed a specimen of Verrucose (Infective) Endocarditis of the Aortic Valves and Aorta from a boy, *aged eight years. No other valves were affected. From* the condition of the valves Dr. Cautley thought that there had been a primary congenital lesion and that the terminal infection was of recent origin. The child had been in another hospital some years before for a "weak heart." The left ventricle was hypertrophied but not dilated.—Mr. Dun showed a specimen of Congenital Stricture of the Œsophagus from a boy, aged 31 months, symptoms having begun at the age of 18 months. The obstruction was seven and a half inches from the teeth. The first symptoms were vomiting and wasting. Gastrostomy was performed at the age of 20 months. The child subsequently died from marasmus. The specimen showed a simple stricture an inch above the diaphragm.—Mr. R. H. A. Whitelocke (Oxford) read an interesting paper on Some Points in the Diagnosis and Treatment of Appendicitis in Children.—A long and good discussion took place in which Mr. Lucas, Dr. Percy G. Lewis (Folkestone), Dr. Chapman, Mr. J. P. Lockhart Mummery, and Mr. Dun took part.

West London Medico-Chirurgical Society.—A clinical meeting of this society was held on April 7th, Mr. C. M. Tuke, the President, being in the chair.—Mr. J. Howell Evans showed a Cervical Auricle which he had removed from a child and by the aid of lantern slides explained the origin of these growths.—Dr. Seymour Taylor showed a case of Acromegaly, the subject being a woman, 28 years of age, who had wonderfully improved under treatment with pituitary gland extract.—Dr. A. E. Russell remarked on the tendency in some of these cases of acromegaly for the disease to undergo spontaneous arrest.—The President made a few remarks, as also did Mr. H. W. Chambers and Dr. J. B. Ball.—Dr. Leonard C. T. Dobson exhibited a case of Congenital Ataxia in a boy, aged eight and a half years. The boy was born prematurely and was delivered with forceps. He had been treated during infancy for rickets. He could not talk or attempt to walk until he was four years old. He now walks with a well-marked ataxic gait and has constant choreic movements whilst awake but these movements cease during sleep. His general health is very good and he is a bright, intelligent boy, cleanly in his habits, and has complete control over his sphincters.—Dr. H. P. Potter suggested large doses of arsenic to allay the involuntary choreic movements, with which treatment Dr. E. Arthur Saunders agreed and attributed the condition as probably due to meningeal hæmorrhage at the time of birth. He found considerable benefit derived from administration of hyoscine in increasing doses three times a day.—Dr. G. E. Shuttleworth said that a degree of inhibitory and coördinative power might be gradually developed by judicious muscular exercises, and mentioned an example of a boy under his care at the Royal Albert Asylum, Lancaster, who gradually was taught to use carving tools and eventually became a teacher of wood-carving at the asylum.—Dr. Ball showed a case of Chronic Middle-ear Suppuration with Thrombosis of the Lateral Sinus, in which, in addition to the ordinary mastoid operation, he had laid open the lateral sinus, removed a broken-down clot, and ligatured the internal jugular vein.—Mr. J. G. Pardoe and Mr. E. P. Paton made some remarks on the case to which Dr. Ball replied.—Dr. Saunders brought a case of Congenital Heart Disease before the notice of the meeting, the patient being a girl, aged 15 years. The chief point of interest in the case was the peculiar character of the murmur. This was best heard at the pulmonary base and was of a roaring character, lasting throughout both systole and diastole.—Dr. Taylor remarked how impossible it was to diagnose the exact condition of these cases of congenital heart diseases.—Dr. Saunders also showed a Mongolian Idiot, aged two years and four months.—Mr. Lunn exhibited a case of Tumour of the Tongue in a girl, aged 12 years, which was of doubtful origin.—Mr. Paton considered the case to be an example of lymphangiectasis.—Mr. Lunn also showed a case of Chronic Syphilitic Glossitis.—Dr. Russell showed two cases of Progressive Muscular Atrophy occurring in two cousins. The family history was very interesting, as, although the grandfather and grandfather's brothers were affected, the next generation escaped and the disease appeared in the grandsons.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on April 18th, Mr. C. F. M. Althorp, the President, being in the chair.—Dr. Mitchell read notes on a case of Cutaneous Anthrax treated with [illegible] Recovery. 1[illegible] reviewing t[illegible] discovery of the serum by Professor Sclavo, Dr. Mitchell went on to describe the case, which was eminently suitable for the trial of the serum, the pustule being on the upper eyelid where excision was practically impossible. The chief points Dr. Mitchell wished to emphasise were (1) that no reaction was noticed after the injections; (2) that the swelling and œdema increased rather than decreased; and (3) that sloughing was not prevented. All the tissues down to the car- [illegible] (on the wrist) where the pustule was not excised. Sclavo's serum had apparently no effect and the patient died.—In the discussion which followed the President urged very [illegible] carried out [illegible] d more con- [illegible] r, especially [illegible] should be injected to begin with and repeated in 12 hours. Internal anthrax was not so common now in Bradford as it used to be. [illegible] difficult, there being no [illegible] advanced. The bacilli [illegible] te and were best found [illegible] noted cases of cutaneous anthrax which had recovered without any treatment beyond that of fomenting. Was it not possible therefore that the cases which had recovered with serum treatment might also have recovered without?—Dr. Campbell quoted a case where anthrax bacilli were found in the sputum from a case of bronchiectasis. Recovery was complete. With regard to the number of recoveries reported from Italy after the use of Sclavo's serum Dr. Campbell suggested that the disease occurred there in a milder form than in this country. —Dr. Schofield and Dr. Mitchell replied.—Mr. Horrocks showed an Ovarian Tumour with Torsion of the Pedicle and read a paper on the Advantages and Disadvantages of Some of the Substances commonly used as Sutures in Surgery. The points to be considered in the selection and preparation of a suture were as follows: (1) it must be sterile; (2) it must bear strain without breaking; (3) it must be durable till union takes place; and (4) it must not be the source of mechanical irritation. Mr. Horrocks then briefly reviewed the methods of preparation of catgut, silk, and silkworm gut, and spoke strongly in favour of catgut prepared in xylol after the method employed by Mr. A. W. Mayo Robson.—Dr. Rabagliati said that he had not found the xylol gut trustworthy and preferred it carbolised.—Dr. Wood believed that the material was of very little moment but it must be sterile.—The President, Dr. Mitchell, and Mr. Vaughan Bateson also spoke.—Mr. Horrocks replied.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on April 11th, Sir William J. Collins, the President, being in the chair. A number of medico-legal specimens were exhibited.—The President showed: (1) the Eye of a youth which had been destroyed by the entrance of a large splinter of glass; before completing the operation for removing the globe Sir William Collins had passed his finger round the orbit and discovered a second large splinter of glass which if unnoticed might have led to a fatal issue and a charge of negligence against the surgeon; (2) the Enlarged Thyroid Gland of a man who died suddenly, apparently from asphyxia due to impaction of the thyroid gland behind the manubrium sterni.—Dr. H. Harvey Littlejohn exhibited a series of photographs taken post mortem of persons who met violent deaths, which demonstrated points of medico-legal importance.—Dr. Stanley B. Atkinson (for Dr. Wheelton Hind of Stoke-on-Trent) showed sections of Inguinal Tumours removed from a woman, aged 37 years, which proved her to be a pseudhermaphrodite cryptorchid.—Dr. F. S. Toogood showed the Bones of the Legs and the Brain of a child who died from scurvy rickets in the Lewisham Infirmary. To the layman the appearances would almost warrant a charge of ill-treatment by the attendants had not medical evidence been available.—Mr. Justice Walton then read some learned "Notes upon the Law of Evidence," in which he mentioned particularly the position of the medical witness and points of clinical jurisprudence arising in general practice. He strongly supported the recognition of assessors to aid the court in preference to the employment of medical experts; such assessors, however, would not be allowed in criminal courts, for the Bar would not relinquish the right of cross-examination.—The President suggested that a full discussion of the medico-legal aspects of the Beck case by the society was desirable.—Dr. Blake Odgers, K.C. (recorder of Winchester), discussed learnedly the doctrine of the admission of *res gestæ* as evidence.—Dr. F. J. Smith suggested that to be found concealing weak points in a case was fatal [illegible] success and counsel should be coached by medical men accordingly.—Mr. Troutbeck often found, as a coroner, that it was difficult to limit hearsay and other testimony which, by publication in the press, might prejudice the case; the inquest jury conducted an investigation, not the trial of an issue.—Dr. W. P. Herringham commented upon the vulgar prejudice against "the chicanery of the law" which meant rules of procedure which the public did not understand; these rules were comparable with medical etiquette and both codes were in the interest of the public benefit.—Sir Joseph Walton having replied fully the meeting dissolved.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on April 12th, Professor J. Lorrain Smith being in the chair.—Professor W. St. C. Symmers (Belfast) gave a demonstration on Certain Lesions produced by the Bilharzia Hæmatobia. He commenced by showing a number of lantern slides descriptive of the male and female bilharzia, of the ova, of the miracidium, and of many of the lesions produced by the ova in the human body. An explanation was given of the fact that certain ova possessed a lateral spine while others were terminally spined. Especial attention was drawn to the germinal cells and agglomeration of cells in the miracidium. In many of these points special reference was made to the work of Dr. Looss of Cairo and indebtedness was acknowledged to this distinguished observer for most of the helminthological facts mentioned. Reference was also made to the three known species of bilharzia, Professor Symmers stating that he had recently found a number of worms in the blood of cattle and that possibly these worms were identical with the bilharzia crassa. The modes of entrance into the human body were then discussed with special reference to penetration through the unbroken skin. A description was then given of a large number of preparations which Professor Symmers had brought with him from Egypt, showing the lesions in the bladder, both early and advanced, in the prostate, ureters, bowels, uterine appendages, vagina, liver, and spleen. Numerous examples of bilharzial cirrhosis of the liver were shown and described. Particular attention was called to a dysenteric condition of the large bowel due to bilharzial infection; there were also shown various portions of the intestines in which the serous coat bore enormous fibroid thickenings loaded with bilharzial ova. Finally the relation of bilharziosis of the bladder to cancer was discussed and specimens were shown. The various points of the demonstration were illustrated with microscopic preparations.—Dr. Charles H. Melland showed specimens of Pus from a case of Bilharzia Disease.—Dr. F. Craven Moore (for Dr. D. N. Nabarro, University College, London) showed specimens of Trypanosomata (Human and Animal) from Uganda and East Africa and specimens of the Tsetse Fly (Glossina palpalis).—Professor Lorrain Smith exhibited casts of Leprosy.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on April 18th, Dr. T. Vincent Dickinson, the President, being in the chair.—Mr. John G. Pardoe read a paper entitled "The Choice of Methods for the Radical Cure of Prostatic Enlargements," in the course of which he said that there were certain cases of benign enlargement of the prostate in which the suprapubic method of Freyer could not or should not be used. Mr. Pardoe recognised clinically two varieties of innocent enlargement of the prostate: (1) the adenomatous or pseudo-adenomatous tumours; and (2) the hard fibro-muscular collar-like enlargements. The recognition clinically of these varieties called for a methodical and careful examination of the case: (*a*) by digital examination per rectum; (*b*) by bimanual examination; (*c*) by rectal examination with an instrument in the urethra; and (*d*) by intravesical examination with the cystoscope. Several points were thus ascertained, such as the size of the gland, its consistency, its contour, the mobility or fixity of the gland as a whole, and the appearance presented by its intravesical surface. The adenomatous prostates were soft, elastic, and freely moveable. The fibro-muscular collar-like prostates were firm, slightly elastic, small, and not so mobile. Malignant prostates were hard and fixed. The first should be removed by a suprapubic enucleation. The second should be treated by a perineal prostatotomy. Carcinomatous prostates should be left alone. The reasons for these conclusions were stated at some length and illustrated by a number of specimens showing varieties of prostatic enlargement.—Dr. C. Gould May read notes of three cases of Acholia in children and discussed their nature. He thought the disease was a toxæmia of some kind. He urged the importance of examining the stools in these cases, as otherwise the nature of the illness was very likely to be missed.

Reviews and Notices of Books.

The King's Coroner: Being a Complete Collection of the Statutes relating to the Office, together with a Short History of the Same. By R. HENSLOWE WELLINGTON, M.R.C.S. Eng., L.R.C.P. Lond., of the Middle Temple and South-Eastern Circuit, Barrister-at-Law, Deputy Coroner for the City and Liberty of Westminster and the South-Western Division of London. London: William Clowes and Sons, Limited. 1905. Pp. 292.

THE historical outline of the office of coroner which Mr. Henslowe Wellington has prefixed to a collection of Acts and portions of Acts relating to the subject fills but 33 pages of his volume and is too condensed to do full justice to so interesting a subject. On the other hand, the statutes themselves, long ago repealed, which amplified or defined the numerous and important duties fulfilled by the coroner in the Middle Ages are in themselves dry reading and are not easily to be understood and co-ordinated without explanatory matter by those whose knowledge of early legal history and of early legal language is of a limited character. The compiler's work, therefore, up to the point where statutes now in force are included appears to us hardly likely to commend itself to the general reader, nor does it contain matter to which lawyers are likely to have to refer.

The latter part of the book, which sets out the Coroners Act, 1887, and other Acts of Parliament relating to the holding of inquests, with brief notes giving the names of cases decided in the High Court of Justice, is of a more practically useful character, and coroners and lawyers practising before them should find it a convenient aid in the performance of their duties. We should have thought, however, that as coroners are numerous and as country solicitors and others interested, among whom medical men may be included, are usually not possessed of large legal libraries, the mere citation of the names of cases might well have been supplemented by more or less copious extracts from them upon any points likely to occur in practice. In the course of argument before judges the law reports themselves are part of the necessary equipment of the barrister but in the courts of inquiry held by the coroner and in the references to authority to which he finds it necessary to make such direct recourse the fountain head is not always possible and the coroner, at any rate, may frequently find it useful to have the essential part of a judgment extracted for his use. There would seem to us to be room, therefore, for a carefully compiled work of this class by a sound lawyer, with perhaps chapters not only on such subjects as the law of evidence but a few practical hints on the actual eliciting of it from witnesses and upon such cross-examination as the coroner is justified in administering in order to sift their stories where he has no legal assistance from interested parties. The coroner holds a legal inquiry of a somewhat peculiar character, differing considerably from those conducted by magistrates and by judges and although a medical man with experience as such is undoubtedly the proper person to hold the office, this in itself renders it unlikely that he will have enjoyed a legal practice as well. Perhaps some day Mr. Henslowe Wellington will amplify his work in this direction when he has gained a fuller practical knowledge of the questions which arise.

Turning to a section of the Coroners Act of 1887 of considerable importance to medical men, that, namely, under which they are summoned as witnesses at inquests after being ordered, if such be required, to hold post-mortem examinations, we find that in his present volume Mr. Henslowe Wellington has taken no notice whatever of the practice which prevails in the portion of London where he himself sits as deputy coroner of employing for the holding of post-mortem examinations a gentleman who is not "in actual practice in or near the place where the death" has happened and of retaining the same gentleman in all or in most of the cases which occur as if the institution of a permanently appointed pathologist were intended or sanctioned under the Act. We do not for a moment suggest that Mr. Henslowe Wellington should have entered into a matter of controversy with a view to discussion of it as such but we should have thought that had there been authority to justify the practice in question it would have been worth mentioning, and that as there is a case (R. *v.* Finlay, Irish Reports, 11 Common Law, 498) which seems to bear upon the subject it should have been mentioned. Had the notes included anything in the nature of discussion or explanation, some observations from a strictly legal point of view, or at any rate an extract from the judgment given in Dublin, might have served as a guide to coroners and as instruction to medical practitioners in other districts than that now most affected by the practice alluded to. Still, if we could have wished for greater amplitude either from the point of view of historical study or of legal information, we are far from suggesting that Mr. Henslowe Wellington has done his work badly and we would repeat the wish that some day he, or some other author, may dwell more at length upon the topics on which he has touched. The duties of the coroner have been in a sense curtailed; he is no longer "custos placitorum *coronæ*" and questions of "deodand" do not exercise the juries over whose deliberations he presides. Royal sturgeons may strand themselves on British territory without inquests being required, but if, with the exception of cases of fire within the City of London and of one or two other matters, there is little to demand the coroner's attention beyond the inquiries into the causes and the circumstances of death with which all are familiar under the name of inquests and those preliminary investigations which throw upon the coroner the onus of deciding whether an inquest shall be held, in this respect his labours are so enormously increased and involve such heavy responsibility that his office is of greater public importance than ever. Perhaps in the ideal work upon the coroner's office chapters by a medical practitioner of experience and by an equally experienced advocate, neither of whom need have held office as a coroner himself, might be included with advantage.

Sanitary Law and Practice: a Handbook for Students. By W. ROBERTSON, M.D. Glasg., D.P.H., and CHARLES PORTER, M.D., B.Sc. (Public Health), M.R.C.P. Edin. London: The Sanitary Publishing Company, Limited. 1905. Pp. 756. Price 10*s.* 6*d.* net.

So many books on sanitation in one or another of its aspects have been published within the last few years that it seems a somewhat hazardous task to add to their number, more especially when sanitary law is the subject dealt with. We must confess, in fact, that we opened the volume under notice with some misgivings, mainly owing to the very great difficulty of composing a readable book upon this somewhat unattractive side of preventive medicine. It was, however, easy to recognise before we had turned over many of its pages that we were dealing with a book not only of considerable merit but with one in the arrangement of which much originality and independence of thought had been displayed. The work at once arrests attention and to say this of a book upon sanitary law is to pay it a high compliment. The real merit of the volume is that not only does it combine sanitary practice with sanitary law but that it also introduces into each section pertinent matter which, while educating in law throughout, clothes somewhat dry bones with the flesh of human interest. Moreover, the method adopted of dealing in separate sections with the statutes of the United Kingdom as a whole is a distinct advantage to students and others who wish to ascertain the tendency of modern legislation and to compare certain provisions of the Public Health Act of 1875 with those of later enactments. An extract from the "Contents" will not only make this point clear but will also serve to convey a good idea of the scope of the work. For instance, to take Section XXI. which deals with the water-supply, we find:—

> Water supply, Acts relating to, in England and Wales, Ireland, London, Scotland; Duties of Health Official; Supply of Individual Houses; Shallow Wells; Analysis of Water; Large Schemes for Water-supply; Sources of Water; Hard and Soft Waters, Water Filters.

There are numerous illustrations and diagrams throughout the book and these have the effect of further lightening the forensic difficulties of the volume while materially adding to its interest and information. The book has obviously been written by those who view public health through Scotch spectacles and here and there the refraction of the glasses becomes very apparent. For example, in discussing on p. 25 the duties of the medical officer of health the authors say: "In England, Wales, Ireland and London, the medical officer of health invariably holds the supreme position and to him all the sanitary inspectors are responsible." This certainly should be the case but we are afraid that as it stands the statement is not quite accurate in its application to some of our large towns. We should have been glad, too, had the authors spoken out more fully with regard to the Scotch practice of keeping the offices of the medical officer of health and the sanitary inspector quite separate. Many readers of this book will be also somewhat puzzled to discover that the registration of births, deaths, and marriages is one of the powers and duties of the English Local Government Board but the authors are quite correct technically in attributing these powers to that Board as the Registrar-General addresses his annual reports to the President of the Local Government Board. We should, however, advise the student who may be a candidate for the D.P.H. to amplify this point somewhat, otherwise his examiners might not be sufficiently well up in the inter-relations of State departments to credit him with his knowledge.

On p. 28 the remark is made that "on no account must the M.O.H. visit houses where infectious diseases exist without the previous assent of the visiting medical man." We think that the authors must have intended to refer to *patients* instead of *houses*. Certainly patients should not be thus visited, but it would be contrary to the best interests of public health were the medical officer of health restricted in this fashion in regard to houses when inquiring into the cause of an outbreak of infectious disease. We are sorry, too, that we are not altogether in agreement with the sentiment that "there is little chance of any person obtaining an appointment who does not hold a sanitary inspector's certificate." Unfortunately, in some of the rural districts of England almost anyone who can supervise the highways is regarded as suitable for an inspector of nuisances. On p. 424 has not the Public Health (Water) Act, 1878, fallen into the wrong group? But notwithstanding these criticisms we can recommend the book as one which will prove of value both to the medical officer of health and to the student preparing for a diploma. Both will find, perhaps for the first time, that they can derive interest from the study of sanitary law and if the little defects to which we have referred are remedied and the volume is kept up to date it should certainly occupy a high place in the literature of public health.

The Practice of Obstetrics. By J. CLIFTON EDGAR, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. With 1264 illustrations, including five coloured plates and 38 figures printed in colours. Second edition. London: Rebman, Limited. 1904. Pp. 1153. Price 30*s*.

THE fact that only four months had elapsed since the appearance of the first edition of Dr. Clifton Edgar's text-book rendered a complete revision of the work unnecessary. A good deal has, however, been done in the correction of the minor errors which occurred in the first edition and some changes have been made in the arrangement of the various sections. The chapter on the Toxæmia of Pregnancy has been very largely rewritten and added to and the author has grouped under this heading nausea and vomiting of pregnancy, icterus, convulsions, and eclampsia. He believes that the toxæmia of pregnancy will assume even a greater importance in the future than it does at the present time and he defines it as a condition of the blood and metabolism arising from the hepatic insufficiency to which the pregnant woman is liable. Herz's theory of the presence of functional paralysis of the liver in such cases and the work done by Professor J. Ewing upon the same subject are considered in some detail and the author devotes a considerable amount of space both to the trivial and the more serious ailments which he considers owe their origin to this condition. Two new coloured drawings have been added to illustrate this section, one representing the microscopic appearances of the liver in a case of toxæmia of pregnancy and the second showing fatty degeneration and necrosis of the same organ from a case of pernicious vomiting of pregnancy. The author has found it necessary to restate his opinion regarding the indications for the performance of embryotomy and Cæsarean section, which in the first edition were apparently misunderstood. He considers that embryotomy is indicated to-day in but two conditions—first, in all instances where the fœtus is dead and its delivery unmutilated would increase the danger to the mother; secondly, in obstructed labour due to the presence of a monster; and in exceptional cases in which the mother's condition from hæmorrhage, repeated attempts to deliver, sepsis, or shock is such as to render embryotomy a safer means of delivery than abdominal section.

Transactions of the Clinical Society of London. Vol. XXXVII. London: Longmans, Green, and Co. 1904. Pp. 273.

THIS volume consists of 29 communications relating to cases of unusual interest and of brief descriptions of 46 clinical cases exhibited before the society. It is illustrated with 11 plates and there are 15 figures in the text. Many of the communications afford interesting and instructive reading, since they deal with conditions of which the importance has only recently been recognised, and in many such instances the authors have appended bibliographies which cannot fail to be serviceable to other workers in the same field. The first paper, on Erosive Gastric Ulceration with Severe Hæmatemesis, is extremely suggestive and in conjunction with the few cases which have been previously recorded it will probably go far towards modifying current views of the frequency of gastric ulcer as the immediate cause of hæmatemesis. Cases of hæmorrhagic pancreatitis and of myositis fibrosa are also recorded, while the importance attached to examinations of the blood is shown by numerous communications relating to pernicious anæmia, leucocythæmia, and chronic polycythæmia. Congenital narrowness of the pyloric orifice as a cause of chronic gastric disease in the adult is illustrated by notes of seven cases successfully treated by operation. Two examples of pneumococcal peritonitis are described, one in an adult and the other in a child. Most of the plates and figures are clear and serviceable, though in some instances a few references in the text or a short description would have been very welcome. The volume shows that the Clinical Society is worthily maintaining the traditions of the past and that its present work is likely to have an honourable place in the future.

Orthmann's Handbook of Gynæcological Pathology. Translated by C. HUBERT ROBERTS, M.D. Lond., F.R.C.S. Eng., M.R.C.P. Lond., assisted by MAX. L. TRECHMANN, F.R.C.S. Eng., M.B., C.M. Edin. London: John Bale, Limited. 1904. Pp. 127. Price 5*s*. net.

Orthmann's handbook is such a useful work that Dr. Roberts has been well advised in undertaking a translation of it, more especially as it forms a fitting appendix to his own work on Pathology in which microscopic details, to which this little book is chiefly devoted, are not considered to any great extent. Microscopical diagnosis is of great importance in the treatment of gynæcological cases and it is every day becoming of more importance. As at the present time very few, if any, of the examining boards examine candidates in their knowledge of the minute anatomy of such cases the student does not consider the matter one of much interest, nor is much attention devoted to it in the majority of the text-books dealing with this subject. No such work as the present has hitherto been available for the use of students and we hope now that they have so clear and complete a book at hand that they will devote some of their time to acquiring a knowledge of the histological anatomy of, at any rate, the commoner diseases of women.

The book is divided into two parts: the first deals with the most important and modern methods of technique, which are shortly described, while in the second, or diagnostic, part the author describes the pathology of the female sexual organs. The more uncommon diseases are only briefly dealt with or are altogether omitted, whilst those more frequently met with and which are of especial importance in differential diagnosis are described at length. A short macroscopical sketch in each case precedes the microscopical description. The work of the translators has been carefully and well carried out and the book in its English form is very useful and will no doubt meet with the approval of those for whom it is intended. The illustrations are numerous and well chosen and reproduced.

Transactions of the Association of American Physicians. Nineteenth Session, held at Washington, May, 1904. Philadelphia: Printed for the Association. 1904. Pp. xxiv.-560.

THE prefatory pages show that this association has for its object the advancement of scientific and practical medicine and that an annual meeting is held in the city of Washington for the reading and the discussion of original communications relating to medicine and pathology. From the brief minutes it appears that 22 communications were read and the majority were discussed at three meetings, each of which lasted a little over three hours, while 13 were read by title and are included in this volume. An interesting case of polyuria in typhoid fever was described and led to discussion, while venous thrombosis occurring in the course of typhoid fever formed the subject of a careful analysis of 42 cases which afford a satisfactory basis for some valuable conclusions; this is illustrated by an admirable reproduction of a photograph which, unfortunately, is incorrectly described. The high-tension pulse in nephritis is once more discussed and it is suggested that deficient formation rather than deficient elimination of urea may lead to stimulation of the vaso-constrictor nerves. An analysis of 90 cases of poisoning by illuminating gas shows high and persistent leucocytosis, the infrequency of pneumonia, and the good results of combined venesection and saline infusion. Among other papers of interest may be mentioned the following: Clinical Studies in Arterio-Sclerosis, Diabetes Insipidus, a Case of Prolonged Male Hysteria, Types of Splenic Anæmia or Splenomegaly, and the Relation of Cells with Eosinophile Granulations to Bacterial Infection. The illustrations as a rule are good and clear.

LIBRARY TABLE.

A Manual of Practical Medical Electricity, the Roentgen Rays, Finsen Light, Radium and its Radiations, and High-Frequency Currents. By DAWSON F. D. TURNER, M.D. Edin., &c., Medical Officer in Charge of the Electrical Department of the Royal Infirmary, Edinburgh. Fourth edition. With 200 illustrations. London: Baillière, Tindall, and Cox. 1904. Demy 8vo, pp. xxiii.-435. Price 10*s*. 6*d*. net.—We are glad to welcome a new edition of Dr. Dawson Turner's well-known work. As the title shows, the author has brought his account of the subject well up to date. The great advances which have been made during recent years in the applications of electricity to medical work render the task of dealing with the subject adequately in a single volume a difficult one. The author, however, has succeeded in giving a practical account of the subject which cannot fail to be useful to all students and practitioners who are interested in electro-therapeutics and the new edition forms an excellent introduction to the study of a branch of medicine which is rapidly becoming highly important in many distinct fields of application.

Intemperance. By HENRY HORACE PEREIRA, Bishop of Croydon. London: Longmans, Green, and Co. 1905. Pp. 173. Price 2*s*. 6*d*. net.—A certain degree of uneasiness is inseparable from the perusal of any book upon this subject. This is not due to any fear of disagreement with the author, since the medical profession has abundant opportunities of witnessing the physical and the social results of intemperance, but the disquiet arises from the dread lest the author's conviction should lead him to overstep the limits of discretion. The subject of alcoholism so frequently leads to intemperate language that in a publication like the one before us we instinctively fear that much harm may be done unwittingly by violent denunciations. It is therefore the more satisfactory to be able to state that this new volume of the series of handbooks for the clergy is characterised by restraint rather than by vehemence. The chapter devoted to the medical aspect of intemperance is not marked by much research; the case might easily have been represented in greater detail and in more convincing form. It is needless here to criticise this book at length since it deals largely with social problems that lie outside our sphere. Still it is distinctly likely to be serviceable to all who have opportunities of influencing directly or indirectly the spread or the arrest of intemperance. The chapter on the Causes of Intemperance is written sympathetically, the author giving the first place to two non-preventable causes—our cold, bleak, and changeable climate, and our past history; and he rightly says that it will require generations of patient work to blot out the effect of the evil habits of the past. Of the preventable causes he mentions the housing of the people in our great towns, the temptations offered to them by the number of public houses, the monotony of their mode of life and occupation, and the generally prevailing ignorance as to the nature and properties and danger of alcohol. For its common sense and moderation this book merits very high praise. It is written for the clergy and we hope that those of them to whom this remark may apply, for they are by no means few, will imitate the absence of hysterical heroics when they feel called upon to give public utterance of their views. Sympathy, example, and reason will effect more good than can be attained by emotional denunciations.

JOURNALS AND MAGAZINES.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S., D. J. CUNNINGHAM, F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, F.R.S., and J. G. M'KENDRICK, F.R.S. Vol. XXXIX., Part 2. April, 1905. With plates and figures in the text. London: Charles Griffin and Co. Annual subscription for four parts 21*s*., post free.—The articles contained in this number are: 1. The Nature of the Mammalian Diaphragm and Pleural Cavities, by Arthur Keith, M.D. Aberd. The author contrasts the arrangement of these parts in fishes and amphibians, in birds, and in mammals, and shows how in the first of these groups the lungs are altogether contained in the general body cavity, in the second they have become partly extruded, the hinder portion remaining as an air sac, and in the third are altogether external to the body cavity. The diaphragm is a part of the body wall which has been depressed within the body cavity by the extra-abdominal development of the lungs. The analogy between these relations and those of the testis are dwelt upon. A remarkable statement is made, founded on the observations of Dally recorded in our pages (June 27th, 1903, p. 1800) and subversive of a hitherto fundamental doctrine of physiology, to the effect that the curvature of the diaphragm remains practically unaltered during inspiration. The diaphragm is a muscle which compresses the abdominal contents and maintains the portal and hepatic circulation. It arises in the form of dorsal and ventral bands of musculature acting on the roots of the lungs. This article is an important one and is illustrated by many woodcuts. 2. Dissociation in Certain Vital Phenomena, by Anderson G. M'Kendrick, M.B. Glasg., Captain I.M.S. 3. Observations on the Lumbar Arteries, by Alfred H. Young, M.B. Edin., F.R.C.S. Eng., Professor of Anatomy, Victoria University,

Public Health in the Transvaal.

THE immediate and direct results of war are unfortunately disastrous to the public health, war being, in fact, the absolute antithesis of preventive medicine. It seems, indeed, little other than a farce to concern ourselves with what is largely the perpetuation of the unfit at one moment while at another every effort is being made to destroy the flower of two contending nations. Were it possible by means of some international understanding to settle disputes, not otherwise to be arranged, by pitting the unfit of the two opposing nations against one another war from a physical standpoint might prove a powerful and useful instrument for the promotion of the public health! As things stand, the premiss being impossible, the effect of war, as pointed out by MALTHUS many years ago, is to take away from the country the physically, and in large part also the morally, fit and to leave behind the unfit to perpetuate their species. This is, of course, more particularly the case when wars drag on for long periods. But the indirect effects of war may be far otherwise. The awakening of a nation has not infrequently dated from a war which has shown on the one side a nation's strength and on the other a nation's weakness. Then the blessings of peace follow war and the history of preventive medicine begins to be told. When in the future the historian sits down to record the progress of preventive medicine throughout the world the record will consist very largely of an account of the diffusion of English sanitation and ideas through the instrumentality of her Crown and self-governing colonies. Other nations, however, will also justly claim their share. For instance, the story of the battle fought by the Americans in Havana against, not the Spaniards but, the stegomyia fasciata, the bearer of yellow fever, is an excellent example of hygienic progress made immediately after war.

To turn from generalities to the concrete case of the Transvaal we gather from Dr. GEORGE TURNER'S interesting annual report for the year ending June 30th, 1904, what is actually taking place in one of our most recently acquired possessions. Unfortunately, as regards statistics Dr. TURNER finds himself badly circumstanced. He is required to present his annual report at a date when the statistics for the period to which it relates are not available and we trust that his appeal for a better arrangement will be duly heeded. So far as can be ascertained the population of the Transvaal is 1,268,716, this number being made up of 299,327 whites and 969,389 coloured, the death-rate among the whole population for the year under notice having been, according to the figures, only 10 per 1000. But the untrustworthiness of these rates may be gauged from the fact that the recorded death-rate among the coloured population was only 9·5 per 1000, that of the coloured females only reaching 3 per 1000. Obviously, as the writer of the report remarks, there must have been "serious errors in registration." With figures such as these it is impossible to place much reliance upon the statement that the fatality rate of enteric fever among the white patients was 15·9 per cent. while that among the coloured patients was no less than 68·2 per cent. Probably from 25 to 50 per cent. of the cases have not been reported. As regards the etiology of this disease we have heard so much of dust-borne and fly-borne enteric fever in South Africa that it is interesting to find that Dr. TURNER attributes to neither of these factors any material influence in promoting its spread, his scepticism being largely based upon the fact that the prevalence of dust and flies does not coincide with the maximum prevalence of enteric fever. In reference to flies, however, he is causing further observations to be made, and in view of the general acceptance of the theory that these insects are responsible for much diffusion of enteric fever, these observations will be gratefully received.

The figures as regards the fatality rate of dysentery among the white and the coloured patients respectively are as remarkable as those of enteric fever, the rate of the former being 16·3 per cent. and that of the latter being 78·7 per cent. In respect to vaccination we learn that 71,726 tubes of calf lymph were distributed gratuitously during the year, but unfortunately only a very few of the vaccinated returned for inspection. Compulsory vaccination and revaccination are, Dr. TURNER thinks, called for in the Transvaal. The statements concerning the Pretoria Leper Asylum are not very pleasant reading. A considerable proportion of the lepers succeeded in effecting their escape and the compounds had consequently to be fenced in. It has been suggested that the coloured lepers should wear a distinctive dress and that dogs should be employed to track those who escape, but with all our concern for the healthy we cannot read of such a way of enforcing segregation without repugnance. As regards phthisis we are glad to find that the medical officer of health of the borough of Durban, Natal, points out in his current annual report that although pulmonary tuberculosis is communicable it is not so in the same way as is scarlet fever or small-pox and that infection is only possible when certain simple precautions are not observed. We wish that every medical officer of health would point out this distinction, for since the infectivity of pulmonary tuberculosis, up to a certain point, has been realised, the over-anxiety of the public is as marked as the previous carelessness was wont to be.

Dr. TURNER'S report embraces numerous others and that by Mr. C. L. SANSOM, the medical officer of health of Witwatersrand, is of exceptional interest at the present moment. He reports that the most serious disease in this district is pneumonia, more particularly among the natives working underground. Indeed, he attributes to the pneumococcus a death-rate among the native miners of 14·8 per 1000 out of a total death-rate among them of 40·7 per 1000. This peculiar susceptibility to the pneumococcus is attributed by Mr. SANSOM to the defective air space in the compounds and to the windowless rooms into which no sunlight enters. He remarks that "the native working underground for the greater part of the day in vitiated atmosphere, returning at night to sleep in another atmosphere which is not, and cannot be, as pure as it should be, is obviously rendered liable to fall a prey to an organism like the pneumococcus." We are glad, however, to learn that during the past year material improvements have been made, although a death-rate of 40·7 per 1000 among a population of a sex and an age distribution suitable to work in mines requires a good deal of explanation. Mr. SANSOM appeals for some sort of standard in the compound and he points out that although he may effect improvement in one compound the circumstances in the adjoining compound, where administration may not be so intelligent, will remain *in statu quo*. Apparently this remarkably high death-rate is to be attributed in part to the fact that many of the natives are in a poor state of health when they first start working. Scurvy is, Mr. Sansom alleges, rife among them, and it is for this reason that they become an easy prey to the pneumococcus, and he thinks that a greater effort should be made to impart variety to the diet of the miners with a view to diminish the prevailing scorbutic condition. Mr. Sansom seems to us to sum up the situation fairly when he says: "Underground labour can never be classed as a 'healthy trade,' and death-rate and sickness-rate will always be higher amongst underground workers than amongst those employed elsewhere. I am sure more generous diet, elimination of weaklings, and improvements in housing will have a very marked effect in the future, but I am certain that constant surveillance is required and housing, clothing, general care, and especially the character and quality of the food supplied, should be constantly watched by Government officials, because the native mine worker is living here under special conditions sanctioned by Government."

Appeals to Charity.

Exceptional conditions may demand exceptional treatment and yet every method of treatment should be capable of explanation and of justification. By an unfortunate coincidence many of the large hospitals in London are at the present moment making appeals to the charitable public. These appeals are, we have no doubt whatever, in every case fully warranted. It is true that the requisite sums appear to be enormous, but it is also true that new buildings cannot be provided without considerable outlay and that those who contribute desire that all modern improvements should be utilised, and modern improvements as interpreted by the builders of hospitals are very costly. The annual contributions of the charitable show very slight variations, however out of the common the stimuli to generosity may be. Hence, it is evident that when several building funds are started almost simultaneously the chances of success are diminished. The public appeals partake of the nature of competition and business methods are likely to make an undesirable appearance. Happily, it is not generally considered necessary for the members of the staff of the hospitals to be responsible for the collection of the funds to meet current expenses or for the methods employed to attract subscriptions. Every hospital has a board of laymen who have charge of business matters and these boards generally give time and thought to such questions while the medical staff carry on the professional work without being called upon to inquire in any detailed manner into the means adopted to secure subscriptions. But this detachment may be followed by a rude awakening. For example, in the anxiety to capture subscriptions a lay committee might be tempted to resort to methods of advertisement which offend every principle of good taste or to offer commissions upon the receipts which might seriously check the liberality of constant subscribers. The cheerful giver should not be perplexed by thoughts of percentages or by any misgiving as to the way in which his donation may be expended and these things have happened before now when the advertisements of charities have been ill-managed.

Quite recently a series of articles has been appearing in the advertisement columns of the *Times* with a prefatory announcement that these notes "were prepared by a member of the advertising staff" and that "the information supplied has been verified by independent investigation." These notes are marked "copyright," as though they were so valuable that other papers might be tempted to annex them. We have perused with amusement, not unmixed with surprise, these articles which are apparently designed to stimulate popular sympathy in St. Bartholomew's Hospital. Can it really be true that the appalling nonsense contained in these sensational advertisements is necessary in an appeal to the charitable? The headlines of the series are fairly typical. They are the following: "A Great Hospital and its History," "The Hall of Woe," "The Homes of Healing," "The Theatre of Life," and "The Need of St. Bartholomew's." Is there any moral to be drawn from all this parade of the conditions described in such lurid style? We have recently protested against the abuse of literature in the publication of sick room details in the pages of a magazine, but in this series of articles, alternating with displayed advertisements of official character and of equal length, we find graver objections. The appeal to a perplexed public makes much of the truisms of hospital life; it seems to present as marvels of science the conditions which might be met within the walls of all hospitals, and in the end we feel that we have been reading "a thing made of a dream" based upon misunderstood facts. Not for the world would we say anything that would be likely to decrease the chances that St. Bartholomew's Hospital may have of obtaining all the money required by that excellent and venerable institution; but we truly feel that such appeals as have been made in the advertisement columns of the *Times* misrepresent, cheapen, and degrade the services rendered by our great medical charities. The authorities at St. Bartholomew's Hospital may be able to show that in the result much money has been obtained, to which we would reply that the result in this case does not justify the means.

All advertisements must be regarded in the light of business transactions; they are paid for with a definite object. Even accepting the charitable suggestion that this lavish expenditure is paid for and organised by some independent "well wisher" it may well be doubted whether it will not do harm rather than good. Small subscribers will not readily understand the sacrifice of a whale to catch the sprats, even though it is true that a sufficiency of sprats may outweigh a whale. But apart from mere material considerations the policy of permitting such a deluge of hysterical nonsense is open to question, since nothing but ridicule can result from the absurd exaggerations set forth in these articles. To protest too much is to challenge contradiction. To hold up for admiration and commendation facts which are only the details of ordinary routine within the walls of every large general hospital can serve no good purpose. Charitable appeals unfortunately must be addressed as much to the emotions as to the intellect; at least, this appears to be the teaching of experience. While admitting the exceptional needs which are urged in many directions by those responsible for the management of our hospitals, and while cordially wishing that all may succeed in the *endeavour to put their houses in order*, we may express an earnest desire that the unfortunate example set forth in these articles will not be imitated, endorsing the similar wish of our correspondent "A Hospital Surgeon."

Annotations.

"Ne quid nimis."

THE TENURE OF PUBLIC HEALTH APPOINTMENTS.

IN a recent number of THE LANCET two instances were given of the grave results which may follow the very unsatisfactory conditions under which the majority of provincial medical officers of health at present hold office. One referred to Mr. A. Stewart Norman who had been medical officer of health of the Havant rural district for 26 years. The term for which he had been last elected having expired the district council instead of re-electing him as in former years issued an advertisement for a medical officer of health. Happily no other local practitioner applied for the post and Mr. Norman was perforce elected. The other instance has not been concluded so satisfactorily and unless the Local Government Board deals with the matter firmly not only will a grave injustice be done to an eminent public health officer but the public health service will receive one of the severest blows that has been administered to it for a long time. In this case the Chipping Sodbury rural district council sought to sever its connexion with several other councils in Gloucestershire with which it had acted in combination since 1873 for the purpose of appointing a joint medical officer of health. Since the date named Dr. Francis T. Bond has ably served the districts concerned and since 1888 he has been re-elected year by year by the individual councils. In October of last year three parishes were added to the Chipping Sodbury district from Barton Regis, the remaining portion of which district was taken into the city of Bristol. The population of the three parishes was about 4600 and the dispute between the Chipping Sodbury council and its medical officer of health appears to have arisen solely from his refusal to undertake the control of these additional parishes without any additional remuneration. He was eventually given an increased salary at the rate of £33 per annum and apparently out of revenge for his objecting to work for nothing the council has now elected a local practitioner as medical officer of health after first stating in the advertisement relating to the appointment that the officer must reside within the district. Dr. Theodore Thomson, one of the medical inspectors of the Local Government Board, attended the meeting of the district council at which the election took place and stated that the Board disapproved of any secession from the combination of districts and hinted at a possibility of the Board withholding its sanction to the appointment of a local medical man, a course which would prevent the council from obtaining a moiety of his salary from the county council. As already indicated, the council refused to follow the advice of the central authority. The injustice to Dr. Bond is so glaring that it is unnecessary to dwell upon this phase of the question. There is the larger and broader aspect as it affects the public generally which should at once receive the consideration of the Government. The dismissal of an official of the standing and ability of Dr. Bond for no good reason at all and after 32 years of loyal service cannot fail to come as a shock to all provincial medical officers of health and they are not likely to do their work any better with the possibility of similar treatment being meted out to them. Is it likely, too, that the best men amongst medical practitioners will enter the public health service if reasonable security in their official positions is denied to them? There are, indeed, some public health teachers who say that already there is a falling off in the standard of excellence of those who are studying this branch of the profession. The Public Health Bill which Dr. C. F. Hutchinson is desirous of bringing before Parliament has apparently little chance even of being discussed unless the Government affords special facilities, but with the strong recommendation of the Duke of Devonshire's Inter-Departmental Committee on Physical Deterioration to the effect that a medical officer of health who devotes his whole time to the work of his office should in no case, unless convicted of misconduct, be dismissed without the consent of the Local Government Board, there is every justification for the Government bringing in a Bill of its own on the same lines as that of Dr. Hutchinson. Such a Bill ought to meet with approval from both sides of the House, for the principle has been advocated by Mr. Balfour, Sir Michael Hicks Beach, and Sir Francis Sharp Powell, as well as by Sir Walter Foster, Sir Michael Foster, and many of the Members who represent labour interests.

THE TITLE OF THE LICENTIATES OF THE SOCIETY OF APOTHECARIES OF LONDON.

FOR many years it has been felt that the professional title by which Licentiates of the Society of Apothecaries are described is to a certain extent anomalous or incomplete and our columns have on numerous occasions referred to difficulties arising from this cause. The source of the trouble seems to be partly of remote origin but is mainly due to the evolution of new conditions in medical practice during the last 20 years. Briefly stated, the Apothecaries Act of 1815 authorised the Society to appoint a court of examiners, consisting of 12 of its own members, to examine candidates as to their skill and ability in the science and practice of medicine and their fitness to practise as apothecaries. Each successful candidate received a certificate of his being duly qualified to practise as an apothecary and was styled a "Licentiate" of the Society of Apothecaries. The Medical Act of 1858 provided in Section 31 (repealed by the Medical Act of 1886) that every person registered under the said Act should be entitled, according to his qualification or qualifications, to practise medicine or surgery or medicine and surgery as the case might be. By the Apothecaries Act Amendment Act of 1874 the Society was enabled to appoint as examiners persons not members of the Society. The Medical Act of 1886 provided that after June 1st, 1887, no person should be registered under the Medical Acts unless he had passed a qualifying examination in medicine, surgery, and midwifery; this Act further provided that licensing medical bodies might combine for the purpose of holding such qualifying examinations and that assistant examiners might be appointed to take part in the examinations of any licensing body which might be unable to obtain admission to such a combination, the duty of such assistant examiners being to secure the maintenance of the requisite standard of proficiency on the part of the examinees. The Royal College of Physicians of London and the Royal College of Surgeons of England entered into a combination for conducting their qualifying examinations and the Society of Apothecaries being outside this combination requested the General Medical Council to appoint assistant examiners to take part in its examinations. The General Medical Council thereupon appointed at first three and afterwards five Fellows of the Royal College of Surgeons of England to act as assistant examiners in accordance with the provisions of the Act. The diploma of the Society of Apothecaries is therefore indisputable evidence that its holder has passed examinations in, and is entitled to practise, medicine, surgery, and midwifery, but the Society now considers that the holders of its diplomas are placed at some disadvantage as medical attendants of the public owing to the circumstance that their professional title as entered in the Medical Register describes them merely as "Licentiate of the Society of Apothecaries." The Society, in fact, objects to this title and description as being "misleading and containing no indication that they are legally entitled to practise surgery as well as medicine or that they are in fact legally qualified medical practitioners at all." A memorial to the General Medical Council is therefore in preparation praying that the qualification entered, or to be entered, in the Medical Register shall be changed from "Licentiate of the Society of Apothecaries" to "Licentiate in Medicine, Surgery, and Midwifery of the Society of Apothecaries," or some equivalent title.

THE METROPOLITAN ASYLUMS BOARD AND THE TREATMENT OF PULMONARY TUBERCULOSIS.

"BETWEEN 7000 and 8000 persons (of whom the large majority are adults in the prime of life) die every year in London from pulmonary phthisis." Thus runs the opening paragraph of a memorial, presented on April 15th, 1905, to the Metropolitan Asylums Board by a deputation representing sundry associations concerned with the improvement of the public health. The deputation was organised by the metropolitan branch of the Incorporated Society of Medical Officers of Health and received the support of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis, the Royal Institute of Public Health, the National Health Society, the Royal Sanitary Institute, and other influential bodies. On behalf of the deputation four speakers—viz., Dr. T. O. Dudfield, Sir William H. Broadbent, Mr. W. G. Bunn, and Sir Edmund Hay Currie—addressed the Board, dwelling upon the gravity of the situation and urging the desirability of action upon the lines already followed in regard to other infectious diseases—e.g., scarlet fever, diphtheria, and small-pox. It was suggested—

[illegible]

The section of the Public Health (London) Act here mentioned is the one which enables the Metropolitan Asylums Board to admit to its fever and small-pox hospitals persons who are not paupers without depriving such persons of any right or privilege or subjecting them to any disability or disqualification. We are given to understand that the deputation was sympathetically received and that the Board referred the matter to its general purposes committee, which, we may note, consists of all the members of the Board, for consideration and report. It goes without saying that we also are entirely in sympathy with the views expressed in the memorial as to the importance of the issue raised by the prevalence of consumption. We wonder, however, whether the deputation fully realised the magnitude of the responsibility which it desired the Metropolitan Asylums Board to undertake. At present the Board has about 40 institutions for the reception of patients of various classes and on Dec. 31st, 1903, these contained 10,812 persons. In the absence of notification it is impossible to estimate with any satisfactory degree of accuracy the number of persons in London who are suffering from consumption, but during the year 1904 there were 7738 deaths from this form of tuberculosis alone. It seems therefore reasonable to suppose that if the provision of adequate sanatorium accommodation devolves upon the Board the work of that body will be at least doubled. The memorial states that "the money value to the community of the lives lost every year from this preventable and curable disease (i.e., phthisis) is enormous and immensely transcends any possible cost to the rates by sanatorium provision." This opinion must, we think, be accepted with some reserve. It involves assumptions as to the merits of sanatorium treatment which are as yet hardly justifiable. As bearing upon this aspect of the subject we would direct attention to an annotation which, under the title "The Value of Sanatoriums," appeared in THE LANCET of Sept. 26th, 1903, p. 896, and to an address by Dr. J. E. Nevins of Liverpool, reported in our issue of April 22nd, p. 1096. The Metropolitan Asylums Board would not, at present, be warranted in incurring a huge expenditure on hospitals for consumptive cases but there can be no objection to its obtaining powers which would enable it to make such experiments in the way of supplying facilities for the open-air treatment of pulmonary tuberculosis as would place the community in a position to decide upon the economic advantages of the procedure.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE election of Sir Richard Douglas Powell as President of the Royal College of Physicians of London will be received with general satisfaction by the medical profession. His invariable courtesy, dignity of manner, and sound judgment render him admirably suited to act as the titular head of the profession and to represent the College both within and without its walls. We offer him our sincere congratulations on his election. At the present time there is an earnest movement on foot to bring about an amalgamation of the principal London medical societies. Sir Richard Douglas Powell is taking a leading part in this endeavour and as President of the Royal Medical and Chirurgical Society he is one of the committee appointed to consider the first steps which will be necessary to bring about the desired result. His election to the Presidency of the Royal College of Physicians of London comes, therefore, at an opportune moment as lending additional weight to his position on that committee. He will thus be a member of the committee in two capacities, for the Presidents of the two Royal Colleges were requested to serve when that body was appointed. The outcome of the proceedings will be awaited with interest.

APPENDICITIS IN A CHILD, AGED 14 MONTHS, DUE TO IMPACTION OF A PIN.

IN the *New York Medical Journal* of March 11th Dr. L. W. Glazebrook has reported the following remarkable case. A child, aged 14 months, an inmate of an orphan asylum, whilst playing at 10 A.M. was noticed to be ill by her nurse. She was cyanotic and had a severe rigor. She was taken up from the floor and cried with pain on being moved. Ten drops of whisky-and-water were given and she fell asleep but was pale and breathed rapidly. She was put to bed and remained quiet until 12 o'clock, when she awoke crying with pain, which appeared to be situated in the lower part of the chest on the right side. The pallor and rapid breathing continued. At 1 P.M., when she was first seen by Dr. Glazebrook, she was semi-comatose and exhibited symptoms of pneumonia. Before she could be examined she died. Her father died some six months previously from some acute disease and she was admitted to the orphanage two months before her death and then appeared to be healthy. At times she had attacks of "wind colic" which yielded to simple remedies. Dr. Glazebrook, who is a physician to the asylum, was never asked to see her previously. At the necropsy the large omentum was found adherent to the middle of the vermiform appendix. The adhesion was very firm and appeared to be of several months' duration. Three-eighths of an inch from the tip a small round mass was felt in the appendix. Upon opening the latter this was found to be the head of a black mourning-pin. At the place of adhesion was a small perforation of the appendix from which about a drachm of green pus was escaping. The point of the pin was in the position of the perforation. No attendant in the orphanage wore mourning-pins. This fact and the density of the adhesion of the appendix to the mesentery led to the conclusion that the child prior to admission, whilst being suckled by her mother, swallowed the pin. The latter punctured the appendix, set up local peritonitis, terminating in the formation of the adhesion. The fatal illness was of only three and a half hours' duration and was due to perforation of the appendix into the peritoneal cavity. Cases of appendicitis due to foreign bodies, for which at one time fæcal concretions were mistaken, are much rarer than was supposed. In 1000 necropsies Dr. Glazebrook found foreign bodies in the appendix only twice.

LIFE INSURANCE OF MEDICAL MEN BY RUSSIAN LOCAL GOVERNMENT.

THE Minsk local government, in view of the threatened invasion of cholera, has invited medical practitioners, irrespectively of creed, to occupy the vacant practices in the province of the Minsk government. In event of cholera appearing in the government the medical men's lives will be insured by the authorities for £800 and those of the students (students of five years' standing are included in the invitation) for £500. This would seem to be a practical solution of a great difficulty. In times of foidemic, of however dangerous a nature, no medical man ural distres to do his duty, but it is impossible for a maeveral other co wife and chöucestershire with which wedad acted in com poverty, since 1873 for the purpose of appointing a joint mn to a officer of health. Since the date named Dr. Francis are Bond has ably served the districts concerned and since 18trt he has been re-elected year by year by the individual councils. In October of last year three parishes were added to the Chipping Sodbury district from Barton Regis, the remaining portion of which ved ised it was taken into the city of Bristol. The population of the three parishes was about 4600 and the dispute between the Chipping Sodbury council and its medical officer of health appears to have arisen solely from his refusal to undertake the control of these additional parishes without any additional remuneraticere He was eventually given an increased salary at e of rate of £33 per annum and apparently out of reve erto for his objecting to work for nothing the council rugs now elected a local practitioner as medical officer the health after first stating in the advertisement relaiism, to the appointment that the officer must reside wmally the district. Dr. Theodore Thomson, one of the mecyllin inspectors of the Local Government Board, attendeeds, so isn ting of the district council at which the elout to untry lace and stated that the Board disapproved cariably e suppo from the combination of districts and inished surely the ity of the Board withholding its sanction ns lost ny medical of a local medical man, a course whiclly bile- crimipating ouncil from obtaining a moiety of hir slowly insure ty council. As already indicated, the c semi- ow the advice of the central authority. y-like d is so glaring that it is unnecessar has

been given and in which constipation frequently alternates with diarrhœa. The palatinoids were given every second hour if necessary, but rarely more than eight a day were required, and soon two or three sufficed. The best time to administer them was found to be after food. The tenderness so frequently noted over the lower part of the abdomen disappeared under this treatment, likewise the distension, but flatulence still proved a troublesome symptom to relieve. There was a steady increase in weight with ability to endure cold and to take exercise without fatigue. Dr. Hartigan maintains that the great advantage of giving cyllin is that it enables the patient to resume an ordinary, though restricted, diet much sooner than when treatment by diet alone is adopted. The drug must not be suddenly discontinued but it should be continued in reduced doses for about a month after all symptoms of disease have disappeared. Cases of sprue are not often seen in this country and consequently few opportunities arise for taking any particular line of treatment. Doubtless, however, cyllin will be tried in eastern countries, China more particularly, where this disease accounts for a large number of deaths, and the results of its administration will be watched with interest.

THE MANCHESTER EDUCATION COMMITTEE AND FEEBLE-MINDED CHILDREN.

THE first special school for feeble-minded children in Manchester was opened by the education committee in April, 1902. Now there are three such schools, affording accommodation as follows. Embden-street school can take 90 children, Hague-street 80, and the Harpurhey Hall school 48, making a total of 218. The second annual report of these schools has just been issued by Dr. Henry Ashby and it states that during the year 1904 there were 159 children amined for admission, of whom 139 were passed and 20 any re rejected. Of the 20 who were rejected eight ... imbeciles and therefore not eligible, while nine were considered as not defective. Dr. Ashby reports that among the upper grade children—i.e., some 30 or 40 per cent. of the scholars—the improvement has been very gratifying and that there is every reason to believe that in the future they will be able to earn their own living at some handicraft. In the next grade, which numbers from 40 to 50 per cent. of the scholars, the improvement is not so marked and it is doubtful whether they will ever be able to earn their own living, but in a labour colony they could contribute materially to their own support. As for the third grade, who number 10 or 12 per cent. of the scholars, it "would be better for themselves and everyone else for them to be inmates of a State-aided institution." The chief causes of the mental deficiency are the fecklessness of parents, bad home conditions, and hereditary influences. As for diet, improper feeding plays a larger part than actual lack of food. On the whole the report shows that the schools are doing much good.

THE PATHOLOGY AND BACTERIOLOGY OF ACUTE MENINGITIS.

OUR knowledge of the pathology and bacteriology of cerebro-spinal meningitis is so recent that a survey of the facts which have been discovered is opportune. Such is furnished by a paper contributed to the *Albany Medical Annals* for March by Dr. W. T. Councilman. All cases of meningitis are cerebro-spinal and strictly speaking the term meningo-encephalitis is applicable, for careful examination always shows some extension of the inflammation to the brain itself. Infectious agents gain access to the meninges by the blood or the lymphatics or by extension from adjacent regions. All forms of meningitis agree more or less anatomically, though there are certain minor differences.

The same kind of exudation may be produced by the diplococcus meningitidis, the pneumococcus, the streptococcus, or the tubercle bacillus. Acute meningitis may be produced by a number of organisms. The three most usually concerned are the diplococcus intracellularis meningitidis, the pneumococcus, and the streptococcus. The first is the cause of the form known as epidemic cerebro-spinal meningitis, which we have recently discussed in THE LANCET of April 14th, p. 1010. But this disease may exist in a sporadic as well as an epidemic form. The mortality is less in this form than in the others and appears to be less in sporadic cases than in epidemics. The diplococcus has been found in the nose associated with acute rhinitis. Possibly it spreads thence to the brain by the lymphatics. With rare exceptions cases of primary meningitis are due to this organism. Out of 61 necropsies performed at the Massachusetts General Hospital and the Boston City Hospital in cases of meningitis 21 were found to be of the epidemic form. In 18 cases the disease was due to the pneumococcus. In six cases the meningitis was secondary to otitis media and in one to infection of a tumour of the sphenoid bone. In one case it was streptococcic and secondary to fracture of the skull; in one, to prostatic abscess; in one, to acute infection of the ethmoid bone; in two, to croupous pneumonia; in four, to broncho-pneumonia and pleurisy; and in two, to acute pneumococcic endocarditis. In but few of the cases did the meningitis appear to be embolic; in most of them it was due to extension by continuity or by the lymphatics. There were 18 streptococcic cases and one was primary. Of the 17 others seven were secondary to fracture of, or operation on, the skull; eight to otitis media or mastoiditis; one to acute streptococcic endocarditis; and one to broncho-pneumonia and cystitis. Fatal sporadic cases were equally divided between the three organisms mentioned above. Two cases were due to the staphylococcus aureus. In one case the anthrax bacillus produced the meningitis, which was secondary to a primary lesion on the face.

THE MORTALITY FROM PLAGUE IN INDIA.

IN THE LANCET of March 25th, p. 807, we commented upon the appalling mortality from plague, a disease which is at present scourging India, and gave it as our opinion that the urgency of the situation has not as yet been fully recognised. At the Comitia of the Royal College of Physicians of London held on April 17th the following motion was proposed by Dr. Norman Moore, seconded by Sir Dyce Duckworth, and supported by Dr. J. F. Payne—

> That in view of the constantly increasing [illegible]
>
> Government on the subject.

The motion was carried and the nomination of the members of the committee was left in the hands of the President. It is true that the prevention of plague in an oriental country presents great difficulties. The poorer classes of India have but little reserve of strength, caste prejudice and religious difficulties stand in the way of such hygienic measures as notification, preventive inoculation, and proper sanitation, while the unfortunate infection of a batch of plague serum with the germs of tetanus which occurred but recently has naturally caused a dislike to this method of prevention. Moreover, the tendency of the oriental races when afflicted by illness is not merely to take no measures for treatment but also to refrain from making any mental effort to get well. This they would consider impious and it is not so very long ago since we in this country viewed cholera in the same way as a divine punishment, so that many persons considered that to take hygienic measures was fighting against God. We have now learned better and have come to agree with the opinion of Salvian concerning the conquest of Rome by the Goths, that our evils are due to our vices. It is not nowadays a characteristic of the inhabitants of these islands to sit with folded hands and not to do their utmost to combat difficulties. We trust that the committee to be appointed will strongly recommend the Royal College of Physicians of London to make urgent representations to the Government and to assist our rulers in every possible way to do their utmost to remove what we must stigmatise as a blot upon our administration of the chief part of our eastern empire.

RESULT OF RECENT RAILWAY ACCIDENTS IN THE UNITED STATES.

A REPORT of the railway accidents in the United States during the months of October to December, 1904, has been compiled and published by the *Inter-State Commerce* Commission. During that period 53 passengers and 189 employés were killed and 1430 passengers and 1868 employés were injured—a total of 242 persons killed and 3298 injured in railway accidents. Other accidents to passengers and employés, not the result of collisions or derailments, bring the total number of casualties up to 14,978—951 killed and 14,027 injured.

HERPES OF THE FIFTH NERVE AND SPINAL LYMPHOCYTOSIS IN MUMPS.

A NUMBER of nervous complications, such as neuritis, meningitis, and deafness, may occur in mumps. The recent practice of lumbar puncture has enabled French observers to throw light on the pathology of these complications. M. Monod has shown that the systematic practice of lumbar puncture in children suffering from mumps frequently reveals the existence of spinal lymphocytosis. M. A. Chauffard and M. L. Boidin have confirmed this fact and have demonstrated a relation between the meningeal reaction and certain nervous symptoms, such as headache and bradycardia.[1] They thought that the meningitic process was localised in the neighbourhood of the medulla and the pons. Subsequently M. Dopter observed facial paralysis in a case of mumps with meningeal lymphocytosis and concluded that it was due to a meningeal lesion in the neighbourhood of the pons. At the meeting of the Société Médicale des Hôpitaux of Paris on Feb. 17th M. J. A. Sicard reported a case which confirms this conclusion as to the localisation of the meningeal process and in which occurred a complication which does not appear to have been previously described in mumps, herpes of the fifth nerve. A boy, aged 12 years, went to hospital suffering from mumps on both sides. The disease began four days previously with fever, insomnia, and headache. On the following day the parotid glands were swollen. He was prostrate and could scarcely walk. He complained of frontal and occipital headache and pains were provoked in the parotid glands by palpation and mastication. The left parotid gland was more swollen than the right. The temperature was 100·9°F., the pulse was 64, and the respirations were 20. Kernig's sign was present in slight degree. The patient was asked to go into hospital but refused. Nine days later he returned with an eruption on the face which had appeared on the previous day and was accompanied with an exacerbation of the headache, the fever, and the general lassitude, although the parotid swellings had almost disappeared. The eruption was a well-marked herpes of the right side of the face situated in the supra-orbital region, on the upper lid, and in the pinna. In the evening he vomited thrice, the neck was rigid, and Kernig's sign was present. The temperature was 101° and the pulse was 70. On the following day fresh vesicles appeared and the left half of the face became œdematous. Lumbar puncture yielded fluid very rich in lymphocytes but limpid. On the following days he rapidly improved and the vesicles dried up. A second lumbar puncture, performed 17 days after the first, showed slight lymphocytosis. The herpes involved the supra-orbital branch of the ophthalmic division of the fifth nerve and the auriculo-temporal branch of the inferior maxillary division. M. Sicard thinks that it was due to extension of the meningeal process to the Gasserian ganglion.

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[1] THE LANCET, May 7th, 1904, p. 1297.

PRESCRIBING v. DISPENSING IN MEDICAL PRACTICE.

IN May of last year a committee was appointed by the Islington Medical Society to inquire into the relative merits of prescribing and dispensing in medical practice. The points discussed were:—1. The ethical aspects of this question as regards patient, druggist, and practitioner. 2. Objections urged against prescribing on the ground of loss of income by medical men: (*a*) by their seeing patients less often than when dispensing; (*b*) by misuse of prescriptions—e.g., unauthorised repetition and transfer of prescriptions to others; and (*c*) by patients being driven, on account of cost of medicines, to hospitals, dispensaries, and prescribing druggists. 3. Profit or loss on drugs, surgery expenses, and repetitions of medicines under either system. 4. Position of druggists in relation to this subject as regards charges, counter-prescribing, and so on. 5. Position of the poor generally and of club patients under either system. The committee has made its report and the conclusions arrived at by it are the following. As to Question 1 the committee is agreed that, considered from the ethical standpoint, the use of prescriptions is preferable to dispensing. As to Question 2 it states that it would prefer to prescribe but must admit that to do so would entail loss to the practitioner, which loss, however, might by arrangement be minimised. In this connexion it wishes to direct attention to the recommendations of the medico-political committee of the British Medical Association,[1] that—

(*a*) Members of the profession should adopt the practice of indicating on every prescription the period or the number of times for which it was intended to be dispensed.

(*b*) That, in order to prevent copying, all prescriptions should be signed by the practitioner with his full name and address and not merely initialled.

(*c*) That medical practitioners should observe the rule of not recommending drugs or special preparations to their patients by name, but always ordering them by prescription.

As to Question 3, the committee considers that in respect of the items under this heading it is more profitable to dispense than to prescribe. As to Question 4, it believes that druggists are, as a rule, disposed to be amenable to the views of medical men if the latter should agree to prescribe instead of dispensing. As to Question 5, it considers that the prescribing system, if adopted generally, would be applicable to practice among the poor, including club patients.

THE STERILISATION OF CATGUT.

M. Albert Petit in the *Journal de Pharmacie et de Chemie* of March 16th gives the results of his work on the various methods of sterilising catgut. Maceration of the gut in carbolised oil was found to be impracticable because the process takes one year for complete sterilisation and the product is slippery to the touch. Dipping in a solution of nitrate of silver until the gut was blackened and the method of sterilising in a dry heat at 150° C. both gave a hard gut which was difficult to tie. Acetone was not found better for the purpose than absolute alcohol and was rejected owing to its unpleasant odour. The English method of dipping the gut first in formaldehyde and then in boiling water for a time depending on the thickness of the gut is, in the opinion of M. Petit, too complicated a process to be above reproach. He has found the absolute alcohol method to be the surest and the most practical. The actual sterilisation is first effected by gradually heating the gut to 130° C. for half an hour. It is then quite free from water and as a result somewhat brittle, but just before use it is placed in sterilised water or in any antiseptic solution, when it takes up water and regains its suppleness, elasticity, and firmness and may be depended upon as a perfectly sterile suture.

THE ALIMENTARY VALUE OF SUGAR IN TUBERCULOSIS.

IN a contribution to the Société de Thérapeutique René Layfer discusses the value of sugar in the dietary of tuberculous patients. Sugar being easy to take and to assimilate and having a high calorific value might, it was thought, replace a part of the albuminoids in the diet without lowering the weight of the patient. Two cases were taken in which the diet consisted of 300 grammes of raw meat and two grammes of total albumin per kilogramme. The meat was reduced to 150 grammes, equivalent to 1·2 grammes of albumin per kilogramme. At the end of 12 days of this fare increase of weight had ceased in one case and a loss in weight of 300 grammes had occurred in the other. Each patient was then supplied with 70 grammes of sugar in addition and a gain in weight was experienced. In a general way tuberculous patients tolerate for a long time from 50 to 90 grammes of sugar daily. Thus a gain in weight of from 20 to 90 grammes per day was obtained by simply adding to the patient's ordinary diet from six to ten pieces of sugar daily, administered in a little milk after each meal. But sugar was found to be particularly valuable as an addition to a strict milk diet, yielding quite a perceptible increase in weight, as shown by a typical case. A patient who through a loathing of food was taking only from two to two and a half litres of milk a day and had become quite emaciated regained his usual weight in 45 days by adding to the milk diet 200 grammes of sugar daily. It is particularly with milk that large quantities of sugar are tolerated, either dissolved in the milk or dissolved in water and taken after each dose of milk. The writer mentions six other cases in which the diet consisted of three litres of milk a day and from 50 to 200 grammes of sugar; in each case a gain in weight varying from 15 to 75 grammes a day was experienced and the diet was tolerated by the patient.

TUBERCULOSIS IN PENAL INSTITUTIONS OF THE UNITED STATES.

Dr. J. B. Ransom, physician to Clinton prison, Dannemora, New York State, has prepared a report on the above subject for the Eighth International Prison Congress, 1905. The report shows that pulmonary tuberculosis is very prevalent in prisons but that owing to a lack of statistics authentic information on the subject is difficult to procure. Dr. Ransom found it necessary to an intelligent plan of procedure to place himself in touch with all the penal institutions of the country, asking for certain information with regard to pulmonary tuberculosis. With the information thus gained, together with his own experience, Dr. Ransom has summarised the means which he considers most likely to secure the best results in the direction of prevention and treatment of consumption in prisons. Among these are the following: improved construction, housing and working environment, larger, better ventilated and lighted prison cells; the recognition of the prisoner's receptivity to infection and his assignment to the most favourable opportunities for resisting the disease; substitution in so far as is possible of other forms of punishment for those of the solitary and dark cell with starvation diet; provisions for proper clothing, its cleansing and disinfection, and the administration of spray baths and physical exercise in the open air; the absolute separation from the prison population proper of all tuberculous subjects, together with strict regulation of the spitting habit, the destruction of sputa, the absolute disinfection of beds and bedding used by one inmate and transferred to another's use, and the control of the production of dust in living quarters and workshops; special wards for the treatment of all active cases; and a compulsory law compelling the examination of everyone admitted to any penal institution for the purpose of an early detection of the disease. Dr. Ransom points out that it is not only incumbent upon the State to care for prisoners properly upon humanitarian grounds but that it is necessary in the interests of public health to send forth a released prisoner in a good physical condition. For instance, if an individual is sent into the world of free men suffering from consumption in an advanced stage he is both a menace and an expense to the community at large. Therefore, from an economic and public health standpoint, the prisoner's health should be carefully guarded whilst under restraint.

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[1] Supplement to the Brit. Med. Jour., Nov. 26th, 1904.

THE VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

WE are informed that the British ambassador in Paris, Sir Francis Bertie, has accepted an invitation to be present at a banquet to be given on May 13th to the British medical men visiting Paris. The honorary secretaries of the London committee ask us to state that the failure of so many members of the British party to respond to the inquiries in the circular addressed to them ten days ago is causing great embarrassment not only to them but also to those who so generously propose to entertain parties at Vichy and Evian and at the watering places of Béarn. We are also asked to state for the information of members of the party that ladies are invited to attend the opening reception at the Sorbonne on Wednesday evening, May 10th, at 9 P.M., and that the return tickets at reduced fares, to be obtained on presentation of a voucher, will be available by any of the S E. & C.R. Co.'s services from Charing Cross or Victoria, will be issued on any date from May 6th to 11th inclusive, and will be available for a fortnight from the day of issue.

THE medical officer of health of the Cape Colony states that for the week ending April 1st the condition of the colony as regards plague was as follows. At East London five cases of plague were discovered during the week, four of the patients being European males and one a native male. Plague-infected rodents were found at Port Elizabeth and at East London, and at the latter place one plague-infected cat was found also. In the other districts of the colony no case of plague in man or in other animal was found. In Brisbane for the week ending March 4th one case of plague was notified, the patient, a man, dying on March 2nd. In the week ending March 11th two cases occurred. One patient was a Chinese, who died on the 7th, and the other a boy whose case was notified on the 9th. For the week ending March 18th no cases were notified. Plague-infected rodents continued to be found.

THE colleagues, former pupils, and other friends of Professor Samuel Pozzi of Paris have arranged to present him with a medal in commemoration of his having presided over the seventeenth French congress of surgery and having been promoted to the rank of Commander of the Legion of Honour. The secretary of the committee in charge of the arrangements is Dr. Jayle. The subscription list will remain open until June 15th and contributions will be received by M. Pierre Masson, éditeur, 120, Boulevard St. Germain, Paris. Subscribers of 25 francs and upwards will receive a bronze medal before the end of the present year.

THE annual dinner of the Royal Sanitary Institute will be held in the Prince's Restaurant on Friday, May 12th, at 7 P.M., the Duke of Northumberland, President of the Institute, being in the chair. All applications for tickets should be made to Mr. E. White Wallis, secretary, at 72, Margaret-street, London, W.

THE Ingleby lectures of the University of Birmingham for 1905 will be delivered on Thursdays, May 4th and 11th, at 4 o'clock, in the Medical Lecture Theatre, by Dr. James Kerr, medical officer (education), London County Council, who has taken for his subject "Mentally Defective Children."

THE death is announced on April 20th, at the age of 72 years, of Sir John Sibbald, M.D., F.R.C.P. Edin., who was from 1878 to 1899 a Commissioner in Lunacy for Scotland and wrote much as a recognised authority upon insanity regarded chiefly from its sociological side.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER IX.[1]

THE COLONIAL MEDICAL SERVICE.

The Colonial Appointments.—Their Anomalies and Contradictions.—The Well-organised West African Medical Staff.

THE duties and responsibilities of the Colonial Medical Service are rapidly increasing with the vastness of the epidemiological fields open to its members. But the service is in a muddle. It contains good berths and often has thoroughly good men to fill them, but it is in course of evolution and presents the inequalities and anomalies arising from its transitional state. The great self-governing colonies, of course, stand in no need of an Imperial service. Canada, Australia and New Zealand, Cape Colony and Natal possess properly equipped medical schools and hospitals. They, notably the first three, turn out sufficient medical men from the local supply to meet the local wants, while they attract by the freedom of colonial life and the opportunities of private practice a certain number of medical men from the mother country. India is manned by the Indian Medical Service, as well as by highly educated and competent natives, to whom some superior opportunities, though not many, are now allowed for holding appointments. These countries represent the flower of our dependencies and they have reached a stage of development when they require no medical service supplied to them from a central government. At the other end of the scale we have countries which are not yet ripe for a civilian medical service and for whose needs, as far as the men of our own race are concerned, the officers of the Army Medical Service, or the medical men in the pay of pioneering expeditions, must suffice. Certain protectorates again, as Cyprus and British Borneo, fall under the jurisdiction of the Foreign Office, with whom the responsibility of finding the necessary medical men will rest until the country becomes a Crown Colony. Until this month Uganda has been in the same position, but on April 1st the jurisdiction over the East Africa Protectorate passed from the Foreign Office to the Colonial

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[1] Chapters I., II., III., IV., V., VI., VII., and VIII. were published in THE LANCET of Feb. 18th (p. 447), and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), and 22nd (p. 1089), 1905, respectively.

Office. Between these two extremes come the countries the medical departments of which are regulated from the Colonial Office; they are:—British Guiana, Jamaica, Trinidad, Tobago, Windward Islands, Leeward Islands, British Honduras, Fiji, Ceylon, Straits Settlements, Federated Malay States, Hong-Kong, Mauritius, Seychelles, Gibraltar, St. Helena, Falkland Islands, Gambia, Sierra Leone, the Gold Coast, Lagos, Southern Nigeria, and Northern Nigeria. It is in the West Indies and the West African colonies that medical officers are chiefly required and the last six of the countries enumerated have been formed into the West African Medical Staff, a definite and properly organised service which can be considered by itself. In the other colonies special conditions attach to the service, the leading features of which may be mentioned.

The majority of the West Indian appointments involve medical charge of a district, including, as a rule, the care of a hospital, poorhouse, asylum, or other institution and free attendance on the aged and children. Passage money is granted to medical officers on first appointment, an annual vacation on full pay is given not exceeding three months in two years, and there are pensions, as a rule, where private practice is not permitted.

British Guiana.—There are 42 appointments. After two years' probation at a salary of £200 per annum, when quarters are provided but private practice is not allowed, the officer is appointed to the permanent staff with a salary of £400 per annum, rising by annual increments to £700. He can carry on private practice and receives a travelling allowance varying with the range of the duties from £100 to £150 per annum. The governor of the colony can also make appointments to the service of local practitioners who act as supernumeraries upon temporary agreements.

Jamaica.—There are 54 appointments, mainly district appointments with private practice allowed. The salary paid by Government varies from £100 to £250 per annum, and in most cases is £200. Newcomers may be attached temporarily to the public hospital in Kingston, on a salary of £200 per annum, private practice not being allowed.

Trinidad.—In Trinidad there are 32 appointments. After two years' probation at a salary of £250 per annum, with furnished quarters, during which time they are usually attached to the Government hospital, the surgeons obtain district appointments, to which they are promoted as vacancies occur. The pay is £300 per annum, which is increased to £400 and upwards by various allowances for horse, house, or other purposes. These posts carry the right to private practice. After every five years an officer is given an additional personal allowance at the rate of £50 per annum. In future there will be few appointments in Trinidad, as the Government is aiming at the introduction of a system by which the work shall be performed by private practitioners under temporary contracts. In these three colonies there is a Civil Service Widows' and Orphans' Fund established by law, to which all medical officers must contribute 4 per cent. of their salaries.

Tobago.—In the island of Tobago there are three district appointments with salaries of £250 per annum, with quarters.

Windward Islands (Grenada, St. Lucia, St. Vincent).—The 22 appointments are, with few exceptions, district appointments with the right to private practice attached. The salaries paid by Government vary from £250 to £400, with allowances in certain cases.

Leeward Islands (Antigua, St. Christopher and Nevis, Dominica, Montserrat, Virgin Islands).—The 25 appointments are of the same nature as in the Windward Islands. The Secretary of State reserves the power to transfer a medical officer from one island to another in each case. The medical officers receive fees for successful vaccinations, post-mortem examinations, attendance and giving evidence at courts of justice, certificates of lunacy, and, in the larger islands, for burial certificates. They are also allowed private practice.

British Honduras.—There are four medical appointments, besides the principal post of colonial surgeon, in all of which private practice is allowed if it does not interfere with the public duties of the officer. The pay varies from £150 to £250. Two of the medical officers are also district commissioners and receive £300 for the combined posts of medical officer and district commissioner.

Fiji.—The medical service has recently been reorganised and officers appointed in future will be styled Government medical officers and receive a salary of £300, rising by annual increments of £10 to £400. They will be allowed private practice so far as is consistent with the proper discharge of their duty and will have charge of hospitals or of districts at the discretion of the authorities. The posts will be pensionable but an allowance in lieu of free quarters will not be pensionable. There will be ultimately 15 Government medical officers in addition to a senior medical officer (who at present receives £450 and £50 allowance for house rent) and a chief medical officer who will have £600 a year. Government medical officers will be given free quarters or an allowance in lieu thereof. This privilege is non-pensionable.

Ceylon.—The pay of the 36 sub-assistant colonial surgeons and eight other subordinate medical officers is at the rate of from Rs.900 to Rs.1600 per annum. There are nine deputy assistant colonial surgeons, with salaries at the rate of from Rs.1500 to Rs.2500. The 23 assistant colonial surgeons are paid at the rate of from Rs.3000 to Rs.5000 per annum and the six colonial surgeons and three other superior medical officers at a rate of from Rs.5500 to Rs.8000 per annum. The principal civil medical officer receives Rs.15,000, rising by annual increments of Rs.500 to Rs.18,000 per annum. As might be inferred from the scale of payment private practice is allowed to the subordinate officers but the colonial surgeons may take only consultation practice. The medical service of Ceylon is mainly recruited from among gentlemen born in the island but possessing British diplomas.

Straits Settlements.—Two house surgeons in the General Hospital, Singapore, and one in the General Hospital, Penang, receive £300, rising to £360, with free quarters. There are ten other subordinate posts in the medical department with salaries varying from £300 (rising to £360) to £780 (rising to £900). Some of these posts have free quarters attached and the holders of some are allowed private practice within limits. The salary of the principal civil medical officer is £1000.

Federated Malay States.—There are 18 district surgeons on salaries varying from £480 (rising to £540) to £720 (rising to £840). There are two assistants in the Institute for Medical Research on salaries of from £360 to £420. These posts are non-pensionable and the holders are eligible for appointment as district surgeons. Medical officers have no claim to private practice, which is limited, and the enjoyment of it is strictly subject to the permission of the Government.

Hong-Kong.—The principal civil medical officer receives £800 per annum, rising to £1000. There are two health officers of the port, four medical officers of health, and four assistant surgeons with salaries of £480 rising to £720. Most of these appointments are pensionable. Private practice is not allowed and free quarters are only given in a few cases.

Mauritius.—There are 24 medical appointments in all. Of these 14 are minor appointments, with salaries varying from Rs.500 to Rs.1500 per annum. The other 10 appointments have salaries varying from Rs.2000 to Rs.9000. Free quarters are not given in most cases and private practice is not allowed in the best appointments. The service is mainly recruited from among gentlemen born on the island. Officers in the service of Mauritius are required annually to contribute 2 per cent of their salaries towards their pensions

Seychelles —There are four medical appointments The Government medical officer receives Rs 4000 The assistant Government medical officers receive Rs 3000 The holders of these latter appointments have free quarters Private practice is allowed

Gibraltar —There is a surgeon to the Colonial Hospital receiving £275 and an assistant surgeon receiving £96, in each case with quarters, fuel and light allowance, and permission for private practice The surgeon of the hospital, as medical officer of the civil prison and lunatic asylum, receives £55 and horse allowance of £42 The assistant surgeon is also public vaccinator, police surgeon, for which he is paid £45, and port surgeon, for which he receives £109

St Helena —The colonial surgeon receives £300 per annum and £30 horse allowance Private practice is allowed

Falkland Islands —There are two appointments one of which is paid at the rate of £300 per annum, with £25 as health officer, and the other at the rate of £200 per annum Private practice is allowed in both cases

Cyprus —There is a chief medical officer paid at the rate of £500 per annum, two district medical officers paid at the rate of £250 per annum, and one paid at the rate of £200, rising by £10 a year to £250, all enjoying private practice and receiving 2*s* per diem forage allowance These are the only medical appointments in the island which are open to English candidates and they are made by the Foreign Office

All applicants for medical employment in these 18 colonies must be between the ages of 23 and 30 years and must be qualified for registration Preference will be given to those who have held appointments as house physicians and house surgeons, certificates of moral character and of sobriety will be required, and every officer before being appointed will be medically examined by one of the consulting physicians of the Colonial Office There are pension funds established for widows and orphans in Ceylon, Straits Settlements, the Federated Malay State, Hong-Kong, and Mauritius to which all permanent Government servants must subscribe 4 per cent of their salaries

Cape Colony and Natal are, as has been said, self supporting colonies, but other districts in South Africa need the help of the central Government Medical appointments in the Bechuanaland Protectorate and Basutoland are made only on the recommendation of the High Commissioner of South Africa, who usually appoints local candidates Appointments of medical officers to the South African Constabulary are also made by the High Commissioner on the recommendation of the Inspector General Medical appointments in the Transvaal and Orange River Colony are only made on the recommendation of the governor of those colonies

The anomalies and contradictions implied in these notes upon the Colonial Medical Service hardly require to be pointed out. Salaries differ with no apparent difference in work or responsibility In some places there is a widows and orphans' fund, in others there is not, and where it exists the deducted percentages are not uniform Here private practice is allowed and here it is not or at any rate specific permission is omitted In some places the service is largely recruited from the native born, who are given the better berths and in others they do not seem to be taken into consideration There are no settled rules about pensions, allowances, or extra fees Titles are given at haphazard, one man is called a principal civil medical officer and another a chief medical officer It might be guessed that they hold the same rank but a Government medical officer, a colonial surgeon, and a district surgeon are not obviously interchangeable characters There are no provisions for promotion which entail that the headship of the medical department in a colony will be obtained by a member of the medical staff of the colony, so that men may be suddenly disappointed in their hopes of securing berths which had seemed well within their grasp When it is remembered that some appointments are made by the Foreign Office, some by the Colonial Office, some by colonial governors, and others by trading companies it will be seen that it is no overstatement to allude to the service as "in a muddle'

We now come to that branch of the colonial medical service which is a properly organised entity

The West African Medical Staff —The medical services of the West African colonies and protectorates—viz, Gambia, Sierra Leone, the Gold Coast, Lagos, Southern Nigeria, and Northern Nigeria—form one service under this name All the medical officers for the service are selected by the Secretary of State for the Colonies They are engaged in the first instance for one year on probation and, except the principal medical officers are allowed to engage in private practice as long as it does not interfere with the efficient discharge of their official duties There are fair allowances when junior officers discharge the work of their seniors by deputy Stores are transported free out of pocket expenses in travelling are recoverable, there are proper horse, field, and outfit allowances and all medical men are paid 10*s* per diem extra with free rations, or 3*s* in lieu of rations while serving on military expeditions Candidates for the West African Medical Service must be British subjects of European parentage preferably unmarried and between the ages of 25 and 35 years They may choose their colony or protectorate, and as far as possible their wishes will be met, but they must make up their minds carefully as transfers are seldom made

The grades and salaries of medical officers are shown in the following table —

Grades	Gold Coast Southern Nigeria Northern Nigeria			Sierra Leone Lagos			Gambia		
	Minimum Salary	Annual increment	Maximum salary	Minimum salary	Annual increment	Maximum salary	Minimum salary	Annual increment	Maximum salary
	£	£	£	£	£	£	£	£	£
Principal medical officer	1000	50	1200	800	50	1000	—	—	—
Deputy principal medical officer	700	25	800	—	—	—	—	—	—
Senior medical officers	600	20	700	600	20	700	500	20	600
Medical officers	400	20	500	400	20	500	400	20	500

Every candidate selected for appointment will unless the Secretary of State decides otherwise, be required to undergo a course of instruction for two or three months at the London School of Tropical Medicine or at the Liverpool School of Tropical Medicine If for any reason he does not undergo the course before appointment he will be required to take out instruction on less favourable pecuniary terms during his first leave of absence The cost of the tuition, fees board and residence during such instruction, amounting to a maximum of £48 8*s* 10*d* for three months, will be borne by the Government, and a daily allowance of 5*s* will be paid to each candidate during the course and may be *continued* subsequently up to the date of embarkation These payments will be made subject to the candidate signing an agreement by which he will be bound to refund them (1) if he declines to accept an appointment in any of the colonies or protectorates for which he may be selected, (2) if he fails to obtain the certificate referred to in the next paragraph, or (3) if he relinquishes the West

African service for any other reason than mental or physical infirmity or is removed for misconduct within three years of the date of his arrival in West Africa. Every candidate sent to either of the schools of tropical medicine is required to obtain a certificate showing that he has satisfied the school authorities with regard to his regularity of attendance, progress, and proficiency.

The arrangements for special allowances and leave of absence are fair. The ordinary term of residential service is one year, followed by leave with full pay during the voyages to and from England and for four or two months clear in England, according as the officer is returning for further service in West Africa or not. If an officer is detained beyond the year additional leave is given with full pay for ten days in respect of each completed month beyond 12, whether he is returning or not. If he is invalided before the end of the year the leave with full pay is for the voyages and for ten or five days in respect of each completed month, according as he is returning or not. Leave granted on the understanding that an officer will return is known as "return leave" and any pay drawn in respect of such leave is liable to be refunded if an officer does not return. Leave may be extended for a limited period with half or no pay on the ground of ill health or without pay on other grounds. Free passages are given to all officers who are granted leave and on first appointment. On attaining the age of 50 years, or after 18 years' service (of which at least 12 must have been residential), an officer is qualified for a pension calculated at one-fortieth of the last annual salary for each year of service. If invalided after a minimum of seven years' service he is qualified for a pension calculated at the same rate. If invalided before completing seven years' service he is qualified for a gratuity not exceeding three-fourths of a month's salary for each six months of service, provided that he has been confirmed in his appointment and that he is specially recommended by the governor or high commissioner for such gratuity. At the end of nine years (of which not less than six must have been residential) an officer of the West African Medical Staff is permitted to retire with a gratuity of £1000, or at the end of 12 years (of which not less than eight must have been residential) with a gratuity of £1250, such gratuities being *in lieu of* pension.

The successful organisation of the West African Medical Service makes it a practical question to ask why the Colonial Medical Service of the empire should not be organised on similar lines. The colonial service, as a whole, has grown up gradually and has developed with the growth of the empire into a conglomeration of elements that require rearrangement. It should be placed on a basis similar to that of the Army and Indian Medical Services, though avoiding the blemishes in these schemes. The age of the candidates should be made uniform and probably it would be advantageous to admit no one over 28 years of age. There must be hesitation in recommending that entrance should be by a competitive examination, because the multiplicity of examinations is already the bane of the young medical man's life, but an examination in hygiene and tropical medicine should be strict, compulsory, and competitive to this extent that future appointments should in some measure be made to depend upon how a candidate has acquitted himself at this test. All gradation of rank and title should be definitely settled; pay and allowances should be equalised in accordance with such a scheme and in accordance also with the marked unhealthiness of certain districts. The whole service should be a definite department of the Colonial Office; the position of the Foreign Office in having certain appointments to give away in the Colonial Medical Service forms a ridiculous and unnecessary complication, while the powers at present given to colonial governors are as often as not used wrongly. It may be asked: Who knows local conditions better than the local man? The answer to this is that special men should certainly be appointed in special circumstances by the colonial governor. But if the Colonial Medical Service is to be organised into strength the privilege of the governors should be sparingly used. For the filling up of good berths by local men must have a bad effect on the service as a whole because it militates against recruiting in the mother country. Save in peculiar circumstances and with permission of the Colonial Office it would be advisable for all appointments to be filled by the promotion of men in the service. And when outsiders are given berths the appointments should be temporary and supernumerary, although they should be well paid; indeed, they should be exceptionally well paid because they should only be made in exceptional circumstances.

(*To be continued.*)

THE ROYAL ACADEMY.

THE 137th exhibition of the Royal Academy will open its doors to the public on Monday, May 1st. We doubt if that public will consider the exhibition to be marked by any very striking picture—indeed, the want of imagination displayed by the majority of the painters both in subject and treatment is notable, but the collection as a whole is up to the usual standard. The accidents of hanging prevent many of the pictures from showing their merits, but they must always occur at this exhibition. One of the most interesting works in the galleries is Mr. Sargent's portrait (51) of Señor Manuel Garcia, which it will be remembered was painted for presentation and was formally handed over to Señor Garcia on the occasion of the hundredth anniversary of his birth on March 17th. The portrait is in every way worthy both of the artist and of his subject and the many medical subscribers to the testimonial will be glad to see for themselves that it is so. Of Mr. Sargent's other works the most striking is (168) the portrait of the Countess of Warwick. On first sight the right arm appears too short, judged by the standard of the apparent length of the figure, but the eye is led far below the feet of the figure, owing to the train flowing down from the step on which the subject is standing. But when once the position is mastered the apparent deformity disappears. Of other portraits (151) Mrs. Rodocanachi, by Mr. S. Melton Fisher, should on no account be missed, and the same may be said of the other work by this artist, (266) "The Prelude," with its delicate colour scheme of pinks and greys. Besides these we may mention (722) "Portrait of a Child," by Mr. R. Peacock; (789) "A Portrait," by Mr. Frank Daniell, a clever study in blacks; (787) "The Chinese Kilim," by Mr. George Henry; and (176) "Blue-bow," by Mr. J. J. Shannon. In the watercolour room is a very graceful portrait, possibly a pastel, of Miss Fairfax by Mr. St. George Hare.

Of subject pictures one of the best in our opinion in the exhibition is (194) "The Morning of Sedgemoor" by Mr. Edgar Bundy. The artist shows us the rough, untrained, heroic peasants of the West who laid down their lives in a mistaken and premature effort to rid the country of its lawful king. How they failed is known to all but some two years later the last of the Stuarts himself fled. The scene is a barn in which lie asleep, or only just awake, the men who a few hours later were yielding their lives besides the Bussex Rhine, their only arms a few scythes or bills rudely fastened to poles. In Gallery IV. are two imaginative works, one by Mr. J. C. Dollman (236), entitled "Harvest." The subject is not a cheerful one, for it is a long train of wounded men wearily plodding their way, some in wagons and some on foot, along an English country road. In (242) "Midsummer's Eve" Mr. J. H. Lorimer has painted a charming old-world garden in which around a rose-bush swings a dance of graceful unearthly figures. Mr. W. T. Wood in (273) has chosen a place with a most unromantic name, "Pigshoot *Ford*," but he has made a very charming landscape in which nymphs, who, let us hope, did not know the name of the place, are bathing and in (279) Mr. E. Matthew Hale has a powerful work in which barbarian invaders, presumably Huns or Picts, are returning from a fray, driving with them stolen cattle, through a snowy pass.

Of [illegible] ed by the Moon, [illegible] a torpedo destroy [illegible] has her search-lights in full work. We must confess to having been puzzled by the title, for if it is the destroyer which has been betrayed we should have said that there was no need of the moon to betray her for her funnels are spouting flame, but perhaps she has just turned on her forced [illegible] to escape. Mr. Mouat Lou [illegible] shows us a garden with high [illegible] and Mr. J. Farquharson (431) for once has a picture without sheep in snow. In (466) "The Kite," Mr. Charles Sims once more gives us the same breezy effect as in his "Top of the Hill" which was exhibited two or three years ago and (546) "Winter in the Marshes," by the late George Boughton, is a sad reminder of what art has lost by his death. Other notable pictures are (674) "The Shepherd," by Mr. Edward Stott; (711) "Sisters," by Mr. Chevallier Tayler, which is very far from being what is generally expressed by such a name in a catalogue; and (833) "The Doctor," by Mr. Charles E. Stewart. Mr. La Thangue has his usual delightful sun-flecked country scenes and in [illegible] e are many excellent works, [illegible] me near Amalfi," by Mr. [illegible] King," by Mr. A. Rackham; [illegible] " by Mr. G. Murray; (899) "A Surrey Chalk Pit," by Sir E. Poynter; and (937) "A Hanging Committee," a clever study of bats, by Miss Laura Darcy. In the Sculpture Room we noted a striking medallion of Sir William Church, by Miss Ethel A. O. Bower (1793). In the Black-and-White Room there is a novelty in the shape of two coloured prints by Miss E. Milner—namely (1341) and (1347)—being after portraits by Lely and Romney respectively.

GERMAN METHODS OF COMBATING TUBERCULOSIS.

AT the beginning of the year 1904 there were in full activity in Germany 71 public sanatoriums for tuberculous patients (with 15 in course of construction), 27 institutions under private management, about 60 children's homes and hospitals, 27 institutions for the reception of convalescents during the daytime, 26 polyclinics, two rural colonies for discharged patients, and eight refuges for incurables, making an aggregate of 236 institutions all engaged in combating tuberculosis in one way or another. The Red Cross Association and the Patriotic Women's Association have especially distinguished themselves by the energy and zeal with which they have taken up this work. The Red Cross Association alone has established half a dozen sanatoriums in different parts of the empire and also works in the homes of the people, advising and helping where necessary. Agencies giving advice and information with respect to the prevention of tuberculosis are numerous in Germany. At Mannheim in Baden there is a committee having a paid lady secretary who spends two hours each day in receiving the questions of sick people or their friends and these questions after being taken down on special forms are answered by medical men. The committee also employs a nursing sister to visit the homes of the tuberculous poor. To such homes bedding and other necessaries are supplied in case of need and food, such as milk, eggs, and meat, is also distributed. On this committee there are representatives of all the women's [illegible] in the town and it has [illegible] y both the municipality of [illegible] r excellent organisation of [illegible] Information, Advice, and Help for Sufferers from Lung Diseases" which has been established at Charlott[illegible] near Berlin by the Patriotic [illegible] wise making systematic endeavours to cope with the disease. Berlin, Dresden, Munich, Leipsic, Aix-la-Chapelle, and some other large towns have established sanatoriums and isolation homes, whilst other municipalities have provided existing hospitals with special departments for the treatment of tuberculous patients. In Coblentz, Essen, Duisburg, Mülheim, Ruhrort, and Rees a special district tax is levied for the support of sanatoriums for tuberculosis. Where the ground has already been efficiently covered by philanthropic enterprise local authorities are willing to pay liberally for the right to share in the benefits offered. For example, the municipality of Königsberg in Prussia has made a ten years' compact with the Hohenstein sanatorium by which it acquires the right of filling five beds in return for a yearly subsidy of £200 and the option of sending additional patients at the rate of £45 each. The Poor-law authorities have not in general shown the same readiness to coöperate in the movement, the reason given being that as their funds are levied over small areas the cost has been found to be an obstacle. Nevertheless, the Federal Department, which acts in the place of the English Local Government Board in Poor-law matters, has ruled in one case of appeal that the treatment of tuberculous patients in sanatoriums may be regarded as falling within the province of the Poor-law authorities so long as these act on the advice of their medical officers. On the strength of this decision the city of Hamburg now hands over its tuberculous poor to suitable sanatoriums in cases where this treatment offers a reasonable chance of success. Berlin follows the same plan and also places at the disposal of persons of small means funds (in the aggregate £500 a year) assisting them to undergo treatment in sanatoriums without the aid of Poor-law relief. Special funds of the same kind have been formed at Munich, Essen, Darmstadt, and many smaller places, while a number of towns perform the same service at the public charge.

One of the most important branches of the work is that which is done by the insurance authorities—local associations appointed under the Industrial Insurance Laws for the purpose of assisting the working classes in cases of sickness and accident. These bodies have now for some years—especially in Hanover—employed a large amount of their accumulated funds in providing sanatoriums and in checking the ravages of tuberculosis in other ways, both preventive and remedial. Many of the insurance authorities have restricted themselves to advancing money at low rates of interest, the rate varying from ½ per cent. to 3½ per cent., [illegible] the Hanseatic towns, and Alsace-Lorraine, and others are now imitating their example. Even some of the Railway Pension Fund committees and the trade unions (like that of the miners in Westphalia) have entered the same field. Among the means adopted in this national campaign against disease is the dissemination of popular literature amongst the working classes both in their homes and through the instrumentality of the elementary schools. The Prussian Ministers of Public Works, of Worship, and of the Interior have even joined in the issue of an ordinance to local authorities urging them to resort widely to this method of propaganda. Of one brochure 200,000 copies have been circulated in the public schools. Conferences of teachers are also held on the subject with a view to enlist their support, public lectures with lantern illustrations are arranged during the winter months, and last winter the central committee of the sick funds of Berlin held seven courses, each of five lectures, in different parts of the city, [illegible] regular part of the pro[illegible] a tuberculosis museum [illegible] purpose being placed at its disposal by the Imperial Home Ministry in the "Permanent Exhibition for Workmen's Welfare" (*Ständige Ausstellung fur Arbeiterwohlfahrt*) in Charlottenburg.

It is too soon to judge of the crusade by results, though the results already achieved are extremely gratifying. According to returns published by the Imperial Statistical Bureau, based on the work of Dr. Mayet, the mortality per 10,000 living caused by tuberculosis of the lungs in towns of 15,000 inhabitants and over was as follows:—1877-81, 357·7; 1882-86, 342·2; 1887-91, 304·0; 1892-96, 255·5; and 1897-1901, 218·7.

On the whole, the main portion of the working classes in Germany is fairly well provided with hospitals, sanatoriums, and shelters for tuberculous patients, thanks to the enterprise shown by the insurance authorities, and the needs specially felt at the present time are (1) a greater number of institutions for the reception of women who hitherto have not had their fair share of attention and (2) the provision of institutions, to which, in return for moderate payment, patients belonging to the middle classes may resort. It is complained that between the 14,000,000 persons for whom the various insurance funds provide free treatment and the well-to-do class of people who can afford to pay for independent treatment at special institutions there is the large lower-middle class of people of restricted means to be numbered by the million who have to a great extent been overlooked by this modern crusade against disease. It has been suggested that, following the example of the industrial insurance organisations, the private insurance companies and corporations might enter this field of philanthropy if only from purely commercial and interested motives. Another lack is that of a sufficiency of institutions for the reception of the hopeless cases which, if allowed to remain at large, may act as centres of infection.

One of the measures to which the central committee is now devoting attention is legislation on the subject of compulsory notification of tuberculous disease. Already several states—Saxony, Baden, and Hesse—have enacted this precaution and while Prussia has so far held back a practically similar result has been obtained in many parts of the country by means of police ordinances. For example, in Wiesbaden a police edict requires medical men to report every case of tuberculosis of which they hear in the course of their professional work when there exists any danger of infection. The same provision exists at Frankfort-on-the-Main. In Berlin medical practitioners who attend cases of tuberculosis in hotels and lodging-houses must notify them within 24 hours. The central committee, however, aims at having notification made universal throughout the empire and to this end it is agitating for an Imperial statute. At present the committee will be satisfied with notification in the case of death from tuberculosis and of sickness in the event of a change of dwelling.

MERCURIAL POISONING OR ULCER OF THE STOMACH?

A *cause célèbre* which has occupied the attention of the Roumanian law courts for about a year and has recently come to an end presents several features of extraordinary interest both from a medico-legal and from a general medical point of view.

The case is that of a young medical man who was charged with the murder by poison of his young wife to whom he had been married about a year and the principal point round which the question of guilt or innocence turned was whether the corrosive sublimate, from the effects of which the victim was said to have died, was administered to her while alive or had percolated into the internal organs from the preserving fluid into which they had been placed after exhumation with a view to being examined. Whilst the former opinion was entertained by a number of authorities of the first rank, including university professors and well-known medical men, the latter was advanced by no less eminent men of science, including the well-known Professor Babes of Bucharest. The controversy between the two opposing medical groups became at times so acrimonious and personal that for the honour of the profession it is to be hoped such scenes will remain unparalleled, as they have doubtless hitherto been. This was probably due to the "confrontation method" of examining witnesses, which is in force in Roumania and which frequently assumes the character of a discussion between the witnesses with the judges, jurymen, and counsel interposing with questions as they think fit.

The points of accusation were as follows. The young medical man married a girl who brought him a dowry of 40,000 francs. This money being soon exhausted the accused effected a joint insurance on his and his wife's lives with two insurance companies for the amount of 50,000 francs. Shortly afterwards the young wife was taken ill and was attended in her illness by about half a dozen medical men who diagnosed the disease as anæmia and ulcer of the stomach. She died one night rather suddenly but was not seen by any other medical man except her husband until a few moments before she expired. The cause of death was certified as ulcer of the stomach and the body was buried in due course. At the funeral and shortly afterwards ugly rumours began to circulate that the medical man had poisoned his wife. This coming to the knowledge of the insurance companies and of the authorities the body was exhumed some few weeks after burial and subjected to a post-mortem examination. No ulcer of the stomach was found but 32 milligrammes of mercury and 13 milligrammes of arsenic were extracted from the gastric contents. A second and third analysis did not confirm the presence of arsenic. This was explained by the impurity of the reagents used at the first examination. On the other hand, a large quantity of mercury was detected in the walls of the stomach. The case became the exciting topic in the whole country and was sent to the Superior Sanitary Council (a sort of medical tribunal) for consideration. By a majority this authority decided in favour of the theory that the victim died from mercurial poisoning and the matter entered upon the stage of criminal prosecution. The defence was that the illness from which the deceased died could not have been chronic poisoning by mercury, as the attending medical men had never seen any of the classical symptoms of this intoxication—namely, stomatitis, salivation, and anuria. Nor could it have been an acute case of mercurial poisoning, seeing that the patient was taken worse during the night and had died within a few hours, whereas, according to Brouardel and other authorities, the shortest interval between intoxication and death is, as a rule, 24 hours, exceptions to this being very rare. Besides, the symptoms during the fatal night had not been such as to suggest acute mercurial poisoning only. There had been no pain but dyspnœa and vomiting, which are suggestive more of nephritis and uræmia. As a matter of fact, Professor Babes found when examining the kidneys signs of interstitial nephritis and also signs of ulceration of the stomach, though there was no evidence of a definite ulcer or of perforation. The opinion of the medical experts for the defence was therefore that death was not due to the action of the mercury, that there was at least room for doubt, and that it was impossible to say with certainty that the deceased had been poisoned. The mercury in the stomach might have come from the liquids used in sending the organs to and from the various laboratories, or it might have come from vaginal irrigations with sublimate solutions, it being known that the deceased had used such irrigations for some time after a miscarriage which she had a few months before her fatal illness. It was even suggested that the poison might have been poured into the organs designedly or negligently.

To these arguments the prosecution replied that the classical symptoms of mercury intoxication are occasionally absent, that it is not proved without a doubt that an acute intoxication may not end fatally in less than 24 hours, and that the organs had passed through the hands of responsible persons who had no interest in soaking them in sublimate. Moreover, even if so the poison could not have percolated into the deeper organs in such proportionate quantities, as the mercury was also found in the large intestine, the liver, the spleen, and other organs. The distribution must therefore have taken place through the circulation only, beginning with the digestive tract. As to the ulcerations of the stomach wall, they might be the result of the mercury poisoning, as might also be the case with the nephritis. The illness could not have been an ordinary ulcer of the stomach as there were no signs of perforation, and even as to the hæmatemesis the attending medical men had never seen the blood and had never spoken to the patient about it, but had placed reliance in this respect on the statements of the prisoner. To this the defence rejoined that, according to an experiment by Brouardel, mercury is diffusible post mortem through the whole organism, that the analysis had revealed comparatively large quantities of mercury on the skin and on a cloth in which the body had been enveloped, this being proof that the poison had proceeded from outside the body and not from inside. The gastric ulcerations and the nephritis could not have been due to the mercury as there would have been corresponding symptoms during life. The nephritis was quite sufficiently serious to have been the cause of death, although there was no perforation of the stomach, and as to the hæmatemesis it was immaterial to the issue whether anyone had seen the blood or not, as this is a symptom common both to ulcer of the stomach and to mercurial poisoning.

The case came for trial before a provincial assize court, when a new question arose—namely, whether mercury had been discovered in the bones of the deceased. It was thought that if that were the case it might be concluded that the poison had spread by means of the circulation and that would confirm the theory of intoxication. As the bones had not been previously examined the trial was adjourned and the examination ordered. At first 450 grammes of bones were exhumed and subjected to the necessary analysis with the result that no mercury was discovered. The prosecution demanded a second analysis and a further quantity of bones were disinterred and examined. This time mercury was found in appreciable quantities. Meanwhile the trial of the case was transferred to the capital so as to insure greater impartiality. At this second trial, which lasted ten days, the whole of the arguments were gone through again, including the finding of mercury in the bones. While the prosecution advanced this as a proof of intoxication the defence and particularly Professor Babes held their ground that the mercury could not have come from anywhere else but the preserving liquids. Otherwise mercury would have been found in the brain and muscles as well, which was not the case. Much was also made of the circumstance that the first analysis of the bones revealed no mercury, while the second did. The defence also relied upon the fact that the body of the victim was in an extremely bad state of preservation, which would not have been the case had death been due to mercurial poisoning.

At this stage the trial assumed the form of an open battle between the principal medical experts. The presiding judge had several times to remind them that they were before a number of jurymen, several of whom, by the way, were medical men, and not before a learned medical society. Personalities were thrown to and fro to the ill-placed merriment of the public, and the divergence of opinion was so pronounced that there was no possibility of bridging it over. In the end the result of the trial was favourable to the prisoner. He was acquitted, the jury rightly refusing to take the responsibility on their shoulders when the leading medical experts were so widely divided. To the impartial reader of the medical evidence the case must remain a puzzle. There were, no doubt, many elements favouring the theory of murder but, on the other hand, even the prosecution had to admit irregularities in the course of the several medical and chemical examinations, so that if it be the correct thing to let ten guilty men go unpunished rather than punish one innocent one there was sufficient doubt in the matter to justify the verdict of acquittal. To the medical profession the case is of importance as it shows that the apparently easiest cases may meet with insurmountable difficulties in the hands of even the greatest authorities.

MEDICINE AND THE LAW.

The Risk of not Writing Prescriptions.

A RECENT law case referred to in *La Semaine Médicale* points to the desirability of a prescriber always committing his prescriptions to paper. A medical man was supplied with a corrosive liquid instead of a 1 per cent. solution of cocaine hydrochloride which he clearly ordered by a written prescription. The liquid was used for producing anæsthesia preparatory to extracting a tooth. The court held the prescriber to be absolved from blame, stress being laid on the fact that the prescription was given in writing. Cases of misadventure are fortunately rare, but when they happen it is satisfactory to be able to lay the blame on the author of the mistake. In the past it has been the general custom to write prescriptions but since the advent of the telephone it is obviously an easy thing for medical men to ring up the pharmacist who dispenses for them and to dictate their prescriptions. There would seem to be no undue risk of error in such cases if only the precaution be taken to request the pharmacist to repeat the instructions. It is open to doubt whether, from another point of view, this practice is, on the whole, a good one, since the act of committing a prescription to paper is more likely to be accompanied by calm and deliberate judgment than when a batch of instructions are hurriedly dictated through the telephone.

Section 14 of the Sale of Food and Drugs Act.

The division of the sample for the [illegible] into [illegible] with [illegible]. In some instances a third part of the sample is barely sufficient for a complete analysis. The division, for example, of a sample of spirit is a case in point and the fact of purchasing a large sample is calculated in this instance to excite suspicion as to the motive of the purchase. An interesting point in connexion with this question of the division of the sample was argued in the Court of Appeal recently. A grocer was charged with having unlawfully sold to the prejudice of the purchaser four penny packets of cream of tartar which were not of the nature, substance, and quality of the article demanded, the analyst certifying that the cream of tartar contained lead in the proportion of three-quarters of a grain per pound. The inspector asked for four packets, which were all similar in size and in outward appearance and bore similar labels and were taken from the same box. The contents of the four packets were then mixed and the mixture was divided into three parts, one of which was sent to the county analyst and another to the seller, while the third was retained by the inspector. On the strength of the analysis a conviction was asked for but the justices dismissed the summons and the case came to the Court of Appeal for an opinion as to whether the justices were right in their action. The justices were of the opinion, apparently, that Section 14 of the Act had not been properly complied with since four separate purchases had been made, each packet being an article, and that mixing together the contents of the four packets and then dividing the substance so mixed into three parts did not accord with the requirements of the section. On the other hand, the prosecution contended that Section 14 had been properly complied with inasmuch as the entire purchase had been properly divided into three parts as the Act directed. The defence cited a case in which six bottles of camphorated oil were bought and it was held that "six bottles are six articles." It appears, however, that there was no division of the contents of any one bottle but two were sent to the analyst, two to the seller, and two were retained by the inspector. That was held not to be a compliance with Section 14, for it was obvious that the oil might be of different quality in different bottles. In the case of the packets of cream of tartar, however, they were all labeled in the same way and taken from the same box. The Lord Chief Justice decided that the case should go back to the justices to proceed in the matter. The appellant, he said, asked for cream of tartar which for the purpose of measurement was put up in penny packets. He asked for four packets and the court was asked to say whether because four packets of the same article labeled in the same way and sold at the same time as cream of tartar were mixed together and then divided into three parts that was a good objection to the analysis. He was of opinion that it was not a good objection and Mr. Justice Kennedy and Mr. Justice Ridley agreed.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 28, 1827.

Pharmacy in England.

In 1606, apothecaries and grocers were incorporated by 4 James I., but this union was dissolved in 1615, by charter, 13 same reign, which prevented Catholics from practising physic or pharmacy in England. This charter is confirmed (except as therein stated,) by the Act 55 Geo. III., c. 194, 1815, which was amended by 6 Geo. IV. 1825, an Act that continued but one year in force. The 55 Geo. III., now in force, is highly objectionable in many respects, for example, it commands the apothecary to keep none but wholesome drugs in his shop, so that all the active vegetable and mineral poisons, though highly efficacious in proper quantities, ought to be excluded; and yet there is a large fine, if any medicine in use, ordered by a physician, be not in the shop of the apothecary. Again, any man putting the words chemist or druggist, over his door, can act as apothecary with impunity; and still this Act is a paragon of perfection in comparison with the Irish Apothecaries Act, 31 Geo. III. c. 34, which in fact is a dead letter, for in that happy and well governed country, there are more irregular than regular apothecaries. In England the apothecaries must attend lectures on medicine and surgery, and hence called surgeon-apothecaries; they are the physicians of nine-tenths of the population, which in Ireland they practise o the same extent, without ever attending any lectures on either subject: the mistakes of these men are really frightful and most extensive. Some of them attend lectures on midwifery, and then practise every branch of medicine. They generally attend in the most dangerous cases, and prescribe a variety of medicines, and after many days, when death stares them, they recommend that proper medical aid may be resorted to; the patients generally die, and all blame is ascribed to the physician, and none to the apothecary. Again, these men are constantly out prescribing, and their shops left to the care of school-boys, who make the most fatal mistakes. There is no inspection of such shops in the provinces, and hence the most inert and useless medicines are daily compounded for the most fatal cases. The 55 Geo. III. ought to be amended, and extended to Ireland.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7916 births and 4664 deaths were registered during the week ending April 22nd. The annual rate of mortality in these towns, which had been 15·7, 15·7, and 16·6 per 1000 in the three preceding weeks, declined again last week to 15·6 per 1000. In London the death-rate was 14·9 per 1000, while it averaged 15·9 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·7 in Kings Norton, 7·2 in Newport (Mon.), 9·1 in Willesden, 9·2 in Burnley, 9·3 in Handsworth (Staffs.), 9·6 in Leyton and 9·9 in Hornsey; the highest rates were 20·3 in York, 21·0 in Hull, 22·3 in West Bromwich, 22·8 in Middlesbrough, 24·1 in Wigan, 24·3 in Tynemouth, 26·4 in Huddersfield, and 28·9 in Merthyr Tydfil. The 4664 deaths in these towns last week included 453 which were referred to the principal infectious diseases, against 433, 430, and 553 in the three preceding weeks; of these 453 deaths, 203 resulted from measles, 100 from whooping-cough, 50 from scarlet fever, 38 from diphtheria, 38 from diarrhœa, 21 from "fever" (principally enteric), and three from small-pox. No death from any of these diseases was registered last week in Hastings, Bournemouth, Handsworth (Staffs.), Kings Norton, Grimsby, Birkenhead, Rochdale, Rotherham, York, or South Shields; while they caused the highest death-rates in Southampton, Hanley, West Bromwich, Warrington, Oldham, Sheffield, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Southampton, Reading, West Bromwich, Coventry, St. Helens, Wigan, Warrington, Oldham, Sheffield, and Merthyr Tydfil; from scarlet fever in Plymouth; from diphtheria in Hanley, Bootle, and West Hartlepool; from whooping-cough in West Ham, Ipswich, Hanley, Smethwick, and Middlesbrough; from "fever" in Huddersfield; and from diarrhœa in Hanley. Two fatal cases of small-pox were registered in Southampton and one in Oldham, but not one in any other of the large towns. The number of small-pox cases under treatment in the Metropolitan Asylums Hospitals, which had been 20, 21, and 15 at the end of the three preceding weeks, had risen again to 17 at the end of last week; six new cases were admitted during the week, against two, four, and none in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, April 22nd, was 2128, against 2032, 2086, and 2133 on the three preceding Saturdays; 253 new cases were admitted during the week, against 254, 292, and 290 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 273, 308, and 304 in the three preceding weeks, declined to 272 last week, but were 18 above the number in the corresponding period of last year. The causes of 69, or 1·5 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Bradford, and in 47 other smaller towns; the [illegible] certified deaths were registered in [illegible] Smethwick, Aston Manor, Liverpool, St. Helens, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 16·9, 16·6, and 18·0 per 1000 in the three preceding weeks, declined again to 17·8 per 1000 during the week ending April 22nd, but was 2·2 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·2 in Leith and 15·3 in Aberdeen to 24·4 in Perth and 26·0 in Greenock. The 597 deaths in these towns included 23 which were referred to measles, 23 to whooping-cough, 12 to diarrhœa, six to diphtheria, three to "fever," and two to scarlet fever. In all, 69 deaths resulted from these principal infectious diseases last week, against 43, 73, and 69 in the three preceding weeks. These 69 deaths were equal to an annual rate of 2·1 per 1000, which was 0·6 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been five, 13, and 17 in the three preceding weeks, further rose last week to 23, of which 17 occurred in Glasgow and six in Edinburgh. The deaths from whooping-cough, which had been 20, 28, and 36 in the three preceding weeks, declined again to 23 last week, and included 15 in Glasgow, three in Dundee, two in Leith, and two in Greenock. The fatal cases of diarrhœa, which had been 20 and nine in the two preceding weeks, rose again last week to 12, of which four were registered in Edinburgh, three in Glasgow, two in Dundee, and two in Leith. The six deaths from diphtheria corresponded with the number in the preceding week and included three in Edinburgh and two in Greenock. The three fatal cases of "fever" occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 105, 119, and 121 in the three preceding weeks, further rose last week to 126, and were 11 in excess of the number in the corresponding period of last year. The causes of 19, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·9, 25·5, and 21·6 per 1000 in the three preceding weeks, rose again to 23·4 per 1000 during the week ending April 22nd. During the past four weeks the death-rate has averaged 23·9 per 1000, the rates during the same period being 15·5 in London and 16·2 in Edinburgh. The 170 deaths of persons belonging to Dublin registered during the week under notice were 13 in excess of the number in the preceding week and included 12 which were referred to the principal infectious diseases, against eight, five, and eight in the three preceding weeks; of these, four resulted from measles, four from whooping-cough, three from diarrhœa, and one from diphtheria, but not any from small-pox, from scarlet fever, or from "fever." These 12 deaths were equal to an annual rate of 1·7 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 2·2 in Edinburgh. The fatal cases of measles, which had been four, none, and four in the three preceding weeks, were again four last week. The deaths from whooping-cough, which had been one and two in the two preceding weeks, further rose last week to four. The fatal cases of diarrhœa, which had been two, two, and none in the three preceding weeks, increased to three last week. The 170 deaths in Dublin last week included 34 of children under one year of age and 48 of persons aged 60 years and upwards; the deaths of infants were 15 above the number in the preceding week, while those of elderly persons showed but a very slight excess. Eight inquest cases and four deaths from violence were registered; and 66, or more than a third, of the deaths occurred in public institutions. The causes of nine, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

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[1] Excerpt from a special article entitled "An Account of the Laws relating to Medicine, Surgery, and Pharmacy, in the United Kingdom; with Observations on the Rights, Privileges, Abuses, and Defects, in each Profession, proving the imperious necessity of further Enactment, for the consolidation of the various Charters and Statutes connected with these Professions, for rendering same more complete, and better adapted for the conservation of Public Health," dated March 28th, 1827, and signed "Hygeiaphilos."

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet, viz.:—Cecil Howard Rock (dated May 15th, 1903); Herbert Hope Gill (dated Nov. 12th, 1903); and Alexander Thomas Wysard (dated May 13th, 1904).

Fleet Surgeon A. Cropley has been placed on the Retired List (dated April 22nd).

Staff Surgeon Montagu L. B. Rodd is appointed to the Royal Naval Hospital, Stonehouse, from May 8th.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel A. T. I. Lilly is appointed to the Eastern Command. Colonel F. Howard is appointed president and Major J. Girvin, Major W. W. O. Beveridge, D.S.O., and Major T. W. Gibbard members of a medical board for the examination of candidates for commissions in the Militia and Imperial Yeomanry.

SIR JAMES HANBURY, K.C.B.

The Distinguished Service Pension vacant by the death of Surgeon-Major-General T. Walsh has been conferred on [illegible] Hanbury, K.C.B., retired. [illegible] the Afghan War, 1878-79-80, and in the Egyptian campaign of 1882 are well known. As regards the latter expedition it will not be forgotten that the medical arrangements gave rise to a Government inquiry by Lord Morley's committee and to the publication of a big blue-book thereon. There was never an occasion, if all the circumstances and exceptional conditions of that expedition be taken into account, on which the Army Medical Service rendered better or, judging from the results, more successful service than in the Egyptian campaign of 1882 and this was, we believe, the opinion formed by every impartial and competent reader of the evidence and report published by the War Office committee at the close of its inquiry. As principal medical officer of the Madras command, a post which he held before his retirement in 1892, Sir James Hanbury fully maintained his reputation and the respect in which he had always been held.

ADMIRAL SIR A. W. MOORE, K.C.B., C.M.G., AND THE EGYPTIAN WAR OF 1882.

The recent notification by the Admiralty of Vice-Admiral Sir A. W. Moore's appointment as second in command of the Channel Fleet recalls to mind the services which this officer rendered in the Egyptian war of 1882 when in command of the naval flotilla on the Sweet Water canal in connexion with the transport of the sick and the wounded. Admiral (then Commander) Moore was present at the occupation of Ismailia and the battle of Tel-el-Kebir and was responsible for the organisation and management of the naval flotilla designed for the transport of stores [illegible]k and wounded to [illegible] efficient aid was [illegible] be safely said that never, perhaps, were wounded men more safely and comfortably conveyed to their destination from the immediate vicinity of a battle-field (Tel-el-Kebir) than on the occasion in question.

THE WOUNDED IN MODERN NAVAL WARFARE.

It seems certain that a [illegible] battle will soon take place [illegible] Russian fleets in Eastern [illegible] losses on both sides will be very heavy. The greater part of Admiral Rojdestvensky's fleet has left Kamranh for somewhere unknown at the present moment to meet its Japanese enemy, whose exact position has not yet been revealed. It is not too much to say that the result of any engagement of the fleets in "being" is universally awaited with extreme interest, for under existing conditions there is so much to be learned and not least so in regard to the best naval medical arrangements that can be practically adopted in the circumstances. Writing last year in the *Deutsche Revue* Vice-Admiral D. Paschen of the German navy lays down the law from a combatant's point of view regarding the manner in which men who are wounded in the naval engagements of the future should be treated. On help for wounded men in a sea fight much, he says, has been written and much has been said. When, however, anyone is called upon to explain the actual state of the question it is still necessary to lay stress on the fact that no serious treatment of wounded men can be undertaken until after the combat is over. During the action the injured, save for such aid as their comrades can afford them, must be entirely abandoned for as long a time as the circumstances may demand. The commander of a warship is compelled to look upon wounded men as a hindrance and for this reason alone he would be anxious to get rid of them as soon as possible even if he were not naturally desirous that they should have the same advantages as those who sustain injuries in battles on land. Unfortunately, the conditions under which naval warfare occurs do not favour this; on the contrary, they are most unfavourable. All civilised States have provided hospital ships for service on the high seas in the event of war, but according to the best authorities it is absolutely necessary that these vessels should keep well out of the way as long as active hostilities are in progress. Even if a suspension of hostilities should take place it would not be possible to allow a hospital ship to intervene between the combatants. The issue at stake must be decided one way or the other before officers in command can permit themselves to think of anything else. So long as war continues upon this earth we have to look upon battle as the sole means of securing peace. Anything that interferes with the proper conduct of a battle would in all probability give rise to a hundred times as much pain and suffering as were for the moment relieved. Commanders can only think of how they can best conduct their battles to the bitter end. They cannot allow themselves the luxury of humanity. Of course, none would commit superfluous acts of cruelty, but, on the other hand, no merciful precepts can be allowed to jeopardise the issue of an engagement. It is quite impossible to do as much for wounded men at sea as it is on land. On the field of battle stretcher-bearers can go under fire if they choose to do so; it is simply a question of personal courage. Their presence at the fighting line does not interfere with the fighting and the fighters do not interfere with them. We have no recent experience of a naval battle on a large scale but having regard to their high rate of speed the area covered by war-vessels during an engagement will inevitably be very large and the zone outside which neutral ships have to keep must be correspondingly wide. Should a neutral vessel attempt to afford aid during a battle to a damaged man-of-war it would probably find itself inside the danger zone just when it was about to commence work. In such a case no commander would let mercy interfere with his manœuvres and no State is consequently able to guarantee the inviolability of hospital ships. For their own sake these vessels must keep completely out of the way and be especially careful to avoid the risk of capture by the enemy. Admiral Paschen lays down the rule that the fall of the flag, indicating the unconditional surrender of a warship, may be taken as a signal that hospital ships are free to approach the scene of action, but a little further on he adds that free access for neutral vessels is only permissible when the commander of the victorious fleet is of opinion that there is no danger of his prizes being recaptured. The post of the officer in charge of a hospital ship is, indeed, full of difficulty. He and his crew have to be sailors as well as medical men and must excel in both capacities. Admiral Paschen next describes the circumstances of the wounded on board a warship in action. Light and air, he says, can only be obtained by renouncing the protection afforded by the armoured portion of the vessel and yet it is here that such dressing as is possible during a battle must be carried on. Behind armour plates the wounded and their attendants are safe from the missiles of the enemy and have only to encounter general risks such as explosion and foundering. But with all the boilers in activity and every aperture hermetically closed the horror of the situation can be imagined, especially if, as is most probable, the electric light has gone out. Wounded men can only be moved during the pauses in an engagement. They have for the most part to remain a long time in the places where they were injured. It is therefore of the utmost importance that the crews of men-of-war should be taught the elements of practical surgery and especially how to stop bleeding. In conclusion, Admiral Paschen gives a historical account of the various conventions and leagues which have for their object the alleviation of the preventable hardships which are a blot upon naval warfare.

THE WAR IN THE FAR EAST.

There is one point which calls for notice at the present time and before the subject of the capture of Port Arthur is finally relegated to things of the past. The *Times* of April 20th gives some very startling facts and figures, extracted by its correspondent at Tokio from the official record of the capture of that fortress. It seems that the number of serviceable guns was 528 and that the stores of ammunition and food-supplies were enormous. The prisoners included 41,641 combatants, of whom some 15,307 were sick or wounded. To a soldier it must appear astounding that Port Arthur surrendered in such circumstances. Looking back on the Boer war Sir George White's garrison at the time of the relief of Ladysmith had only food-supplies (such as these were) for 48 hours, if we remember aright, and the troops bore the unmistakeable marks of a more or less chronic state of starvation.

The *Novoye Vremya* has published some interesting impressions gathered from members of the Russian medical staff who were left behind at Mukden and were sent by the Japanese into the Russian lines. The sanitary condition of the Japanese troops was good and the men had stood the cold well. They were all well clad. The Russians found that nearly every Japanese officer knew either their own language or a foreign one, generally English, while the Japanese medical staff were familiar with German.

Correspondence.

"Audi alteram partem."

THE CAUSATION OF LEPROSY.

To the Editors of THE LANCET.

SIRS,—I see that in THE LANCET of March 11th Mr. Jonathan Hutchinson is using some remarks of Dr. Armauer Hansen to back up his theory that leprosy is not contagious. I cannot, just at present, obtain the article from which the extracts are taken, but judging from letters I received from Dr. Hansen some time ago, I am under the impression that Mr. Hutchinson is deducing a great deal more from Dr. Hansen's article than was intended by the author. I do not wish to discuss the question of the contagiousness or otherwise of leprosy. I believe it is contagious and Dr. Robert Koch told me a few months ago that in the Baltic provinces of Germany, where lepers are scarce, it was easy to trace infection from case to case. Mr. Hutchinson, believing that leprosy is not contagious, would do away with all leper asylums. He speaks of "those who are responsible for the miseries of Molokai and Robben Island." Of the condition of affairs at Molokai I knew nothing. Of Robben Island I do. I have spent more weeks on that island than Mr. Hutchinson has hours and am in a far better position to offer an opinion on it than he is.

I maintain that, apart from the suffering inevitably caused by the disease, the use of the word "misery" as applied to Robben Island is misleading. Even if Mr. Hutchinson were able to prove conclusively that leprosy is not contagious, that certainty would not do away with the necessity for such places as leper asylums. In the vast majority of cases, especially outside asylums, a time comes when the leper is unable to support himself and, speaking from a wide knowledge of the social and financial position of lepers in South Africa, very few of them possess sufficient means to support themselves. To do away with leper asylums would imply starvation and misery to most of these unfortunate people. Lepers sometimes escape from the Pretoria Asylum, return to their kraals, and after a longer or shorter absence are either captured or, and this is by no means infrequent, return of their own accord. On readmission their condition has always proved to be very much worse than when they left. A fortnight ago a white leper returned to the asylum. He escaped on Nov. 30th, 1904, and went to the farm of a relative in the Spelonken. When he left he was well able to do a good day's work. On his return, after little more than three months' absence, he had altered so much for the worse that at first I could hardly credit it was the same man and he had to be brought to the consulting room in a barrow. Since these poor creatures are unable to provide themselves with food, still less the medical attention so essential to them, it must be provided by the State, and the State can only provide for their wants efficiently and economically by means of asylums.

It must be taken into consideration that those who are able to provide for themselves are not compelled to enter an asylum, at least, not in this colony. I have this morning received a visit from a former patient; the disease in his case has been arrested and as he has means he lives on his own farm. On the other hand, there are several arrested cases in the asylum at this time; I should be glad to get rid of them but I cannot turn them out to starve. They are not dangerous but though in good health are so mutilated that they cannot work. Leper asylums will, I am afraid, be necessary for some time to come, just as lunatic asylums. No one would select either of them as a place of residence, but the comfort of those who are compelled by circumstances to enter them is not enhanced by reckless assertions which imply that they have been needlessly inconvenienced.

I am, Sirs, yours faithfully,

GEORGE TURNER,
Medical Officer of Health of the Transvaal; Resident
Medical Superintendent of the Pretoria
Pretoria, April 2nd, 1905. Leper Asylum.

THE TENURE OF PUBLIC HEALTH APPOINTMENTS.

To the Editors of THE LANCET.

SIRS,—The accounts which you gave in THE LANCET of April 15th of the treatment of two medical officers of health ought to be enough to convince the strongest opponent of the Public Health Bill (security of tenure of office) of its necessity. Dr. F. T. Bond's treatment is simply a scandal and must surely open the eyes of the public to the need of reform. The Local Government Board has now been placed in an extremely awkward position by the defiant attitude of the Chipping Sodbury district council in electing a local practitioner in opposition to the strongly worded advice of the Board. The officials at Whitehall may be trusted to act justly in the matter but they must see that the recurrence of such incidents may at any time occur unless steps are taken to prevent it by giving us security of tenure of office. If they knew, as I do, of the intolerable position in which many medical officers of health in rural districts and small towns find themselves they would not hesitate for a moment in helping forward our Bill.

I am, Sirs, yours faithfully,

April 22nd, 1905. HERBERT JONES.

THE RECENT DISCUSSION ON CANCER IN BERLIN.

To the Editors of THE LANCET.

SIRS,—I shall be greatly indebted to you for your courtesy in permitting me to notice in your pages certain items of the recent discussion on cancer which took place in Berlin on March 8th, 15th, and 22nd.[1] The following remarks will be restricted to the contributions made to the debate by Dr. L. Pick, Professor F. Blumenthal, and Professor D. von Hansemann. Dr. Pick spoke chiefly of chorio-epithelioma and of the comparisons which may be made, and which, indeed, have already been discussed by me in your pages, between ordinary cancer, chorio-epithelioma, and the phenomena which take place in the early history of the trophoblast of normal gestation. He showed the gradual passage from ordinary chorio-epithelioma and he demonstrated that in some cases of the former certain portions of the tumour exhibited the structure of an ordinary carcinoma. In fact, Dr. Pick's researches furnish a new proof, *from the pathological point of view*, of the truth of the statement that cancer is an irresponsible trophoblast. In reply to Dr. Pick's remarks, Professor von Hansemann again referred to the recent finds of Schmorl.[2] The supposed import of these discoveries is, however, easily disposed of. The objections raised are: (1) That, as Schmorl found in the lungs of women in advanced pregnancy or shortly after birth, "normal" trophoblast or chorion exhibits no powers of indefinite growth, and (2) that these powers are manifested only by "pathological" trophoblast, such as occurs in hydatid mole. But the results of embryological research of the past 15 years, the work of Hubrecht, van Beneden, Hill, Duval, myself, and others, place Schmorl's finds in another light The chorion or trophoblast of mammalian development is a thing which is not embryonic but pre embryonic in origin,[3] and which normally has a very short life The period of its functional activities as I demonstrated some years ago varies but is a fixed time for the species it is 15 days in the rabbit, 22 in the cavy, from 28 to 30 in the sheep, and from 45 to 47 days in man, &c From this period, the critical period of my researches it begins to degenerate under the influence of the altered, now pancreatic, digestion and *at or near the close of a normal gestation in man there is no such thing as "normal" trophoblast* Months before that time it had entered upon its long slow course of degeneration Hence Schmorl's finds have no bearings upon Dr Pick's (or my) conclusions but they are quite in accord with, and indeed might have been predicted from, my work[4] of years ago But in three cases *out of the early days of gestation* Schmorl found that the trophoblast exhibited the characters of unlimited growth—i e , instances of pre critical or critical abortions &c Here we have to deal with what Professor von Hansemann terms "pathological" trophoblast But it is only "pathological' in the senses that "the embryo" is absent or aborted and that the trophoblast still retains all those powers of erosion and of unlimited growth which indeed characterise the pre critical trophoblast of normal gestation No new powers have come to it , there has been no change in its properties , it has simply not commenced to degenerate for the change of nutrition of normal gestation is lacking in the absence of a completed embryo

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[1] For full report see Berliner Klinische Wochenschrift, Nos 12-15, 1905.

[2] Verhandlungen der Deutschen Pathologischen Gesellschaft, Jahrgang 1904, Heft 2, pp. 39-46.

Professor Blumenthal's finds concern the chemistry of cancer As he stated, in their essentials they have been made independently by Neuberg, Wolff, and Bergell in Berlin They confirm and extend my recent conclusions in other directions Briefly, they have found that (1) the substance of cancer cells is quite different chemically from that of somatic cells, (2) the pigment of melano sarcoma is not the same as any pigment occurring in the normal body , (3) cancer cells contain much albumin and little globulin , (4) substances are present in cancer cells which hitherto have not been found in the healthy body , (5) the cells of cancer are much more delicate and they are more easily destroyed than cells of normal tissues , (6) pepsin attacks cancer cells with difficulty, *while trypsin easily and quickly dissolves them* , and (7) a ferment occurs in cancer cells, that first described by Eugen Petry, which possesses the property of digesting not only the albumin of its own cells but it can also completely dissolve all the cells of the body, while ordinary somatic cells contain a ferment which can auto digest the albumin &c , of these cells alone Add to these that in a more recent writing in No 15 of the same journal (p 443) Professor Blumenthal mentions that this cancer ferment is intra cellular, and it is possible to maintain that the above results furnish as strong a support of my standpoint as could be desired It would seem to follow from these researches that trypsin, perhaps better when aided by other secretions poured out into the intestine, as Dr John A Shaw Mackenzie has suggested, can destroy the cancer ferment malignin[5] In the ferment malignin discovered by Petry, we have a substance which can erode and dissolve practically any normal tissue of the body The only other known normal cells which possess these powers are the cells of the pre-critical trophoblast (or the same cells in hydatid mole or in chorio epithelioma) One small piece of chemical research alone remains to be made to complete the chain This is to discover the like ferment, malignin within the cells of the normal trophoblast of early gestation I am absolutely sure of its existence there, for without this ferment the cells of the trophoblast could erode neither their way into the maternal tissues nor through the walls of the oviduct in a tubal gestation, nor could they do any of the other things which, on occasion like the cells of an ordinary cancer, they can effect A very interesting and important portion of Professor Blumenthal's speech was devoted to the cancer cachexia He has concluded that this hetero lytic intracellular ferment, malignin, can auto digest in the body the cancer cell , thus the ferment can become freed get into the circulation and so by its activities cause untold destruction in other parts of the body

The etiology of carcinoma as an irresponsible trophoblast received confirmation from the cytological side from the researches of Farmer, Moore, and Walker , it is now strongly reinforced from the pathological side by the results of Dr Pick The embryological solution of the cancer problem, to all appearance, would also be the physiologico chemical one, for trypsin can dissolve the cancer cell with ease and it would appear to destroy the cancer ferment too For some time now in many countries and by many investigators attempts have been made to find a "serum' capable of dissolving the cancer cell It is, perhaps, not too much to say that these have all been in vain In your pages of Feb 4th 1905 I stated that trypsin was this substance , on Feb 11th Dr Shaw Mackenzie independently confirmed this and for other reasons , and now Blumenthal, Bergell, Neuberg, and Wolff all independently state that while the cancer ferment malignin can dissolve any somatic cell the cancer cell is easily destroyed by trypsin So that now the import of trypsin, alone or aided by substances which increase its action would appear to be indicated in the medical treatment of cancer by the researches of six different observers Blumenthal Bergell, Neuberg, Wolff, Shaw Mackenzie, and myself As a corollary to these may be cited the finds of Professor B Moore and colleagues,[6] which to my mind go to prove that cancer cells take from the blood for their own purposes those substances from which the organism usually forms hydrochloric acid in aid of its gastric digestion

I am, Sirs yours faithfully,

J BEARD

April 16th 1905

THE TREATMENT OF FOLLICULAR CONJUNCTIVITIS

To the Editors of THE LANCET

SIRS,—Of late a high authority has stated that follicular conjunctivitis can scarcely be called a disease on the ground that its microscopical appearances are apparently identical with the structure of the follicles in lymphatic glands Whatever the anatomical appearances may suggest there are two facts incompatible with this view—viz , the disease is contagious and responds most promptly to treatment In the Croydon municipal schools the disease was very common but in two years we have reduced the number of cases by at least one half The fact that the disease is contagious must not be construed as implying that it is necessary to exclude the children who have it from the schools It would be going too far to say that the disease is innocuous It was held for many years that these cases were predisposed to granular ophthalmia and not improbably this is true, for the conjunctival tissues being enfeebled by a very chronic inflammation must surely have diminished powers of resistance, and the hypothetical reason why the disease does not oftener pass into the more serious granular type is because the contagion of the latter affection is fast vanishing from the schools and indeed, from the community at large In the Croydon schools, containing 25,000 children, we have succeeded in reducing the cases of granular ophthalmia to about three It is clear therefore, in this instance that there is little chance of any of the follicular cases being exposed to the danger of infection with trachoma

When a child is found to be suffering from follicular conjunctivitis our routine is (*a*) to inform the parents that the child has a contagious disease of the eyes; (*b*) to urge them to see that the child never touches his eyes without washir [illegible] t children can attend school [illegible] with a saucer and lotion to [illegible] event of their touching their eyes , and (*d*) that the child will require a little attention at the hands of their medical attendant, or if this is not expedient at the eye department of a hospital In severe cases occurring in more well to-do children a note is sent to the medical attendant advising the treatment with cocaine, argyrol, and adrenalin. In practice several varieties of the disease occur. The simplest is that so often found after using unsterilised atropine drops for considerable periods. This rapidly subsides on discontinuing the drops and seldom calls for active treatment. In another variety, the commonest, the follicles are few in number and the conjunctiva is slightly, if at all, reddened. In a third variety for which the line of treatment outlined below was designed the follicles are exceedingly numerous, red, and opaque. Several such cases I have followed for over a year, and under the ordinary routine of hospital treatment, so far as I could see, they did not improve in the least.

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[3] In the pregnant uterus of the armadillo Praopus hybridus now in my possession there are seven well formed identical fœtuses within the one chorion The latter was there before any of the seven and they arose within it by the independent development of seven single cells

[4] F r reaso s of [illegible]

[5] [illegible] As sp se of malignic [illegible] To distinguish the cancer ferment from pepsin trypsin secretin, &c , I now suggest the convenient and natural name of malignin

[6] B Moore W Alexander R E Kelly and H E Roaf On the Absence or Marked Diminution of Free Hydrochloric Acid in the Gastric Contents in Malignant Diseases of Organs other than the Stomach Proceedings of the Royal Society London March 16th 1905. (A full abstract of this paper is published in THE LANCET this week.—ED L)

Whatever the variety the following treatment seems infallible. The follicles are painted with cocaine and the lids are held from the eyes. After the drug has been absorbed the follicles are crushed and emptied by trituration and pressure between the two thumb-nails, one nail being next the conjunctiva and the other outside the lid. The third step is to paint the diseased part where the follicles are with argyrol, 20 per cent. After giving the membrane sufficient time to absorb the drug—say, a couple of minutes—the argyrol in the tissues is fixed there by painting on a little adrenalin, 1 in 1000. Cocaine should not be instilled in the ordinary way or the cornea would certainly be damaged irretrievably by the powerful silver salt. The sole object in using the adrenalin is to prevent the blood and lymph from washing away the germicide before it has done its work thoroughly. Two most inveterate cases were cured in three weeks; they were by far the worst cases I have ever seen. The treatment has been mostly in hospital but several practitioners have carried it out in their surgeries with equal success. For home use the patients are ordered lot. hydrarg. cyan., 1 in 10,000, with instructions to wash the eyes with the lotion by means of cotton wool. A little of the lotion is allowed to go inside the eyes but not enough to cause smarting or pain, the idea being that it is better to have a small quantity at work for a considerable time than to use it in such a quantity as will provoke a rush of tears and therefore prompt removal of the irritant. A bland ointment is used at times for the edges of the lids at night, but when it is ordered the patient is warned that it may disagree, and he is advised to discontinue if it causes the lids to be very red in the morning. The paintings are done about every other day.—I am, Sirs, yours faithfully,

CHARLES WRAY, F.R.C.S. Eng.,
Surgeon to the Western Ophthalmic Hospital; Ophthalmic
Surgeon to the Croydon General Hospital and
April 19th, 1905. Croydon Council Schools.

IF TUBERCULOSIS SHOULD BE CERTIFIED, WHY NOT SYPHILIS?

To the Editors of THE LANCET.

SIRS,—Dr. E. H. Douty's letter in THE LANCET of April 8th, p. 956, raises a question which must often present itself to the mind of the medical man. May I attempt to give an answer to it and the reason of the answer, premising first of all that in order to know how to prevent syphilis it is not enough to have made a study of syphilis; it is necessary also to have made a study of the means of preventing it. The answer is, that we do not certify syphilis because we wish to prevent its spread, not to increase it. It is very natural, and sounds very logical, to argue from tuberculosis to syphilis; but the analogy is verbal and not practical, for there is one deep-lying difference which vitiates the whole argument. The two diseases which Dr. Douty invites us to certify are in their nature the most concealable of diseases and they are diseases which there is the strongest possible motive for concealing. To make them notifiable—that is, if it means anything at all, to make them liable to compulsory detention and treatment—is to add a fresh and powerful motive for concealment without adding in any appreciable degree to its difficulty.

I am not speaking without warrant. If Dr. Douty would turn to the reports and communicated papers of the International Society "Pour la Prophylaxie Sanitaire et Morale," of which the French Society he refers to is an offshoot—volumes which certainly ought to be found on the shelves of every medical library—he would find this subject discussed from every point of view, would find the very greatest anxiety on the part of medical men to introduce notification as a means of ensuring treatment, and would find them constantly recognising at the same time that to introduce such a measure is to drive the patient away from the medical man who will notify him to the quack who will not, or to nostrums with which he can treat himself, and that the measure is therefore worthless unless accompanied by the most drastic provisions for the discovery and dragooning of these patients—provisions either ludicrously incapable of application or which have been applied again and again with the same result, the continued increase of disease. The result of long experience on the continent comes to this, that compulsory treatment, while it fails to "stamp out" syphilis, does stamp out voluntary treatment in any class to which it is applied. Accordingly, in Italy, where they have now established a vast system of gratuitous treatment, they are doing away with compulsory treatment even of the lowest class of woman in the belief that the voluntary system will prove more efficacious. In England, on the other hand, the Physical Deterioration Committee of last year, adopting the view expressed by Sir Victor Horsley and some others, recommended an inquiry with a view to two measures—notification and the provision of gratuitous treatment.

Now it is obviously of the greatest importance that there should be adequate provision for the treatment of these patients and every inducement to seek it, and the fact of such provision being made by the State would doubtless attract patients and make early and prolonged treatment much more common; but to introduce at the same time a measure like notification with its necessary corollary of compulsory detention or supervision is precisely the way to drive the willing patient from the doorstep and make the outlay incurred in providing gratuitous treatment a mere waste of public money. Those who advocate these measures have not considered what they mean from the point of view of the patient. They mean that from the first confession of syphilis the patient ceases to be a free agent and we may be very sure that where this is the case the confession will not be lightly made. I am not without sympathy for the impatience of medical men who, like Dr. Douty, see this scourge raging around them and are ready to seize on any weapon which seems to offer the means of combating it. But experience proves that this is a matter in which it is fatally easy to make things worse in trying to make them better. Bad as things are at present, they are in England, by every test that can be applied, steadily becoming less bad, and however desirable it may be to hurry improvement it is still more desirable not to risk checking it.

As to sanatoriums for syphilitics, while fully recognising the value of fresh air in these cases it has to be remembered that people of the comfortable classes can get fresh air without sanatoriums and that people of the not-comfortable classes mostly have families to support. Sanatoriums, whether for tuberculosis or syphilis, can afford only a very limited remedy and it seems almost like a satire on our civilisation to take here and there one out of our overcrowded, underfed, and drink-sodden population, feed him up for a few months with good food and fresh air, and then send him back to the old conditions. The garden city and the farm colony are surely a truer prophylactic. As to education, the continental experts are absolutely agreed. It is the first thing to be done. With your permission I should like to say a few words on this subject in another letter.

I am, Sirs, yours faithfully,
B. LEPPINGTON,
Member of the International Prophylactic Society.
Oxford, April 10th, 1905.

SHOCK AND COLLAPSE.

To the Editors of THE LANCET.

SIRS,—Dr. C. Powell White in his letter in THE LANCET of April 15th, p. 1029, says that I have produced no evidence that increased atmospheric pressure is of value in the treatment of shock and that the statement rests upon my assertion alone. He has evidently not read my lectures very carefully or he would hardly make such a statement. A series of careful experiments to prove this point were carried out by Crile and are referred to in my second lecture on p. 782. The experiments themselves are recorded in Crile's book, "Blood Pressure in Surgery." Dr. White asks me to explain how the vaso-motor system is able to compensate for variations in external pressure. I thought I had already explained this in my lectures. Compensation is obtained by alterations in the calibre of the blood-vessels—that is to say, the vaso-motor centre compensates for external influences by altering the capacity of

the circulation. Dr. White in his last letter says that localised external pressure by altering the distribution of the blood will cause the blood pressure to be increased and argues from this that the phenomenon is a purely physical one. I do not, however, agree with this statement.

In a normal individual localised external pressure will *not* cause any rise in the blood pressure, as the vaso-motor centre at once compensates for any alteration in pressure which tends to take place. Thus compression of the abdomen in a healthy person causes little or no alteration in the blood pressure, while the same amount of compression in a patient suffering from shock will result in a considerable rise in the blood pressure. I would suggest to Dr. White that he should carry out a series of experiments to test the value of his assertions. I am sure that he will agree with me that arguments not based upon experiments are of little value in discussions on morbid physiology and I believe that if Dr. White carries out such experiments he will not long hold his present views. Many of the problems in relation to the blood pressure in health and disease which have been touched upon in this discussion give ample scope for further investigation along experimental lines. I do not think that arguments unbacked by experimental proof can be of much value and I trust that Dr. White will aid the cause of morbid physiology by testing his ideas by experimental research.

I am, Sirs, yours faithfully,
Cavendish-place, April 17th, 1905. P. LOCKHART MUMMERY.

POISONING BY THE WASTE GASES OF THE MOTOR-CAR.

To the Editors of THE LANCET.

SIRS,—In the course of the last few years the public has been brought in contact with the petrol engine as a result of the latter being adopted for road traction. I have seen no mention in the medical or motor papers, nor I am sure are owners of cars and their mechanics aware of the danger of inhaling the waste gases. That this danger is a serious one the following instance will demonstrate. In a room of about 2000 cubic feet capacity, the doors and windows of which were closed, four men for the space of 20 minutes were engaged in testing an eight horse-power engine, which they allowed to run and to rest for alternate intervals of two minutes and one minute respectively. Before the completion of the trial two of the men went out complaining of "feeling bad" and had nausea; their fellows who persevered with the trial were subsequently sick and all four complained of violent headache, throbbing of the temples, and of a feeling as though their heads would burst. All were able to resume work the following morning, but one came to see me some two or three days later with recent and marked anæmia, and although previously in perfect health developed in the course of a few days a large carbuncle. The symptoms I have narrated seem to point to poisoning by carbon monoxide and should act as a warning to others.

I am, Sirs, yours faithfully,
Wimbledon, S.W., April 17th, 1905. W. B. WINTON.

THE "CURE" OF CANCER.

To the Editors of THE LANCET.

SIRS,—Many surgeons will regret to read the somewhat pessimistic article under the above heading published in THE LANCET of April 15th by Mr. Edmund Owen. Looked at with the "cold and unemotional eye" of surgery it is literally true, but most, I think, will agree that Mr. Owen is unduly sensitive when he is unable to satisfy himself of having cured the case he quotes (the nature of which, by the way, he does not state was verified by microscopical examination), notwithstanding that the patient has remained free from recurrence for over a quarter of a century. There is a good deal in medicine and surgery which is incapable of absolute mathematical demonstration and it is obvious on Mr. Owen's argument that no case of cancer could ever be claimed to have been cured by operation, because if the patient lived to 100 years and passed 50 without a recurrence, dying eventually, as Mr. Owen's case seems likely to do, from old age, it could always be argued that if he had lived to 120 he might have had a recurrence. He could not therefore be claimed to have been cured, even though he lived to a ripe old age and died from something else. Such an argument is, no doubt, logically free from flaw but most surgeons will be satisfied that Mr. Owen has obtained a cure and the patient is no doubt satisfied of it herself. Indeed, "wonderfully well and active and in her eighty-fourth year," and free from recurrence after a quarter of a century, I venture to think that it would be difficult to convince her of the contrary. Mr. Owen says that the most the surgeon can promise his patient is that he will "do his best." Clumsy comfort, indeed, for the unfortunate sufferer from this terrible disease. Moreover, the patient will have taken that much for granted before he ever consulted the surgeon. Everybody admits that the three years' limit is an arbitrary one. Everybody admits that cancer cells or germs can apparently lie dormant for years, can then cause recurrence, belie hopes, and spoil statistics (though it remains to be proved that some of these recurrences are not independent outbreaks of the disease, in which case they will fall into exactly the same category as Mr. Owen's broken thigh bone or abscess of the hand).

But granted all this, are we not, I would ask, in the light of recent results, justified in giving our patient just a *little* more encouragement than that we shall "do our best"? Surely we are. Surely our attitude to our patients should be one of distinct encouragement, begotten of the vastly improved results of operation in recent years, more especially as this encouragement is our most powerful weapon in the education of the public in the paramount necessity of early recognition and early operation. When the public are educated up to and encouraged to the fact that they can be cured then we shall see fewer of the "too late" cases and our percentages of cures will go up. And if it be conceded that cancer in the first instance is a local disease it must be admitted that every case of cancer, if it could be seen early enough and removed early enough, is curable. What has led to the vastly improved results of operation in recent years? It is the fact that the surgeon now operates with the thoroughness begotten of the hope, the expectation, the determination to eradicate the disease, not in the slipshod fashion of the man of 30 years ago who was convinced of the utter hopelessness of the complaint which he was dealing with. What is required to still better the results? The encouragement in the public that it is possible to cure them. Mr. Owen's simile of the bottle thrown out to sea turning up again after years adrift is apposite so far as it goes. But he omits to record the fact that the bottle frequently does not turn up at all. Moreover, Mr. Owen admits that in certain cases operation can bring lasting relief. What is this but cure? I cannot see the difference. At all events it is a good enough cure for the patient, even though it may not satisfy the "cold and unemotional" mind of the surgeon.

I am, Sirs, yours faithfully,
CHARLES P. CHILDE, B.A., F.R.C.S. Eng.,
Assistant Surgeon, Royal Portsmouth Hospital.
Southsea, April 20th, 1905.

PIROPLASMOSIS OR RED-WATER FEVER.

To the Editors of THE LANCET.

SIRS,—In examining a number of blood films for nematode infection I have chanced to come across a case of piroplasmosis. The hæmosporidia are to be seen, both intracorpuscular and free, in the blood plasma. Seven years ago the patient spent some two and a half years in America, where I conjecture that some insect, probably a tick, inflicted an infective wound. I should esteem it a great favour to learn through your columns whether this disease has been noticed to have affected man previous to the present time.

I am, Sirs, yours faithfully,
Birmingham, April 24th, 1905. J. DENCER WHITTLES.

UNFORTUNATE ADVERTISEMENT.

To the Editors of THE LANCET.

SIRS,—The columns of the *Times* to-day contain an article dealing with the work done by St. Bartholomew's Hospital, written in a style which may have its attractions (for some readers) and has for its object the increase of the income of the hospital, but surely it is not necessary to pillory "the stoutish man, black-bearded and with bald crown of shining pallor," and why should the house surgeons and dressers be brought before the public and described as "lithe and alert men with a firmness of mouth, a quiet grip in the eye" (*sic*), and dubbed "Young Davids, sworn enemies of death and saviours of life." Surely a remonstrance from members of the surgical staff would compel

the reformatory at Whalley. At the last meeting of the Manchester city council attention was drawn to a payment of £2009 on the precept of the Lancashire Inebriates Act Board for 1905-06, an increase of £400 on the previous year. The cost, it was said, is constantly increasing. There were 66 inmates at Whalley last year, 30 being sent from Manchester and 24 from Liverpool. These 66 in the year cost £12,657 and the capital expenditure on the buildings and the land was £95,338. The council was reminded that at the Grove Retreat for Inebriate Women at Fallowfield 25 patients were dealt with last year at a cost of £869. The chairman of the watch committee reminded the council that in December the matter was considered and he then stated that the cost was about £1 13*s.* 6*d.* a week for each inmate and he did not suppose that it would ever be much less than 30*s.* a week. As the council had agreed to join in this county scheme he did not think it quite dignified to be always harping on the expense. No doubt. But all over the country there is the same feeling of irritation as regards the lavish expenditure on institutions of all sorts and in almost every other direction in which councils, whether of city or county, can vie with each other in showing their disregard of the old saying that the coat should be cut according to the cloth.

Chrysanthemum Smoking.

In December last Mr. A. W. Martin, the medical officer of health of Gorton, recommended the smoking of dried chrysanthemum petals as "a pleasant and harmless substitute" for tobacco. Perhaps he thought that it would be a gentle mode of weaning those in danger of becoming slaves to the pipe or providing a pleasant substitute for those with whom tobacco did not agree. But a case has been reported of unlooked for improvement, attributed to chrysanthemum smoking, in a person who had been "a victim for 15 years to frequent and violent epileptic fits due to chronic dyspepsia." He smoked his first pipe on Jan. 1st and began at once to improve, so that now he is "able to take his half-hour's walk without a stick, instead of being afraid to cross a space of nine feet with it; he can get six nights' rest out of seven, instead of one out of four, and can even attend church." However sceptical anyone may be as to the cause of the improvement and however mindful of *post hoc propter hoc*, the patient is to be congratulated. He adds that the flowers act best when mixed with cascarilla bark, as suggested by Mr. Martin. Should this case attain much publicity there will soon be a run on chrysanthemum blooms.

Ill-fed School Children.

The underfeeding of children in our elementary schools has been much discussed of late and wide sympathy has been aroused. But while all would seek to relieve suffering whether in young or old, it is desirable before going impulsively into schemes which may turn out to be ill-considered first of all to ascertain the facts. In Manchester Dr. A. Brown Ritchie, the medical officer to the Manchester education committee, considers that the question of underfeeding has been a good deal exaggerated. This is not to be wondered at, for the idea of children half-fed, and suffering from the painful gnawing of chronic hunger, going through their daily school tasks while physically unable to use what powers of mind they possess, is one that humane people would not endure. He thinks that the number underfed from the poverty of parents is smaller than is supposed. The appearance of privation might not be due to underfeeding so much as to ill-directed feeding, as, for instance, the diet of bread and tea on which many children live. An inquiry is now being made dealing with about 12,000 children which will show the amount and the causes of underfeeding. A small but interesting investigation carried out a little time ago regarding backward children in the schools threw some light on the problem of underfeeding. "Out of 450 backward children 325 were ill-nourished and in a low state of health, while in 111 cases the children were seriously ill-nourished." Backwardness is, says Dr. Ritchie, in the vast majority of cases due to bad health or irregular attendance apart from bad health. The bad health, of course, may or may not be connected with underfeeding. 'Many of these children seem underfed or ill-nourished, some suffer from chronic disease—e.g., tubercle—others have disease of the ears or defective sight. Many are very dull or slow mentally but not actually "mentally deficient" though otherwise in good health. It is to be noted that a large proportion of the children have "teeth in a state of advanced decay." The inquiry showed conclusively that "the most backward children in a school are also the worst fed." It should be mentioned that 130 of the 450 backward scholars "were also insufficiently clothed." When cold is added to ill-feeding or insufficient feeding the intellectual powers will not long be at their best. As to the causes of underfeeding they may be very various. Misfortune and genuine poverty in some cases, idleness and extravagance with drunkenness and wilful neglect in others, all come into the account and show how complex the problem is and how difficult, or rather how impossible, it will be to remedy the evil by one method only if the interests of the child and those of the taxpayer are to be equitably dealt with.

Our Cowsheds.

The annual report of the medical officer of health of the Lancaster rural district shows that notwithstanding the increased interest taken in sanitation there are conditions still to be found, without, indeed, the necessity for much searching, that are a disgrace as well as a danger to the community. From this district quantities of milk are sent daily to Manchester, Liverpool, and other towns, and the conditions under which the cows supplying it are kept become interesting. The report says that "the cowsheds are dirty, filthy places and very insanitary. Young stock are, as a rule, kept in dark, unwholesome dens which seem designed especially for spreading tuberculosis," and that "as the law stands the authority has very little power in the matter, as the cattle are not kept constantly in the cowsheds but are for about half the year turned out to graze"—happily for the poor beasts. There are seven sewerage systems in the district and not one is described as satisfactory, while in many parts of the district "there is an absence of suitable water-supplies." This, of course, renders more difficult than it should be the proper cleansing and scalding of dairy utensils. This sketch of the conditions at the source of the milk-supply in one locality may no doubt be taken as typical of the state of matters in many others.

Notification of Chicken-pox.

The town council of Heywood has sensibly ordered that for the next three months chicken-pox must be notified. This step has been taken in consequence of the prevalence of small-pox, incipient cases of which have been mistaken for chicken-pox. In his annual report just issued Mr. H. H. I. Hitchon, the medical officer of health of Heywood, states that no case of small-pox has occurred in a vaccinated person under 15 years of age.

A new infectious hospital will shortly be opened at Hyde and it will benefit to the extent of £869 under the will of the late Mrs. Booth of Godley.

April 25th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Swansea Hospital.

THE medical staff of the Swansea Hospital has for long been of opinion that some steps should be taken to prevent persons who are well able to pay a private practitioner from receiving treatment at the hospital. The house committee has been considering the question and has reported to the management committee that there is conclusive evidence of such abuse being practised and for the purpose of excluding persons who are not fit objects of charity it recommends that every proposed patient should fill up and send or bring with the subscriber's letter a form giving particulars of earnings, number of family, &c., and a declaration of inability to pay for private treatment, and, further, that any case which on the information supplied [illegible] should be referred to [illegible] eport, the house committee to decide after [illegible] is information whether the case is a suitable one. When the question of charging for medicines and dressings was under discussion the committee decided that it would be imprudent to make any charge.

Death of Dr. Edward Henry Warner.

Much regret is felt in Bristol on the occurrence of the death of Dr. E. H. Warner of Lawrence Hill. He was a native of Winchester and took the degrees of M.B , C.M. of the University of Edinburgh in 1883, shortly afterwards being appointed assistant medical officer of the county asylum at Lancaster, where he took part in the organisation and administration of the extensive additions which had just been made to that institution. In 1885 he took his M.D. degree and acted for a short time as one of the medical officers of the Bristol city asylum at Fishponds. During the past 18 years he had been in private practice, holding one of the Poor-law appointments under the Bristol board of guardians. He leaves a widow and one son.

The Midwives Act in Cardiff.

The administration of the Midwives Act in Cardiff is being very materially assisted by others than those who are officially concerned in its administration. A course of lectures to midwives was inaugurated by the University College last autumn and the local branch of the Queen Victoria's Jubilee Institute for Nurses has now established a maternity department. A house has been taken for the accommodation of a superintendent and eight midwives and for four pupils undergoing training. The cost of this new department is estimated at £400 yearly but it is expected that a large proportion of this sum will come back to the institute as pupils' and other fees.

Death of Mr John Jenkin Lloyd.

Mr. J. Jenkin Lloyd, who died suddenly from apoplexy at Llanelly, Carmarthenshire, was a native of that town and he had resided there for some years. He received his medical education at University College Hospital and after qualifying as L.R.C.P. Edin., L.S.A. in 1880 was for a short time engaged in colliery practice in Merthyr Tydvil. He was much interested in the public life of Llanelly and was a prominent member of the Presbyterian Church. His widow and one child survive him.

Bristol Eye Dispensary.

The annual meeting of the subscribers to this institution was held on April 18th. The medical report stated that during 1904 the patients numbered 2315, compared with 2268 in 1903. The financial statement showed that a small favourable balance remained at the end of the year.

April 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal College of Surgeons of Edinburgh.

THE fourth centenary celebration of the Royal College of Surgeons of Edinburgh will be held on July 19th, 20th, and 21st. The programme will be as follows. On Wednesday, July 19th, at 9.30 P.M., there will be a reception of Honorary Fellows elect by the President and Fellows in the Royal College of Surgeons (full evening dress). On Thursday, July 20th, at 10.30 A.M., the Honorary Fellows elect, Fellows, and guests will meet in Parliament Hall (academic robes, official costume, or uniform). At 11.30 A.M. there will be Divine Service in St. Giles's Cathedral, to which a procession will start from Parliament Hall at 11 A.M. At 4 P.M. in the M'Ewan Hall there will be an address by the President, presentation of congratulatory addresses, and conferring of Honorary Fellowships. The doors will be opened at 3 P.M. and there will be an organ recital at 3.30 P.M. (Honorary Fellows elect, Fellows, and guests will be expected to attend in their academic robes, official costume, or uniform). At 9.30 P.M. there will be an evening reception in the Royal College of Surgeons (full evening dress or uniform). On Friday, July 21st, at 3.30 P.M., there will be a reception in the grounds of George Heriot's Hospital. At 7 P.M. there will be a banquet in the Music Hall (court dress, uniform, or full evening dress). Dinner tickets for ordinary Fellows, one guinea. Except in the case of the reception on July 19th and the cathedral service admission to the various ceremonies will be by ticket only. Fellows of the College who desire to attend the celebration are requested to intimate the fact and state at which of the ceremonies it is their intention to be present. Letters to this effect, addressed to the honorary secretary, Fourth Centenary Celebration, Royal College of Surgeons, Edinburgh, must be received on or before June 1st. After that date it may not be impossible to guarantee tickets for the various functions.

University of Glasgow.

The difficulty which exists in the way of making alterations in the curricula of any of the Scotch Universities was emphasised recently at the monthly meeting of the Glasgow University Court. In the present state of matters independent reform or development, except in insignificant details, is almost impossible. According to Professor Jones, who raised the question in the University Court in the event of any proposed new ordinance they had to communicate with the Senate and the general council (which was quite right), but they had also to communicate with the other Scotch Universities and if they dissented they reported to His Majesty in Council. Then His Majesty in Council referred the question to the Universities' Committee. This committee in turn reported to His Majesty and the matter was then laid before both Houses of Parliament. It was pointed out that the Scotch Universities did not possess the same privileges as Manchester, Liverpool, or other universities such as Birmingham, in which such changes as were involved in these ordinances could be effected by the bodies themselves. Professor Jones formally moved "that we call attention to the difficulty of bringing about changes in the curricula, the arrangement of winter and summer sessions, and other matters, arising from the fact that such changes can be carried out only if the four Universities act together and that a committee be appointed to consider the question." After some discussion the motion was carried and a committee was appointed. There is no doubt that the decision of the court will commend itself to all interested in the welfare of the University. It seems intolerable that freedom of development in any one university should be restricted by the mere cumbrousness of the necessary procedure. Although a certain standard of uniformity for the four Universities is advisable it is surely not essential or to their advantage that they should always act together. The needs of the University of Glasgow, situated as it is in a centre of enormous industrial development, cannot always be the same as those of the University of Edinburgh or the University of Aberdeen.

The Glasgow and West of Scotland Coöperation of Trained Nurses.

The annual report of the Glasgow and West of Scotland Coöperation of Trained Nurses records a year of continued prosperity and useful work. Founded 12 years ago this association, as shown by the success with which it has met, has filled a distinct want in Glasgow and the West of Scotland. The convenience of such an association to the public and to the medical profession is obvious, as with so large a staff of nurses as it possesses it makes it extremely easy to secure a nurse for a sick person even on the shortest notice. Also the fact that no nurse is admitted to the staff unless she can produce a certificate of three years' continuous and systematic training in a recognised general hospital of at least 100 beds and that maternity nurses are not exempt from this condition guarantees that each nurse must have attained to a certain standard of efficiency. The value of such an association to the nurses themselves cannot be overrated. The nurse who after completing her hospital training determines to take up private nursing without joining some such association as this will almost invariably at first find cases difficult to get and even when a certain connexion has been formed the outlook is always more or less precarious. According to the report of this association the average amount earned by each nurse during the past year, allowing one month for holiday, was between £60 and £70. In 1894, when the coöperation was first started, the nurses on the staff numbered 31, the cases nursed numbered 65, and the gross earnings of the nurses were £293. In 1904 there were 176 nurses on the roll, 1762 cases were nursed, and the earnings for the year came to £10,724. The executive committee is composed of members of the medical profession, representatives of the nurses, a few business gentlemen, and several ladies interested in the work. With a committee composed in this fashion one can expect that the interests neither of the public or the medical profession nor of the nurses themselves will be neglected and that the association will be run on a sound financial basis.

April 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The General Medical Council and Ireland.

Dr. Leonard Kidd of Enniskillen has issued his address as a candidate for the office of Direct Representative on the General Medical Council at the coming election in 1906.

After pointing out that the seven Irish Representatives are at present drawn from the consultant class, are all resident in Dublin, and are all in some way connected with teaching centres, he asks for support on the ground that he is a "provincial general practitioner," absolutely unconnected with any medical school or corporation Dr Kidd is in favour of increasing the Direct Representation to the extent of one half of the Council and of election of the Direct Representatives under a topographical arrangement, of the 'one portal' system of examination, of a "Students' Register,' and of stringent measures being taken against unqualified practice Dr Kidd adds that should any more acceptable "provincial general practitioner' come forward as a candidate he is prepared to accept the decision of the electorate as expressed by a preliminary poll or other satisfactory means and retire in his favour Since Dr Kidd s [illegible] Irish Medical [illegible] the principle [illegible] agh, Donegal, Sligo, Roscommon, co Cork, Waterford, and South County Down The Portadown and West Down division of the British Medical Association has passed a similar resolution In the daily papers of April 25th a letter appears from Dr George F J Greene making the suggestion that since about nine months must elapse before the medical men of Ireland can elect one of their number to voice their views on the General Medical Council it would be unwise to make any promises of support until there is a full opportunity of considering the matter at a meeting of the medical electors in Dublin or elsewhere He says there is a general feeling that Dublin is much over represented Dr Greene is a well known practitioner, he has been a justice of the peace for the county of Wexford for many years and is a vice president of the Irish Medical Association.

Tragedy in an Asylum

In the Monaghan and Cavan Asylum on April 23rd, about 10 P M, when the patients in the institution were retiring, a quarrel took place between two female patients who have been 20 years in the asylum, during which one of them struck the other several blows with an enamelled vessel on the head, with the result that she died 20 minutes afterwards from compression of the brain An inquest was held on the next day, the jury finding that death was due to the injury done to the brain by the wounds to the head

Royal Victoria Hospital, Belfast

In the Belfast papers of April 19th an interesting extract has been published from a New Zealand paper, the *Lyttelton Times*, written by a medical man, Dr Thacker, who gives an account of his visits to hospitals at Dublin, Edinburgh, Belfast, New York, Chicago, and Baltimore He says the best and most up to date institution that he saw was the Royal Victoria Hospital Belfast, and he emphasises specially [illegible] plenum system of heating and [illegible] system by which each member [illegible] hospital of his own, the "unit' consisting of a large male and female ward of 14 beds each with two small wards Each "unit' has its own kitchen, each physician has a clinical laboratory and lecture room, and each surgeon an operating theatre The architect of the new hospital at Bombay, who went to Belfast personally to inquire into the plenum system, intends, as stated by Dr Thacker, to make provision for it in his plans

The Meath Hospital and County Dublin Infirmary

The annual meeting of the governors of the Meath Hospital took place on April 13th The report announced that the committee of the hospital has determined to erect a building for the nurses in the hospital grounds Plans for this block have been prepared and the cost will be about £5000 There was some discussion as to the question whether the representatives of the county council had a right to exercise a vote in the election of governors of the hospital, and an opinion was expressed by those representing the hospital authorities that they had not A meeting of the Dublin county council was held at the offices in Rutland square on April 20th when the chairman, Mr P J Neill, J P, alluding to the published report of the discussion at the Meath [illegible] should be made as to t [illegible] of the council on that [illegible] that in the case of a t [illegible] funds of that institution their representatives should not occupy an inferior position

April 25th

PARIS.

(FROM OUR OWN CORRESPONDENT)

Gelatin in the Treatment of Aneurysm.

AT the meeting of the Academy of Medicine held on April 11th M Le Dentu reported a successful case of popliteal aneurysm treated by injections of gelatinised serum, a method which was introduced by M Lancereaux and M Paulesco Measures tending to occlude the artery such as ligature above the sac or extirpation of the sac, are in the case of a popliteal aneurysm, peculiarly prone to be followed by gangrene M Le Dentu s patient was a man aged 20 years, who suffered from a traumatic popliteal aneurysm During a period of two months he received seven injections of a serum containing 2 per cent of gelatin in quantities of 200 grammes at a time The injections were made in the gluteal region After the second injection the pulsation in the sac had disappeared and at the end of two months the cure was complete The method is simple and if care be taken to sterilise the gelatin by exposing it to a heat of 115°C so as to remove any risk of tetanus infection it may be said to be free from danger

Hygiene in the Laundry

A decree dealing with the above subject has just been issued by the Council of State, acting on instructions from the Minister of Commerce and of the Consultative Committee of Arts and Manufactures The decree lays down that no dirty linen shall be brought into the laundry except carefully packed in sacks or in some other receptacle which can be absolutely closed during transit If possible the dirty linen, together with its receptacle, must be disinfected before any sorting is done, or at least the linen must be wetted so as to avoid any dissemination of dust In this last case the receptacles must be scoured or disinfected separately Disinfection is obligatory in the case of dirty linen coming from hospitals or from any place where sick folk are received Finally, the staff employed in the manipulation of the linen are to be supplied with overalls which shall be kept specially for the work Dirty linen must not be handled in the ironing rooms or in any other room in which clean linen is handled and no article of food or drink is to be consumed in the rooms devoted to the handling of dirty linen

April 25th

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

Meningitis decreasing in New York City

MENINGITIS with the coming of warmer and more settled weather, is on the wane in New York The death rate for the week ended April 8th at noon was 20 11 per 1000 while for the corresponding week of 1904 it was 25 76 During the week ended April 8th there were 110 deaths due to cerebro spinal meningitis compared to a death list of 131 in the previous week from the same cause It is also believed that several deaths have been ascribed to meningitis which were in fact due to other diseases [illegible] Association of Greater New [illegible] subjects discussed was that of [illegible] in the treatment of cerebro spinal meningitis Dr Arthur Wolff of the New York board of health described the results of his investigations as to the value of the serum as a remedial and curative agent He stated that his conclusions were that practically the only good the serum did was when it was applied in the earliest stages of the disease and then only when administered in large doses In the later stages he said that antitoxin was absolutely useless Dr Wolff said that experiments with white rats, rabbits, guinea pigs, and monkeys seemed to show that a certain antagonism existed between diphtheria antitoxin and the cerebro spinal meningitis cultures It had been noticed with the outbreak of meningitis that cultures taken from the nose and the throats of patients in the hospitals at the time of the abatement of the diphtheria epidemic showed highly different growths, leading to the supposition that the two diseases were antagonistic Acting on this supposition attempts had been made to use antitoxin in the treatment of cerebro spinal meningitis These as stated above, had been hopeless in advanced cases but often helpful in the early stages of the disease.

New York City Census by the Board of Health.

The New York board of health is at the present time taking a sanitary census, an appropriation by the board of estimate of $35,000 (£7000) having been made for this purpose. 150 medical men have been put to work on the census, whose duty will be to ascertain not only the exact population of the city, but to get an idea of the health of the entire community, according to age, nationality, and locality. Every person will be subjected to an examination and, as far as is possible, the cause of his or her condition recorded, together with the name, address, age, and if a foreigner his or her condition as near as can be ascertained on entering the United States, so as to show whether a disease was contracted here or imported. The work is expected to take four or five months, perhaps longer.

April 16th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Week's Record in Plague Mortality.

A RECORD of 53,895 deaths from plague throughout India was returned for the week ending March 25th. This is a rise of 11,807 over the previous seven days. It forms a lamentable sequel to the let-alone policy which has been formulated by the Government of India and adopted by the provincial governments. Of this large total 20,501 deaths occurred in the United Provinces, 18,778 in the Punjab, 8630 in Bengal, 2548 in the Bombay districts, 968 in Rajputana, 618 in Bombay City, 570 in Calcutta, and 95 in Rangoon. The outbreak in Aden seems to be dying down, as only 32 deaths were recorded. The disease is spreading not only in Rangoon itself but in other parts of Burmah.

The New Plague Research Committee.

The Government despatch concerning the further scientific investigation into the etiology of plague announces the appointment of a committee. It admits the failure of the expedients which have been tried and recognises that educated opinion is disposed to criticise the Government for its present policy of inaction. It expresses the opinion of the Government that the repressive policy first adopted was worse than useless and admits that because later the epidemic spread to parts where the enforcement of strict measures would be dangerous the policy of compulsion was deliberately replaced by one of persuasion and assistance. It, however, admits that the latter policy has been as much of a failure as the former one. After eight years of the pestilence the Government concludes that "we think that we should now deliberately attack the problem from the scientific side." It is better late than never, but the medical world will certainly charge the Government with neglect of the enormous opportunities which the continued presence of the disease in India has offered for its more exhaustive study. In making proposals for the constitution of the committee of two or three of the best experts available the Government half apologises to the Indian Medical Service. It ought to apologise because from this service a very competent committee might have been formed long ago and might have been carrying on original investigations under continuous conditions and with numerous other advantages. The committee is to have an absolutely free hand in the conduct of its inquiry. It is to be hoped that it will be free to report also. No term for its inquiries has been fixed "but so long as they are steadily increasing our stock of knowledge of a kind which may be expected in the end to lead to practical results we would place no term to the inquiry." It appears that on the recommendation of the Lister Institute and the Royal Society a small committee of these bodies with a representative of the India Office will administer a grant for the purpose of an Indian plague research expedition, consisting of two experts and two junior Indian medical officers. The joint committee is to prescribe and direct researches and to examine results. It seems strange that "two or three of the best experts available" should require to have their work prescribed and their researches directed.

Endowment for Sanitary Improvements.

Spontaneous gifts for sanitary improvements are so uncommon in India that the action of Raja Joyendra Narain Roy of Lalgola in the district of Murshidabad deserves to be brought to notice. He has given Rs.50,000 for the creation of an endowment for the sanitary improvement of the district as a memorial to his late wife. The Raja previously gave a lakh of rupees for improving the water-supply in the different districts of Bengal.

April 7th, 1905.

Obituary.

CALEB CAREY RICHARDS, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

THE death, in his sixty-eighth year, of Dr. Caleb Carey Richards of Arundel-square, Islington, on April 19th, marks the severing of another link with the past generation of practitioners and the termination of a career conspicuous for its usefulness. Receiving his professional education at King's College, London, where he enjoyed the surgical tuition of Sir William Fergusson, he graduated as M.D. at the University of St. Andrews in 1861, also taking the diplomas of M.R.C.S. Eng. and L.S.A. in the same year. He then became assistant to Dr. Davies of Aberdare, a connexion by marriage. There he extended his knowledge of the surgical side of his profession and in January, 1866, contributed to THE LANCET a report of a case of hydatids of the liver, in which he advocated the use of operative measures as opposed to the medical treatment then in vogue. During that year there occurred a memorable outbreak of cholera in the East-end of London and he was placed in charge of one of the dispensaries which were organised to cope with the epidemic. Some idea of the arduous nature of the work may be gleaned from the perusal of an article from his pen which appeared in the *Medical Press and Circular* on Jan. 2nd, 1867, and in the course of which he stated that he had, in coöperation with three assistants, attended 7000 cases in six weeks. On the conclusion of the outbreak he obtained without solicitation and as the result of the admiration aroused by his devotion to duty a parish appointment vacant at that time in the district and here he practised uninterruptedly for 17 years, being compelled at length, on account of ill-health, to relinquish his extensive connexion. He had during this long period enjoyed an enormous popularity as an obstetrician, his attendances on labours reaching, in round numbers, the extraordinary total of 10,000; and his experience in this department of practice led to his receiving an appointment as assistant physician to the Royal Maternity Charity under the auspices of Dr. Robert Barnes. Dr. Richards leaves a widow and two sons, one of whom is in the medical profession.

ALEXANDER KEITH CAMPBELL, M.D. EDIN., D.P.H. ABERD.

Dr. A. Keith Campbell of The Lyncombes, Ebbw Vale, Monmouthshire, died on March 23rd, after a very brief illness, in his thirty-second year. This premature close of a career which was remarkably full of promise has come as a painful shock to a large circle of his attached friends. At the Universities of Edinburgh and Aberdeen, where he obtained his professional education, his work was characterised by unusual brilliance. At the University of Edinburgh eight class medals out of a possible ten fell to his lot. He was awarded honours on graduating as M.B. and C.M. in 1894, and commendation when he proceeded to the degree of M.D. in 1898; while the diploma of D.P.H. which he received at Aberdeen was also taken with honours. Dr. Campbell's earliest appointments were chiefly in asylums for the insane. Among his various contributions to the periodical literature of the profession, one on Recovery after Taking an Ounce of Chlorodyne and 250 Grains of Sulphonal was published in THE LANCET of March 6th, 1897, p. 661. Dr. Campbell was possessed of a kindly and tactful nature and his skilfulness in practical work inspired confidence and esteem in all with whom he came in contact.

TIVERTON INFIRMARY.—The trustees of the late Mr. Stephen Henry Fisher, L.R.C.P. Lond., M.R.C.S. Eng., have presented a valuable library of medical books to the Tiverton (Devon) Infirmary.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated :—

s; W. L. Crabtree, Leeds
loyd (Sections I. and II.),
and B. W. A. Walker
l Guy's Hospitals.
II.), London Hospital;
University College Hos-
ospital; W. S. Mitchell
R. H. Terry (Section II.),
ctions I. and II.), Oxford,

ndon Hospital; S. A.
k Hospital; A. R. Wade,
Walker, Oxford, London,

spital; R. St. Johnston,
ford, London, and Guy's
Hospitals.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: A. Anderson, W. A. T. Lloyd, and B. W. A. Walker.

-At examinations for
held recently the follow-
examiners :—

FIRST EXAMINATION.

Element
class
Irelan
Colleg
Martn
Burm
Georg
son a
Tyne.

Elementary Anatomy and Biology.—Ronald Mathwin Angus, Harriett Amelia Rachel Ap
Bower, John George Campb
Cooper, College of Medicine,
Evans, Guy's Hospital; Franc
pital; Reginald Cyril Herbert
Gray, Arthur Charles Greene, John Pritt Jackson

Wood, and Alfred Armitage Woodhouse, B.A., College of Medicine, Newcastle-upon Tyne.

Chemistry and Physics.—Jacques Marius Louis François Coquelin,
cival Rivers Harvey, London
Hughes and Stanley Larmond
Lennox Macdonald Stewart,
College, London.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—Second class Honours: Charlotte Purnell and Elizabeth Patteson, London School of
ude Ethel O'Brien, College of
Pass List: Helen Young Camp-
Women; Herbert Ridley Crisp.
Edmeades, Helen Mary Gurney,
David Ewart Johnstone, College
Tyne; Thomas Davidson Miller, M
Hospital; Hubert Shield, College
Tyne; Herbert James Slade, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; and Edward Davison Smith and John Franklin Young, College of Medicine, Newcastle-upon-Tyne.

THIRD EXAMINATION.

Orrock Arnott, College of Medicine, Newcastle-upon-Tyne, Thomas Henry Bishop, M.R.C.S., L.R.C.P., Edinburgh University and College of Medicine, Newcastle-upon-Tyne; Sydney Havelock, B.Sc., College of Medicine, Newcastle-upon-Tyne; Thomas Davidson Miller, M.R.C.S., L.R.C.P., St. Thomas's Hospital; Hector Graham Gordon Mackenzie, M.A., College of Medicine, Newcastle-upon Tyne; Bertha Mary Mules, London School of Medicine for Women; Jessie Jean Martin Morton, Edinburgh School of Medicine for Women; Roland Wilfred Pearson, M.R.C.S., L.R.C.P., London Hospital; Howard Bewlay Stephenson, College of Medicine, Newcastle-upon-Tyne; Herbert James Slade, M.R.C.S., L.R.C.P.
; Arthur John Turner,
, Birmingham University;
bert Rex Wilkins, College

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April meetings of the examiners held in Glasgow the following candidates passed the respective examinations :—

First Examination (Five
James Denis Collins Ca

Killevock, co. Tyrone.

James Logan, Glasgow; Peter Jo
Zealand; Thomas Urmiston Wilson
Milne, Glasgow; Henry Gilbert
Fitzgerald Anderson, Scotland;
Bombay; Owen T. Jones, Bangor;

rse).—Jesudasan S. Lamech,
rton, Buteshire.
n Haltby, Belfast (with dis-
William Frederick F. Durr,
uncan Edinburgh; Charles

North Berwick,
Ashurst, Bedford
Glasgow; Gavin Watson Hill, Lesmahagow; Arnold M'Millan, Belfast; John Theodore Anderson, Victoria, and William Turner

seven in Midwifery, and eight in Medical Jurisprudence.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Fellows of the College :—

S. S. Pringle, M.B., B.Ch., University of Dublin, Surgeon to Mercer's Hospital, and W. I. de Courcy Wheeler, M.D., B.Ch., University of Dublin, Surgeon to Mercer's Hospital.

MEDICAL MAGISTRATE.—Mr. George Jackson, F.R.C.S., honorary surgeon to the Plymouth Public Dispensary and to the Devon and Cornwall Ear and Throat Hospital and one of the Direct Representatives of the profession on the General Medical Council, has been placed upon the commission of the peace for the borough of Plymouth.

OLD CLOTHES AND CHOLERA: RUSSIAN PRECAUTIONS.—In view of the anticipated cholera epidemic in St. Petersburg dealers in second-hand clothes will be obliged to hand over their merchandise to the city disinfecting rooms and the report is added that on the first appearance of cholera trade in so-called "old clothes" will be suppressed until the complete disappearance of the epidemic.

LIÉGE EXHIBITION.—The Universal Exhibition to be held at Liége this year bids fair to be one of considerable interest and on and after May 1st the service by the Harwich route between London and Liége will be greatly accelerated. Passengers leaving Liverpool-street Station at 8 40 P.M. will be due at Liége at noon the following day, while dining and breakfast cars will be attached to the boat trains between Liverpool-street Station and Parkeston Quay, Harwich, so that passengers may sleep and breakfast on the steamer before landing at Antwerp. Through carriages will run from alongside the steamer to Liége and *vice-versâ*, but none of our readers will be well advised in their anxiety to make a through journey to miss the opportunity of seeing Antwerp and Brussels.

RUSSIAN MEDICAL EXAMINATIONS: SCARCITY OF CANDIDATES.—The medical examination committee of the University of Moscow began its work in the second week of April in Moscow. There were only two candidates for examination, the one a lady doctor who had obtained her education abroad and the other a male doctor from a foreign university. The examination of these two people, says the *Novoe Vremya*, costs the University £200 and the two candidates contribute only £2 in the form of fees.

THE MEDICAL GOLF TOURNAMENT.—The medical golf tournament for 1905 will be held on Thursday, May 25th, at Sunningdale by the kind permission of the Sunningdale Golf Club whose links adjoin the station. The regulations for the competition are as follows: 18 holes match play *v.* Bogey. Class I., handicaps of 12 and under. Class II., handicaps of more than 12 (24 limit). Members of Sunningdale Golf Club deduct 2 from their handicap. No match may start later than 3 P.M. and no previous play will be allowed on the day of the tournament. There will be three prizes in each class: first and second prize, and prize for best last 9 holes *v.* Bogey, and there will be a foursome sweepstake competition *v.* Bogey in the afternoon. Players are left to arrange their own matches or can apply to the honorary secretary of the tournament, stating the time that they wish to play. A green fee must be paid on the day to the steward at Sunningdale. Entries, stating lowest handicap and inclosing 5*s.* entry fee, to be made on or before Wednesday, May 24th, to the honorary secretary, Mr. Rolf Creasy, Windlesham, Surrey.

LUNACY INQUIRY.—An inquiry was held at Lancaster recently by Mr. T. H. Fischer, K.C., Master in Lunacy, assisted by a special jury of 23, the point at issue being the ability or otherwise of a lady of means to manage her affairs. It was alleged that the respondent suffered from the delusion, amongst others, that certain people were her relatives and that in consequence these persons had an undue influence over her actions. Mr. G. W. Mould, formerly medical superintendent of the Cheadle *Asylum, said that from his interview with the respondent he* was convinced that she did not understand the nature of the property she possessed nor how it was invested and was of unsound mind and unable to manage her affairs or herself. He gave particulars of several delusions relating to her imaginary relatives, from which it appeared that she believed that when five years old she was married to three husbands and had had children by them. She had also stated that her father married the Queen of Morocco and she had other delusions which the witness described as "fixed and persistent but varying in intensity." Dr. D. M. Cassidy, medical superintendent of the County Asylum at Lancaster, agreed with the conclusions of Mr. Mould. He had gone through several account books with the respondent and found that she could not balance them. She repeated the story of the three supposed husbands to him, adding that she believed the first to have been the Amir of Afghanistan. For the respondent Dr. E. S Reynolds, visiting physician to the Manchester Workhouse Infirmary, alleged that though the lady undoubtedly had delusions she gave reasonable answers to his questions about money. So far as he was able to see they had no effect upon her conduct save the frequent gifts to the supposed relatives. The jury found that the lady was incapable of managing her affairs but capable of managing herself.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

London County Council and the Insane.

SIR JOHN BATTY TUKE has the support of Mr. JOHN BURNS and Mr. BENN in bringing in his Bill to authorise the London County Council to provide receiving houses for the reception of persons mentally afflicted or alleged to be of unsound mind and to authorise the detention of such persons in these houses.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 19TH.

Nursing in Ireland.

Dr. E. C. THOMPSON asked the Chief Secretary for Ireland whether he was aware that, by the arrangements enforced by the Local Government Board for Ireland in its nursing circulars, the Irish county hospitals were not recognised as training schools and nurses trained in these institutions were debarred from occupying the position of charge nurses for district hospitals; and whether, in view of the experience of leading physicians and surgeons in this matter and of the fact that nurses so trained were recognised as trained nurses in Great Britain and by the English Local Government Board, he would take steps to abrogate the rule in Ireland.—Mr. LONG answered: Many of the Irish county hospitals are recognised as training schools for nurses and the Local Government Board regards as "qualified nurses" persons who have obtained certificates of proficiency from these institutions In order to encourage the appointment of at least one qualified nurse in each Irish workhouse it is provided by Section 58 of the Local Government Act of 1898 that one-half of the salary of such nurse shall be recouped from the local taxation account; and to insure that none but nurses of high qualifications should obtain these appointments the Board only recognises the certificates of general, clinical, or other hospitals where there are a good teaching staff and a large number of beds available for instruction. The present arrangement has been found to work satisfactorily and has received the approval of the medical profession generally.

Dr. THOMPSON further asked the Chief Secretary for Ireland whether he would lay upon the table of the House the report of the medical inspector of the Local Government Board as to the capabilities of the Tyrone county hospitals for training nurses.—Mr. LONG said: Such reports are confidential documents intended for the information of the Board and it would be contrary to the invariable practice to make them public.

Infantile Mortality.

Dr. THOMPSON asked the President of the Local Government Board whether he was aware of the percentage of deaths of infants; whether he received tabulated records of the deaths in different urban and rural districts; and whether in future he would direct a medical inspector to visit such localities and inquire into the causes producing such results.—Mr. GE[illegible] replied: The Local Government Board is aware of the [illegible] infants in different parts of England and Wales. [illegible] this subject is derived from particulars given in the weekly and quarterly reports of the Registrar-General as to certain towns and from the annual reports of medical officers of health of urban and rural districts, copies of which are sent to the Board. I could not undertake to direct a medical inspector to visit every locality in which there is a high rate of infantile mortality, but where this is the case the circumstance is taken into account with other considerations in determining whether there should be a medical inspection of the district.

Irish Schedule of Infectious Diseases.

Dr. THOMPSON asked the Chief Secretary of Ireland why the Local Government Board for Ireland had omitted measles from the schedule of infectious diseases in view of the character of this disease.—Mr. LONG replied: The infectious diseases to which the Infectious Disease (Notification) Act, 1889, applies are specified in Section 6 of the Act and do not include measles. Power is, however, given to the sanitary authority by Section 7 to order, subject to the Board's approval, that the Act shall apply in its district, permanently or temporarily, to measles or any other infectious disease not mentioned in the Act.

BOOKS, ETC., RECEIVED.

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, Calcutta
- Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India:—
- Oriental or Delhi Sore. By Captain S. P. James, M.B., I.M.S. New Series. No. 13. Price Annas 10, or 1s.
- On a Parasite Found in the White Corpuscles of the Blood of Dogs. By Captain S P. James, M.B., I.M.S. New Series. No. 14. Price Annas 10, or 1s.

PROTAT FRÈRES, Macon.
- Traitement des Maladies du Cœur, de la Goutte et du Rhumatism, à Bourbon-Lancy. Par le Docteur A. Piatot Ancien Interne des Hôpitaux de Paris, Médecin Consultant à Bourbon-Lancy, Médaille d'Argent de l'Académie de Médecine. Price not stated.

WARD LOCK AND CO., LIMITED, Warwick House, Salisbury-square. E.C.
- A Pictorial and Descriptive Guide to London and its Environs Twenty-sixth edition, entirely re-written and re-illustrated. One hundred and twenty-seventh thousand. With Map of London and Twelve Miles Round and twenty other maps and plans. Price 1s.

WILEY, JOHN, AND SONS, New York. (CHAPMAN AND HALL, Limited, London.)
- Manual of Psychiatry. By J. Rogues de Fursac, M.D., formerly Chief of Clinic at the Medical Faculty of Paris. Authorised translation from the French. By A. J. Rosanoff, M.D., Junior Assistant Physician, L.I. State Hospital, King's Park, N.Y. Edited by Joseph Collins, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School. First edition. First thousand. Price, cloth, 10*s.* 6*d.* net.

WRIGHT, JOHN, AND CO., Bristol.
- "First Aid" to the Injured and Sick. An Advanced Ambulance Handbook. By F. J. Warwick, B.A., M.B. Cantab., M.R.C.S., L.S.A., Associate of King's College, London; Captain, Royal Army Medical Corps (Vol's.) London Companies; and A. C. Tunstall, M.D., F.R.C.S. Edin., Captain commanding the Fourth or City of London Volunteer Infantry Brigade Bearer Company. Third and revised edition. Price 1s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

AMBROSE, J. M., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ardagh District of the county of Limerick.

BARFORD, A. M., M.D. Brux., D.P.H. R.C.P.S. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Physician to the Chichester General Infirmary.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been appointed Medical Officer of Health for the Tetbury Urban District Council.

CHATTERTON, EDGAR, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Pathologist to the Western Ophthalmic Hospital, Marylebone road, W.

HARNETT, CHARLES JOHN, M.D. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Visiting Surgeon to the Royal Sea Bathing Hospital, Margate.

HEWKLEY, FRANK, M.B Durh., has been appointed Physician to the St. Luke's Medical Mission.

MACCARTHY, W., M.B., B.Ch., B.A.O. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Abbeyfeale District of the county of Limerick.

TAYLOR MARK RONALD, L.R.C.P. Lond., M.R.C.S., has been appointed Admiralty Surgeon and Agent at Porthleven and Gunwalloe, Cornwall.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, Clapham road, S.W.—Senior and Junior Resident Medical Officers for six months. Honorarium at rate of £20 and £10 per annum respectively, with board and lodging.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, [illegible] with board and lodging. Also [illegible]

[illegible] COUNTY ASYLUM.—Third Assist- [illegible] alary £140, with board, quarters, [illegible]

[illegible] ALESCENT HOME.—Visiting Physician [illegible]

[illegible] EAST SUSSEX HOSPITAL.—Assistant [illegible] Honorarium 10 guineas, with resi- [illegible]

[illegible] ASYLUM.—Assistant Medical Officer [illegible] board, lodging, [illegible]

[illegible], London, W.C.— [illegible] Salary £20, with [illegible]

[illegible] ried. Salary 100 [illegible]

[illegible] on. Salary £100 [illegible]

[illegible] HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Cavendish square, [illegible]

MICKLEOVER, DERBY COUNTY. A [illegible] Officer. Salary £120, rising to [illegible] board, washing, and attendance.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich road, S.E.—Junior Resident Medical Officer for six months. Salary £80 per annum,

MOUNT VERNON [illegible] CHEST, Ham [illegible] Officer at N [illegible] Officers at Hampstead. [illegible] annum; Junior Officer, [illegible]

[illegible] Medical Officer. Salary [illegible]

[illegible] DURHAM COLLEGE OF [illegible]

NORFOLK AND NORWICH HOSPITAL.—House Physician, unmarried. Salary £80 a year, with board, lodging, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney road, Bethnal Green, E.—Pathologist and [illegible] Salary £75 per annum [illegible]

[illegible] House Physician. Salary [illegible]

[illegible] ebone-road, N.W.— [illegible] Salary at rate of £60 [illegible]

SOCIETY OF APOTHECARIES OF LOND[illegible]

THROAT HOSPITAL, Golden square, W[illegible]

WALSALL AND DISTRICT HOSPITAL. [illegible] ry £100 per annum, with board, resi[illegible] washing.

THE Chief Inspector of Factories, Ho[illegible] vacancies as Certifying Surgeons [illegible] Act at Bridport in the county of [illegible] county of York.

Births, Marriages, and Deaths.

BIRTHS.

BRIDGEFORD.—On March 21st, at Boulder, West Australia, the wife of W. Bridgeford, M.R.C.S. Eng., of a son.

JEWELL.—On April 22nd, at Oakmead, Balham Marion, the wife of J. W. F. Jewell, M.D., M.S. Lond., of a daughter (Marjorie Susie).

NEWBY.—On April 18th, at Addiscombe road, Croydon, the wife of Gervase E. Newby, F.R.C.S., of a son.

NICHOLSON.—On April 24th, at 20, Manor [illegible] h, the wife of [illegible] ghter.

WOO[illegible] the wife of [illegible]

MARRIAGE.

[illegible] St. John's Parish Church, [illegible] M.B., Ch.B. Edin., Wick, to [illegible] Macdonald Cameron, Esq.

DEATHS.

RICHARDS.—On the [illegible] Barnsbury, N., Caleb Carey Rich[illegible] rs.

SIBBALD.—On April [illegible] burgh, Sir John Sibbald, M.D., F. [illegible] in Lunacy for Scotland, aged 72 years.

STOTT.—On the 26th inst., at Deansgrove, Haslingden, William John Stott, M.D., M.R.C.P. Interment, Monday next at Haslingden Parish Church.

Notes, Short Comments, and Answers to Correspondents.

DAMMING OF THE THAMES.

To the Editors of THE LANCET.

SIRS,—The objections which are now coming to light after many months of discussion are assuming a form bordering on the ridiculous. Does your correspondent Dr. Stanley Haynes seriously believe that the vertical displacement of the air above the river by the rising tide is of the slightest hygienic value or is he joking? The rise of the tide will—in six hours—displace its own bulk of air, of course, but a very slight breeze will displace in five minutes more air than the tide can move in five days, and when the tide is down we get the intolerable stench of the mudbanks for several hours to poison the air and the rising tide lifts this foul air to pour out over the riparian districts.

There are no "low banks on the Surrey side" to be overflowed. Perhaps he refers to low-lying lands. If so, these will be pumped drier than they ever are now and so improve the health conditions. Then he says that none of the water-supply of London should be drawn from the Thames. But two thirds of the water-supply is now so obtained and it is one of the best and purest services in England. Perhaps, however, he means that the supply should not be taken from the river below Teddington. It will not be necessary to do so as the returns show that there is sufficient—at least for 50 years—above Teddington, but the appended letter from a great Thames chemist of 40 years' standing ought to satisfy any scruples on this question of the condition of the river.

I am, Sirs, yours faithfully,
T. W. BARBER.

Tothill street, Westminster, S.W., April 18th, 1905.

*** Mr. T. W. Barber's words must carry great weight. The opinion of the chemist in the appended letter appears to be that the scheme of converting the river above Gravesend into a fresh-water lake "would effect an enormous improvement in every way." Upon this opinion, however, he places the important reservation that he is not quite clear "that the present method of obtaining and discharging the effluent from the works at Barking creek and Crossness would under the new circumstances be the best."—ED. L.

CAISSON DISEASE.

IN its engineering supplement the *Times* of April 19th mentions that the Dutch Government is understood to be contemplating legislation in connexion with the risks of those working in compressed air. The same journal was recently informed from Newcastle that a workman had brought an unsuccessful action against the Cleveland Bridge Company, Limited, claiming damages for illness attributed to the compressed air in a caisson chamber in which he had been employed. Good results are said to have been obtained in the treatment of caisson disease by a temporary course of air under considerable pressure, the gradual reduction of which invariably restores the patient to the full possession of his normal faculties.

DIFFICULTIES UNDER THE INFECTIOUS DISEASES NOTIFICATION ACT.

To the Editors of THE LANCET.

SIRS,—Would you kindly state what you think is the generally accepted ethics in the following circumstances?

I am acting as a "locum tenens" here and in the ordinary course of business saw in my consulting room a man who is a clerk at a railway station and who had been sent out of the office by the superintendent because the other clerks said that he had small-pox and refused to work with him. After carefully examining the patient I came to the conclusion that it was a case of chicken pox. The rash was very like small pox but with the face scarcely touched. However, after he got home the people in the house were scared and I was sent for. Meeting another professional man I took him with me. He said that he should notify it as small-pox. However, I felt sure of my diagnosis; but on the advice of my *confrère*, and as I was only a "locum" and did not want to run the slightest risk of injuring the gentleman I was acting for, I compromised and sent a polite note to the medical officer of health narrating the circumstances and asking him if he would kindly see the case and state his opinion. To this I received, much to my astonishment, a reply [illegible] it was no part of his [illegible] that if I thought it w[illegible] diagnose it I had better call in a practitioner who could.

I am, Sirs, yours faithfully,
THOMAS MARSHALL.

Bromley by Bow, April 21st, 1905.

*** We only express our opinion upon the facts as given to us by our correspondent. If, as our correspondent suggests, being in a position of difficulty he appealed to the medical officer of health for assistance and received the curt reply that he has quoted we have no hesitation in saying that the medical officer of health was wrong—ethically wrong in his attitude towards a medical colleague, and practically wrong as his action did not conduce to satisfactory public business.

It is an unfortunate fact that under the Infectious Diseases (Notification) Act difficulties may arise between the medical officer of health and the private practitioner owing to a certain position of superintendence which the medical officer of health possesses in the matter of infectious disease. We have always in THE LANCET urged upon both the medical officer of health and the private practitioner to work hand-in-hand for the good of the public. Such an attitude as that said to have been taken up by the medical officer of health in the above statement is, in our opinion, the exact converse to what is desirable.—ED. L.

A QUESTION OF ETHICS.

To the Editors of THE LANCET.

SIRS,—Will you be so kind as to give me your advice in the following case:—A calls B into consultation over case C. B recommends a certain line of treatment, A falls ill, and C having no confidence in A's assistant asks B to attend him. B agrees to do so on the distinct understanding that if A recovers before C, he (B) will hand the case over to A. A recovers and B writes to him placing the matter in his (A's) hands, stating at the same time that C is almost recovered. A replies that in the circumstances B had better finish the case. At the termination of the case C expresses himself extremely pleased with B's skill and states that in the future he will call in B should he or his family require any attendance. B says that he cannot agree to that as he owes his introduction to them through being called in by A as a consultant. C and his family express in strong terms their right to call in any medical man they wish.

Is B justified in attending C or his family in the future?

I am, Sirs, yours faithfully,

April 16th, 1905. ETHICS.

⁂ The situation is a most unfortunate one, because it inevitably brings the practice of inviting a fellow practitioner to a consultation into disrepute, and this practice is a very valuable one for the public. But members of the public have the *right* to choose their own medical man and, therefore, B is justified in attending C and C's family. B has conformed to ethics by refusing to do so previously, but if C will take no denial there is no other way out of the dilemma. —ED. L.

MILEAGE OF THE LANCET.

A CURIOUS correspondent informs us that he estimates that in THE LANCET for 1904 there were about 600,000 lines, or 6,000,000 words, or about 30 miles of type, in the body of the paper, excluding advertisements. He thinks perhaps the Editors do not know the mileage over which their eyes have to travel in the course of a year. We certainly did not and are interested to know and as our readers may be interested to know also we insert this note.

MANNERS IN THE LONDON STREETS.

To the Editors of THE LANCET.

SIRS,—With reference to your recent annotation on this subject it is clear that however careful is the attempt to protect young girls from degrading influences the task is hopeless as long as men allow their unbridled tongues to utter the coarse language which pollutes much of the intercourse of the day. But it must be remembered that the modern craving for excitement is responsible for much of the deterioration which the female mind must suffer from contact with the highly emotional situations in which they are placed. Attendance at race meetings can never be unaccompanied by any but the very worst influences, while the language that may be there heard is worse than usually prevails in the streets. Just as the wine-bibbing proclivities of our ancestors have reacted to a considerable extent in the growth of moderation to-day, so it is possible that the fashion and the craze for excitement and self-enjoyment which so blatantly obtrude themselves in selfish prodigality will also react on the succeeding generation which, seeing and suffering from the folly of its forebears, recognises that its well-being and its happiness lie in the direction of an ordered self-restraint.

I am, Sirs, yours faithfully,

April 24th, 1905. M.D.

A CONDITIONAL BEQUEST.

Mr. Robert Wallace Murray, J.P., of Ennikeen, Newcastle, co. Down, who died on Christmas Eve, 1904, and whose will has just been proved in the district registry of Belfast, left, amongst other legacies, £1000 to the Hospital for Sick Children, Queen-street, Belfast, and £1000 to the Society in Belfast for Providing Nurses for the Sick Poor. As to the residue of his estate, which is expected to be large, the testator directed that it should be held by his trustees upon trust to divide the same into two equal shares, one to be paid to the London Missionary Society, whilst as to the other his trustees should "as soon as possible intimate to the governors of the Forster Green Consumptive Hospital, Belfast, what the said half consists of and how it is then invested, and what the trustees estimate the net annual minimum income thereof will be, and if the said governors should within 12 months from the date of receiving such intimation satisfy the trustees that they can from outside sources provide proper accommodation in addition to their then accommodation for as many patients as such net annual minimum income will support, allowing £1 per week for each patient, then the said trustees shall be at liberty to agree with the said governors that on such additional accommodation being provided within two years from that date they will settle a scheme under which the entire income of such share and any accumulations thereof shall be applied in the maintenance in the said hospital of consumptive patients who are unable themselves to pay any portion of the cost of their maintenance and treatment." In the event of the failure of the governors of the hospital to comply with the foregoing conditions the testator empowers his trustees to apply the income "for the maintenance and treatment, in hospitals, of consumptive patients in such manner and form and subject to such rules and conditions as the said trustees may from time to time determine."

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In your issue of April 8th, p. 929, col. 2, line 30, "the uræmia being more marked" should read "the anæmia being more marked."

I am, Sirs, yours faithfully,

Blackburn, April 19th, 1905. J. W. MILLER.

◆

Londoner.—Such a notice can be sent by either the transferer or the transferee, but care must be taken that it is sent only to patients whose names appear upon the transferer's books.

B.O. Advocate.—We do not think that a plea in our columns for such a purpose would lead to any practical result.

Jas.—We have frequently published similar instances and have recommended the course that has been adopted.

R. G.—The other medical man should be informed of all the circumstances.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (3rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (4th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (6th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (2nd).—PATHOLOGICAL SOCIETY OF LONDON (Middlesex Hospital).—5 P.M. Dr. V. Bonney: Nuclear Division in New Formations.—Mr. A. G. R. Foulerton: (1) Squamous-celled Carcinoma associated with Exposure to X Rays; (2) New Species of Streptothrix isolated from the Air; (3) Further Contribution to the Pathology of Streptothrix Infections.—Dr. W. S. Lazarus-Barlow: Self-regulating Warm Stage.—Mr. C. R. Lyster: Electrical Warm Stage.—Some Points in the Contraction of Œsophageal Muscle.

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NORTH EAST LONDON CLINICAL SOCIETY (Tottenham Hospital N) —4 P M Papers —Dr J W Hunt: Personal Errors in Diagnosis and Treatment —Dr F Tresilian Certain Points in Diagnosis

FRIDAY (5th) —WEST KENT MEDICO CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich road, S E) 8 45 P M Address —The President Corns and Bunions

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos street, W) —5.30 P M Clinical Cases will be shown by Mr S Stephenson, Dr F J Poynton, Mr G Pernet, and others

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

COLLEGE AND POLYCLINIC
Dr E G Little: Clinique
Tubercular Diseases of Joints,

on Hospital, Hammersmith road, W) —2.30 P M Dr S Taylor Surface Anatomy 4 P M Mr Dunn Practical Ophthalmology

TUESDAY (2nd) —MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies street, W C) —4 P M. Dr H Campbell: Clinique (Medical) 5 15 P M Dr L Smith Some Clinical Aspects of Nephritis

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W) —11 A M Dr Candler Bacteriology

GRADUATES COLLEGE AND POLY
C) —4 P M Mr H L Barnard
M Mr J Pardoe Cystoscopy and

st London Hospital, Hammersmith road, W) —3 P M Mr Bidwell Intestinal Anastomoses

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road W C) —5 P M Demonstration: Mr Nourse Nasal and Aural Accessory Sinuses

THURSDAY (4th) —MEDICAL GRADUATES COLLEGE AND POLYCLINIC
Mr Hutchinson Clinique
Keetley Diseases and Disloca

P
ndon Hospital Hammersmith
Bacteriology 3 15 P M Mr
4 30 P M Dr S Taylor Surface

Mott Demonstration of

(Marylebone road N W) —
Dilatation of Gall bladder

FRIDAY (5th) —MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies street, W C) —4 P M Dr H Tilley Clinique

l, Hammersmith
Blood and Urine

SATURDAY (6th) —POST GRADUATE COLLEGE (West London Hospital Hammersmith road W) —10 30 A M Dr S Taylor Surface Anatomy

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W C , are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c , should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTICE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions Any demand for increased rates, on this or on any other ground should be resisted The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues, and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates whatever be the weight of any of the copies so supplied Address—THE MANAGER THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND

METEOROLOGICAL READINGS.

(Taken daily at 8 30 a m by Steward's Instruments)

THE LANCET Office April 27th, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade.	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A M
April 21	29 90	N	0 02	83	50	41	41	43	Cloudy
" 22	30 11	N	0 01	56	50	40	39	43	Cloudy
" 23	30 01	W		97	54	33	42	46	Cloudy
" 24	29 90	N W	0·01	106	52	38	41	45	Cloudy
" 25	30 00	S W		97	54	41	44	49	Cloudy
" 26	29 97	N W	0 04	86	60	49	50	51	Cloudy
" 27	29 94	S W	0·03	83	57	50	52	54	Cloudy

During the week marked copies of the following newspapers have been received —*Freeman's Journal, Windsor and Eton Express Liverpool Courier Morning Leader, Leeds and Yorkshire Mercury Yorkshire Post Hertfordshire Mercury Reading Mercury, Oxford Gazette Edinburgh Evening Dispatch Glasgow Herald, Surrey Advertiser, Manchester Evening News, Westminster Gazette, Mining Journal Local Government Chronicle, Daily News, Liverpool Post and Mercury Daily Chronicle, Standard, Literary Digest, &c*

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A Clinical Lecture

ON

SOME OLD AND NEW REMEDIES.

Delivered at the Liverpool Royal Southern Hospital on March 6th, 1905,

By WILLIAM CARTER, M.D., LL.B. Lond., F.R.C.P. Lond.,

PHYSICIAN TO THE HOSPITAL AND PROFESSOR OF THERAPEUTICS AT THE UNIVERSITY OF LIVERPOOL.

Gentlemen,—A short time ago I read before the Liverpool Medical Institution a paper entitled "Notes on Old and New Remedies." I propose to continue the subject to-day, illustrating my remarks by reference to cases, most of which you are acquainted with from having watched them within the hospital.

Oil of turpentine is a very old remedy and adrenalin is a very young one and one which, owing perhaps largely to its youth, has a loud voice which it makes extensively heard. Both claim to be powerful vascular astringents and each is often, though neither always, very useful. A case or two will illustrate this statement.

Case 1.—The patient, a man, aged 40 years, was admitted to hospital on Dec. 1st, 1904, with all the signs of extensive left pleural effusion. I saw him immediately after admission and directed that the pleural cavity should be at once aspirated, the skin over the left side of the chest to be then painted with a 10 per cent. solution of oleate of mercury in oleic acid, iodide of potassium to be administered three times daily, and a dry diet to be given. 102 ounces of a very deeply blood-stained fluid were drawn off. The colour was bright and the fluid was opaque to light, but on standing threw down a deep layer of corpuscles below a clear serum. Adrenalin solution, 1 in 1000, was injected immediately after the tapping. In 13 days reaccumulation had occurred and 115 ounces of an exactly similar fluid were withdrawn and adrenalin solution was again injected. After eight days further 108 ounces were withdrawn, followed as before by the immediate introduction of adrenalin solution. Shortly afterwards I called my colleagues into consultation and especially requested their opinion as to the advisability of resecting portions of one or more ribs with the view of bringing about contact between the visceral and parietal pleuræ. They were opposed to the proceeding on the ground that the large amount of blood pointed probably to malignant disease. I then prescribed ten minims of oil of turpentine three times a day in capsules, which I had hesitated to do previously, as a considerable amount of albumin was present in the urine. The reaccumulation which appeared to be commencing was checked and a fortnight later on introducing a fine explorer I failed to obtain any liquid. The man, as you see, is now fairly well, with a slightly contracted left chest. If the oil of turpentine did not check the reaccumulation, which the adrenalin solution had three times failed to influence, I do not know to what the result is due.

A curious circumstance occurred earlier in the year which also pointed to the inefficacy of adrenalin under certain very special conditions.

Case 2.—A patient, aged 34 years, was admitted on Feb. 6th suffering from stricture of the pylorus and the singular fact was that a fungating freely bleeding growth from the gum at the site of the upper left canine tooth was entirely uninfluenced by the application to it of a solution of adrenalin (1 in 1000) for a week; but all bleeding ceased immediately after the operation of gastro-enterostomy had been performed by Dr. W. Alexander and did not again occur during the further residence in hospital of the patient. He was operated on on March 23rd, 1904, and has been well ever since. Probably no hæmostatic would have had any effect.

Turning to another old remedy and its uses I wish to draw your attention to the fact that besides a considerable number of preparations, the effect of which when applied to the skin is to produce more or less severe irritation, the British Pharmacopœia in this the beginning of the twentieth century of the Christian era, and I do not know what period of advanced scientific enlightenment, contains at least six others which cause blisters wherever they are locally applied and which, therefore, are presumably designed to produce this effect, as they seem incapable of causing any other, at least any other that is not injurious. But is it possible that anybody to day believes in the utility of blisters? A few years ago when ordering one to be applied over an acutely distended and painful rheumatically inflamed knee-joint in a negro I was confronted by one of the students with a passage from a text-book on the practice of medicine which he was studying. In it their application was strongly discredited and I was asked in a becoming manner by the student which teacher he was to follow. My reply was that he ought not slavishly to follow either but to carry out the purpose for which I supposed he had come to us—viz., to observe for himself the effect of what was ordered; and if in that particular instance it should prove to do nothing more than add the pain of a blister to the severe pain of the rheumatic inflammation and effusion he would know what conclusion to come to. This advice was followed and he heard from the patient shortly afterwards that much relief to pain, instead of exaggeration of it, had followed the use of the blister, and he saw for himself so considerable a reduction of the swelling that for that case, at any rate, he was convinced of the utility of the practice. That is the kind of proof that commends itself most strongly to my mind. Gentlemen may give me any number of scientific reasons why in the nature of things a given result ought not to follow a certain course of action, yet I am driven to conclude that they and not the nature of things must be wrong if, in spite of what they say, I see that it actually does follow. And not only is this the case with regard to the *fact* of the application of a blister but equally as to the site where the application is to be made. In the negro it was applied directly over the inflamed knee-joint. Yet we are told that even if a blister can ever be supposed to do good it must on no account be applied very near to the inflamed part or it may increase instead of diminish the inflammation and thus do harm instead of good. "As a matter of practice, for instance, the rule is usually insisted upon that in a case of pericarditis the blister should not be put immediately over the pericardium but at some little distance from it." These are the words used by the author of one of the most popular books of to-day on the action of medicines and with them fully in my mind I ordered a large blister to be put directly over the pericardium in the case now to be mentioned which some, if not all, of you have seen, just as I ordered one to be applied directly over the knee-joint in the last.

Case 3.—A young woman, aged 18 years, was admitted on Feb. 1st suffering from not very severe rheumatic inflammation of the wrists and with probably a small amount of pericardial effusion. On the day but one afterwards, while still taking the salicylate of sodium ordered by Dr. F. H. Salisbury before my visits, she became alarmingly ill—blue, breathless, with quick, feeble pulse—and as though she might not live throughout the day. The cause of this change was a very large and somewhat acute increase in the pericardial effusion and I sent a message to the only one of my surgical colleagues who happened then to be in the hospital to ask him to come to draw off some of the fluid. He came, recognised the extreme gravity of the girl's condition, but considered that paracentesis pericardii involved too much risk to admit of its being undertaken. The patient had extraordinarily large breasts which nearly met in the middle line and probably obscured the usual landmarks relied on in making the puncture. A large blister was therefore at once applied over the increased area of dulness. Its early effect seemed to be to rouse the poor girl from the condition of semi-lethargy into which she had sunk. Next day a to-and-fro rub was audible over the base and this descended day by day till it involved the entire cardiac area. For some days now she has been free from all danger, the apex beat being felt in the normal position when the huge breast is raised and nothing but the possible inconvenience of an adherent pericardium being left. That this

after life by crippling the

ring with the heart's nutri-

to admit but all risk of

over. I wish to make two

observations by way of caution. The application of so large a blister was followed, as it not infrequently is, by some amount of strangury and traces of blood in the urine, which were, however, soon subdued by making the patient drink freely of alum whey made by boiling a pint of milk with a teaspoonful of powdered alum and straining away the curd. I also left directions that if any further blistering should be thought necessary the surface of the blister should be dusted with powdered camphor before application. Both of these methods you will find practically advantageous. Perhaps it was fortunate for the patient that the pericardial fluid was not withdrawn, as it is just possible that I might have been tempted, by a fear of a recurrence of her extremely perilous condition and by the apparent harmlessness of adrenalin in Case 1, to inject a little into the pericardium. But this, I must warn you, is a much more serious matter than injecting it into the pleural cavity, and if ever you sanction it you should be present to watch results so as to be ready promptly to counteract any injurious effects.

To turn now to some other remedies. Morphine is an old one, while pilocarpine is a comparatively new one. Both are of great use, both contract the pupils, but not infrequently there seems to be rivalry between them. The circumstances that may, in my opinion, occasionally render it advisable to select one rather than the other will be obvious from a case or two which I will relate.

CASE 4.—This case was that of a youth, aged 17 years, suffering from uræmic convulsions of the severest character, whom I saw with Dr. J. B. Edis on the afternoon of Feb. 23rd, 1905. The patient had had violent general convulsions at 3 P.M., at 3 5 P.M., and at 3.10 P.M. The tongue was bitten and the mind was so clouded that he could not understand anything which we said, as for example, that he should put out his tongue. He was extremely restless and so dropsical that the eyes were largely closed by œdema and it was with not a little difficulty that we were able to raise the upper lids enough to see that both pupils were widely dilated. The question put to me was whether it would be advisable to inject pilocarpine hypodermically, this substance being in readiness for the purpose. My strong advice, which was at once agreed to, was not to do this but to inject morphine instead. Before this could be done, however, another general convulsion occurred. A quarter of a grain of morphine hydrochloride was then introduced beneath the skin of the right forearm, while a messenger was sent for oxygen. There had been four fits in 20 minutes before the morphine was injected. 24 minutes then elapsed before another occurred. This, like the one attack which I had previously witnessed, was ushered in with wide dilatation of the pupils, a dilatation which under the influence of the morphine had for a time become much diminished. Again a quarter of a grain was injected. I was then obliged to leave but Dr. Edis kindly promised to keep me acquainted with the subsequent course of the case, which was that oxygen was procured shortly after the second injection, and its inhalation was at once commenced; that the intervals between the attacks became longer and longer until 9 40 P.M. when they ceased entirely. Now every part of this practice, both positive and negative, has been strongly condemned by some whose knowledge should entitle them to respect. Morphine is often said to be bad, pilocarpine to be good, and oxygen to be useless, and in some cases each one of these propositions would be true while in others they would as certainly be false, and your business here is to learn to discriminate between such of them as require opposite treatment though the disease may be called by the same name. One of the greatest banes of medicine is the elevation of the *obiter dicta*—for they are often nothing more, the mere chance expressions of men with a name concerning individual cases—into axioms supposed to be applicable to all, a bad kind of reasoning often followed by bad results. Such are those just mentioned—*dicta* uttered not surely on clinical but on what is termed scientific evidence. To take the last practice first. "In normal respiration the hæmoglobin of the arterial blood is practically saturated with oxygen, and can you hope to get more than saturation?" To this question, triumphantly propounded as if merely to ask it is to settle the entire subject in dispute, it might fairly be answered, if any answer were necessary, that oxygen exists in solution in the blood as well as in chemical combination and that whereas in ordinary respiration only 0·6 per cent. is dissolved, when pure oxygen is breathed this 0·6 rises to 3 per cent., or is multiplied five times; and when we consider that only 6 per cent. of the combined oxygen is ever used (for venous blood contains two-thirds of the 18·6 per cent. found in arterial blood) and that by administering the gas in a pure state we obtain nearly half as much again of readily available oxygen in solution as the entire amount capable of being utilised in ordinary conditions, we are surely entitled to ask if this may not be an advantage. But I must confess that I am content to rest the practice on a simpler basis than this and to point to the general convulsions, which recurred with the most alarming frequency up to the time of commencing the inhalation, and ceased to recur soon after it had been fairly established. I could not, of course, obtain frequent samples of urine for examination in the case under consideration. The small quantity which I did procure was acid, of specific gravity 1023, contained a very large amount of albumin, and microscopically presented numerous blood and other casts. But in a very similar case which occurred a few years ago in hospital, where the patient, a young woman, aged 18 years, was admitted in the status epilepticus and had frequent convulsive attacks with no intervening consciousness, we were able to procure the urine first by catheter and subsequently in the ordinary way and to prove that the specimen first examined, while its specific gravity was 1026, gave only 4·5 grains of urea to the fluid ounce, whereas that which was passed on the following day after the convulsions had ceased had a *lower* specific gravity (1020) but a much higher proportion of urea, as if the oxygen which was freely administered had caused the oxidation of poisonous nitrogenous products to the final term of harmless urea. The same diminution and final cessation of convulsions followed the oxygen as in the case which I have just related to you, but there was one marked difference between the two cases. This young woman's pupils were markedly contracted, while those of the youth were widely dilated, and I do not suppose that anyone would be foolish enough to inject morphine hypodermically when some unknown poisons were producing certain of the most marked effects caused by that drug. The young woman, like the young man, got perfectly well but neither would have done so if part of the practice applied to the one had been applied to the other. In the case of the young woman, some of the gentlemen around the bed, in reply to my question as to what could be done, suggested the hypodermic injection of pilocarpine. In both cases I think, for reasons which I shall give to you, this proceeding would have caused the patient's death.

But can anything be said in defence of using morphine? Yes, this—viz., that it seems rational to combat an unknown poison which widely dilates the pupils and causes general convulsions by employing one of the most powerful antagonisers of these symptoms. Then why not use pilocarpine, which, as everybody knows, antagonises atropine all along the line and might therefore have been expected to antagonise this unknown atropine-like poison which was doing all the mischief, the drug being at the same time credited with the power of eliminating urea and toxic products through the skin? If it did this and nothing more it would do no harm, even if it did no good. Urea is harmless and to get rid of it is of little advantage. But the reason for not using it is that the profuse outpouring of tracheal and bronchial, as well as salivary, secretion which pilocarpine invariably causes (and that even before the sweating which follows its use) may, and I believe does, kill patients where this outpouring occurs in those of them whose sensibilities are so blunted as to render them but little conscious of what is going on. If they are wide awake with all their senses acutely alive there can be no objection to its employment, but in such cases as those which I have mentioned it would be fatal. I do not suppose anyone would have been injudicious enough to inject morphine in the case of the young woman where the pupils were already contracted, while it would do nothing but good in the case of the youth and in all such cases, and pilocarpine would do harm in both alike. I am the more desirous of putting you on your guard in this matter because in my opinion the directions given with regard to the treatment of uræmia in some of the best modern treatises on the practice of medicine are dangerously loose and unguarded instead of being fenced about, as they should be, with strict limitations. I will not mention names, for authority in such matters should be subordinated to common-sense, but I will quote the very words of some justly esteemed recent books. Thus in one I read that "in uræmic coma sweating should be promoted by the use of pilocarpine or the hot bath"—the very condition of all others where pilocarpine should not be used. In a second we are told that "should the skin fail to respond ...... as in uræmia, pilocarpine (gr. $\frac{1}{8}$ to $\frac{1}{4}$) should be injected, after which it will continue to pour out on the application of heat," without a single word being said as to the circumstances—the existence, for example, of coma, which would render the practice dangerous. A third and still more recent book says in the same loose and unguarded way that "the removal of toxic products from the body makes it"—i.e., pilocarpine—"useful in uræmia."

Incidentally Case 4 seems also to dispose of one or two of those calmly dogmatic assertions to which we are apt to be treated, assertions which are probably received so deferentially because of the quiet assurance with which they are uttered, but which are often proved to be unfounded or at most to be only partially true as soon as a little rational scepticism followed by inquiry and observation is substituted for unquestioning credulity. We are informed, for example, that the poisons which cause convulsions are sometimes largely held in solution by the dropsical effusions, and that it is when these effusions are rapidly reabsorbed into the blood and conveyed through the cerebral circulation to the brain that the severer nervous symptoms of uræmia are manifested. Yet here was a lad who had convulsions every five minutes, where the œdema was so great as to make him scarcely recognisable by his nearest friends, and none at all while the process of reducing him to rational dimensions was in active progress; and I recall the case of a youth in this hospital where the œdema and the rapidity of absorption were greater than I have ever seen either before or since, where it was impossible to see the pupil of one eye because of the s[illegible] the amount of urine rose in [illegible]nces in the 24 hours, but w[illegible] convulsion. Equally conclus[illegible] assumption made by the same author that the urine in these circumstances *constantly* becomes alkaline within 24 hours. "I think it likely," such are the exact words used, "that the [illegible] urine in this and other cases [illegible] decomposition, and that it is [illegible] urine collected over 24 hours shows so constantly this alkalinity." But this lad's urine is *very* albuminous; it contains 2·3 per cent. of urea; it has been in my testing room, partly in a bottle and partly in a urine glass simply covered with paper, for 12 days and yet it is not in the least degree decomposed nor has it lost any of the acidity which it had when I took it from the patient's room. Indeed, so entirely free is it from any trace of decomposition that one might have thought some antiseptic had been added to it. If any antiseptic is present it must be one that was formed during the abnormal chemical processes which constituted the disease, and this may or may not have been the case. We have no evidence one way or the other, but I have as much reason for saying that in uræmic convulsions an antiseptic of a highly toxic and convulsivant nature is formed—a proposition which I should by no means like to advance—as the author in question has for speaking of the *constant* alkalinity of albuminous urine. Indeed, I think I may have more reason as I not infrequently find that the urine passed next after epileptic convulsions remains undecomposed for a long time. I have one sample in my testing room now which was passed in April, 1904, and is yet acid and entirely undecomposed.

Lastly, I will direct your attention to a case which I think you have all seen; and I do not so much because it illustrates any particular kind of treatment, though one phase of it has a practical bearing on treatment, as because it points to the necessity of acquainting yourselves thoroughly with facts and of not allowing yourselves to be argued out of them on any consideration whatever.

Case 5.—On Feb. 17th, 1905, a sailor, aged 43 years, was brought to the hospital from the Sailors' Home. Dr. Salisbury, the senior house surgeon, saw him at once and found pleuritic friction in the left axillary region, dulness of the right pulmonary base, general congestion of both lungs, a swollen and acutely painful right shoulder-joint, great distension of the abdomen, and a large slough on the anterior part of the tongue. When I saw him an hour or two later I verified all these facts. They were all, except the abdominal distension and the lingual ulcer, much intensified on the following day, when for the first time I learned that he had been admitted to the Sailors' Home on the 13th, had gone to bed in a state of intoxication, had turned on the gas without lighting it in a small room of between 500 and 600 cubic feet capacity, and had been found by the night watchman some considerable time later unconscious and all but asphyxiated; that he had been removed to the passage and artificial respiration practised for three hours, at the end of which time he was sufficiently restored to be replaced in his bed. On the 17th he was brought to hospital in the condition which I have mentioned. The extreme pain in the right shoulder and the slough at the tip of the tongue were presumably caused by drawing the tongue forwards with forceps and by the forcible movements of the arms in performing artificial respiration. The abdominal distension was at once relieved by the use of a turpentine and asafœtida enema consisting of half a drachm of asafœtida and one ounce of oil of turpentine in a pint of warm starch. The patient died at 11.30 P.M. on the 18th. At the post-mortem examination which was made as usual by the pathologist, Dr. J. L. Dimond, all the facts disclosed by examination during life were verified—viz., consolidation of the lower half of the right lung, extensive pleurisy with large flakes of adherent lymph on the left side, and general pulmonary congestion. This condition in a man who had gone to bed intoxicated six days before and who had added the poison of coal-gas for several hours to the poison of alcohol, and, lastly, had had the merciful but necessarily somewhat rough discipline of artificial respiration employed for three additional hours, was quite enough to account for his death. During the examination I was surprised to hear that the coroner, who had, of course, been communicated with, had expressed a desire that the honorary physician should attend to give evidence as well as the senior house surgeon, whose attendance in ordinary circumstances is alone required, and on the following morning I received a formal summons. Happily, a casual expression made use of by one of yourselves in the post-mortem room to the effect that the gas company were to be represented at the inquest and that there was a fear that the man might have died from carbon monoxide poisoning due to the inhalation of water gas supposed to be mixed largely with the coal-gas supplied to the district caused me to return to the body and carefully re-examine all the facts so as to ascertain any evidence bearing upon this point. I could find none and I am quite at a loss to conceive how the idea could have originated. There was no cherry-red colour of the mucous membranes of the lips, &c. The livid patches on the skin were just such as are found in other cases. The blood, if it differed in any respect from that of a patient dying in other circumstances, did so in being somewhat darker rather than brighter in hue. I show you here some that has been largely diluted side by side with some equally diluted but obtained from another body and I think you will all recognise that it is somewhat darker. Lastly, I had just time to submit it to spectroscopic examination and I found nothing whatever to countenance the idea that it contained a large proportion of that gas. I show you here a drawing of the spectrum of blood containing carbon monoxide. The absorption lines and bands between D and E and the absence of these far beyond F are pretty distinctive. I examined it carefully with the double prism Browning spectroscope with which I work and I saw no evidence whatever to support the hypothesis that the man had been poisoned by carbon monoxide. If he had been picked up in the open street with signs and symptoms such as he presented when admitted he would probably have died and his death then would have been attributed to natural causes. "But might not carbon monoxide have accelerated his death?" was one of the questions then put to me. The reply was that there was not the slightest appearance either during life or post mortem of his ever having breathed any considerable proportion, or indeed any at all, of that gas. I agreed, of course, that to put a drunken or even a sober man into a bedroom not much if any larger than an ordinary closet and then to turn the unlighted gas on for a long space of time was not a proceeding likely to improve his health; but all the questioning and cross-questioning to which I was submitted failed to elicit an opinion that the man had breathed anything more injurious than ordinary coal-gas. After having firmly maintained this opinion it was some satisfaction to me to hear from the next witness, a responsible representative of the Liverpool Gas Company, that no water-gas whatever was at that time being supplied to the district in which the sailors' home is situated; and I could not help wondering how I might have felt if after manifesting an extraordinary amount of acumen in pointing out the subtle distinctions by which this poor fellow could be proved on scientific evidence to have suffered from water-gas poisoning I had heard it established on oath and beyond the possibility of doubt that he could not have breathed any.

The Lumleian Lectures
ON
NUTRITION AND MALNUTRITION.

Delivered before the Royal College of Physicians of London on March 28th and 30th and April 4th, 1905,

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LECTURE II.[1]

Delivered on March 30th.

Mr. President and Gentlemen,—Passing now to consider a little more in detail the changes undergone during digestion and subsequent absorption of the different alimentary principles, it will be found that the general result of the hydrolysis is to convert the normal substances into bodies somewhat less complex in character but becoming at the same time more diffusible. Such changes therefore are destructive or analytic in nature. Inasmuch, however, as it is most certain that the materials as presented for assimilation by the bioplasm are not (with few exceptions, chiefly among the inorganic ingesta) in the form in which they occur in the food, nor even as they are after undergoing digestion in the alimentary canal, some further changes must be undergone by them, somewhere between the surface of the gastro-intestinal epithelium and the living cell into which they will be incorporated, and these changes for the most part are of a synthetic character. Whatever may be the nature of the agencies by which these latter changes are effected, it may be said that those which take place in the alimentary canal are fairly well understood and are capable of more or less exact imitation in our laboratories by well-recognised chemical methods, while those changes which commence with the gastro-intestinal epithelium, though possibly and even probably of the same nature, are not so readily imitated by the means at present at our disposal, and that with the absorption of the digested material the direct influence of living protoplasm is for the first time brought to bear on the aliment. At the same time it is admitted that the digestive processes themselves are effected by the products of bioplastic activity—viz., the ferments—and it may well be that after all the subsequent elaboration of the nutriment is effected by similar agencies.

The Digestion, Absorption, and Destination of Proteids.

First as regards proteid digestion. In whatever form these bodies are presented to the digestive organs, whether as albumins, globulins, fibrins, &c., they are converted into a diffusible condition by the pepsin of the gastric juice acting in association with hydrochloric acid and by the trypsin of the pancreatic secretion in the presence of an alkali. I am not now concerned with the different views taken as to the nature of the several stages of decomposition which these proteids undergo, it is sufficient for my present purpose to understand that it is mainly into albumoses and peptones that proteids are converted. Whilst we are ignorant of the exact composition of the different members of this group it is impossible to say precisely how the peptones differ in their chemical structure from the proteids whence they have been derived nor what different kinds of albumoses and peptones there may be. It is by their physical characters that they are distinguished, by their non-coagulability, by their differences in diffusibility—i.e., size of molecule—and in precipitation by ammonium sulphate, as also by their fractional heat coagulation.

Although it is the case that in the normal process of proteid digestion the hydrolysis by the gastric ferment does not proceed beyond the stages of proteoses and peptones and that a much further cleavage takes place by the action of trypsin, whereby a large proportion of the ingested proteids are ultimately decomposed into much simpler crystalline substances, represented by leucin and tyrosin, and other amido-acids, as well as lysine, lysatine, argenin, and a body called tryptophan, it is not to be supposed that the difference is other than one of degree, for under certain artificial conditions outside the body the pepsin action may be made to effect very nearly the same ultimate results as the pancreatic enzyme. It may be observed, however, that the extent to which the peptones and albumoses are further split by the trypsin is much greater when those bodies have been formed by gastric digestion than when the pancreatic ferment works straight away upon native proteids. This, so to say, natural trend of the proteolytic enzymes is an important fact. If also it is recollected that neither proteoses nor peptones are to be found in the portal vein and that if such bodies gain entrance to the circulation they are at once eliminated by the kidneys, and also that the amido-acids are not found in normal fæces or urine, the question of the form in which the proteids are absorbed into the circulation comes to assume one of considerable interest if not difficulty. At least it cannot be that the general character of the changes which intervene between the proteids as ingested and as they are ultimately presented to the bioplasm consists merely in a series of transformations among closely allied bodies, such, for instance, as is in great measure the case in connexion with the carbohydrate digestion and assimilation. The changes in the proteids clearly extend over a much wider range than that and further, having regard to the fact that the proteid constituents of the tissues are by no means identical with those taken as food, it is clear that synthetic processes of an extensive character are involved. At first sight it would appear that a decomposition of the nitrogenous aliment into bodies so much less complex as the amido-acids are, as a preliminary to their reconstruction into tissue constituents of even greater complexity, is a wasteful exhibition of energy, but a comparison of the calorie value of these amido-acids with that of the proteids from which they have been obtained shows that only a very slight loss of energy has been sustained. Some of the difficulty in connexion with this subject has been cleared up by the discovery by Otto Cohnheim of a ferment in the cells of the intestinal epithelium to which he has given the name of "erepsin," and by this agent the albumoses and peptones which are absorbed are split up into cleavage products such as amido-acids, in which form the bulk of the nitrogenous ingesta passes into the blood and so to the liver.[2]

That the end products of tryptic digestion can be made available in the economy has been shown by dogs in a state of nitrogenous equilibrium if fed on these bodies still maintaining that equilibrium, showing that proteids need not retain their characteristics to be available as food and that their cleavage products can supply the essentials for tissue nutrition. In those conditions where a transference of the proteid constituents of some tissues to others takes place it seems probable that their passage takes place in the form of cleavage products and not actually as proteids. Such, for instance, in starvation when a great loss of the systemic muscles occurs and also of glands rich in proteid matter, whilst but little loss takes place in vital organs like the heart, the muscular tissue of which is maintained at the expense of these other structures. To effect this transference of proteids from one tissue to another it is clear that they must be rendered soluble and diffusible; in other words, digested and the wide distribution throughout the tissues of proteolytic ferments and also, as Dr. Vernon has shown, of erepsin,[3] would seem to suggest that it is by their agency as in the intestine that the change is effected. Support for this view is also to be found in plants, since "in vegetable metabolism the amides have been shown to be antecedents of proteid or to take part in its construction disappearing from the cell as proteid is formed."[4]

There has always been a considerable difficulty in accepting the view that the absorbed peptones and albumoses were retransformed into coagulable proteids such as serum globulin and serum albumin in their passage through the villi to the blood current, for among other reasons it is known that in starvation the circulating proteids in the blood are but very slightly diminished in amount, in marked contrast to the decrease of the tissue proteids, and were the former the nitrogenous pabulum they would be expected to disappear Moreover, neither of these circulating proteids corresponds to the actual proteids of the tissues, in each of which a further special transformation would have to take place But with a preliminary decomposition of the proteids into bodies of an altogether simpler character there is presented to each living unit the raw material, so to say, out of which each can synthesise for itself its own special constituent and this without, as already said, any material loss of potential energy Further than this, there is some reason to believe that the proteid cleavage may proceed in the intestines beyond even the formation of the amido acids, even to the splitting off of the nitrogen and formation of ammonia, and this would account for the large excess of ammonia which is found in the portal blood It is not suggested that more than a small quantity of the proteid is split up to this extent and the non nitrogenous moiety of the molecule probably serves as fuel in the course of the subsequent metabolism

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[1] Lecture I. was published in The Lancet of April 29th, 1905, p. 1111.

[2] Dr. Vernon, Journal of Physiology, December, 1903, has shown that the pancreatic secretion also contains erepsin, which is quite distinct from the trypsin, and that it differs somewhat from the intestinal erepsin.

[3] Journal of Physiology, December, 1904.

[4] Ferments and Fermentation, by Professor Reynolds Green, F.R.S. 1901.

Although this account of the changes undergone by the proteids in the intestine represents the most recent views on the subject there have lately been made some observations which, so far as they go, are more in the direction of supporting the older views It has for long been known that a milk curdling ferment, rennin, is secreted by the stomach, and more recently it has been shown that a similar body is found in the pancreatic fluid Besides its specific action upon the caseinogen it also has an action on the albumoses and peptones which it meets with in the intestine, altering them in such a manner as to increase the size of their molecules and so forming a colloidal body to which the name "plastin" has been given, that is intermediate between the albumins and the albumoses and in an alkaline medium resembles a coagulable proteid and so differs from peptones That is to say, there is here a synthetic change tending to raise the less complex non coagulable albumoses to a higher stage of complexity towards that which obtains in the actual proteid construction of the tissues Considerable difficulties surround the subject, not the least being the mode in which the absorption of this substance takes place and the doubt already referred to concerning the circulating proteids being assimilated by the protoplasm May it be that the occurrence of rennin in the stomachs of birds and fishes where no milk curdling takes place is connected with this additional action?

If now we endeavour to follow so far as we can the destination of the digested proteids we are at once struck by the fact already mentioned that if they be presented for absorption as albumoses and peptones these bodies are not to be found in the blood of the portal system, far less in the general circulation Moreover, such bodies are extremely toxic in character and should they in any circumstances find their way into the blood current would be eliminated by the kidneys at once Somewhere, then, in the passage of the digested proteids through the columnar epithelial cells or in the lymph of the underlying lymphoid tissue, whence they are absorbed into the portal blood, they are reconverted into coagulable proteids possessing no characters at present distinguishable from those of the normal blood Everything points to this change, if it really occurs taking place in the epithelial cells If, on the other hand it is in such form as leucin and tyrosin that the digested proteids are absorbed their passage into the blood offers no difficulty, but at the same time no special excess in the quantity of these substances is found in the portal vein, which is explained by the advocates of this view as being due partly to the difficulties connected with the quantitative estimation of these bodies in such fluids as blood, and partly to the relatively small quantity existent at any one time and the rapid disposal of it by the liver

In passing, it may be remarked that a considerable difference exists in the extent to which the various proteids of the food are absorbed, dependent no doubt in great measure, if not wholly, on their digestibility (in the absence of any evidence to indicate a selective power of absorption by the epithelium) Thus, vegetable proteids—probably from their association with cellulose and other materials—are commonly less well absorbed than those of animal source, though by no means in all cases, and even among those of animal origin differences exist At the same time it may be remarked that native proteids are capable of some absorption without change, and a still larger amount of alkali and acid albumin may be taken up without previous conversion into albumoses or peptones

[illegible] the albumoses and peptones are reconverted by the intestinal epithelium into such proteids as are normally found in the blood, it is held that ' the great part of the proteid which is absorbed from the intestine passes on through the hepatic veins into the general circulation without being stored or at once modified in the liver "[5] If, however, it is in the simpler form of such bodies as the amido acids and their allies that the digested proteids reach the liver then it would seem probable that certain synthetic changes—comparable to those taking place in the kidney cells by which benzoic acid and glycocoll are synthesised into hippuric acid—are effected in a portion of them by the hepatic cells preparatory to their being assimilated by the protoplasmic molecule On experimental grounds it is probable that the greater part of the amido acids are converted into urea in the liver and if, as has been said, the bulk of the ingested proteids are split into these and allied substances during digestion and in the intestinal epithelium then it would appear that the ordinary nitrogenous intake far exceeds the requirements of the body and gives support to the view which Chittenden's experiments indicated Of the importance of the liver in the metabolism of proteids and strongly confirmatory of the view that it is as comparatively simple cleavage products that the digested proteids reach that organ is the fact that in acute and extensive destruction of the liver cells as occurs in phosphorus poisoning yellow fever and the like, leucin and tyrosin are found abundantly in the urine, being thus excreted, it may be reasonably supposed, since the liver had been unable to deal with them as it does in normal circumstances Thus the function of the liver in this case resembles that in respect to the absorbed [illegible], [illegible] ot the products of proteid and of [illegible] either store them up as glycog[illegible] genous bodies into less diffusible albumins and globulins and so retain them in the economy, and on failure of hepatic function they would pass on unaltered and be excreted by the kidneys as sugar and amido acids respectively

The solution of the problem which concerns the mode in which the proteids are actually disposed of by the living tissues will depend in some measure upon our knowledge of the precise form in which these substances are presented for assimilation Of the views most generally held hitherto one is that whilst a portion of the absorbed proteids are ultimately incorporated into the bioplasm—forming the so called ' tissue (Voit) or organised proteid—whereby its growth and maintenance are effected making up that is, for the wear and tear, a large proportion never becomes an integral part of the living molecule which by contact—or as we should now say by ferment action—induced in this so-called "circulating (Voit) or unorganised proteid katabolic changes akin to those determined in the fat and carbohydrate which are also associated in the protoplasm By Pflüger, however and with perhaps the more general support of physiologists the whole of the proteid intake was considered to become bioplasm leading to increased growth and metabolism of this material with production of body heat, of which the muscles are the chief source If however, the nitrogenous pabulum is presented to the bioplasm in a simpler condition than that represented by serum globulin and serum albumin, as we have seen reason to believe may be the case, in such a form as leucin tyrosin, or allied substances then a greater range of synthetic change is called for on the part of the living matter to render such bodies an integral part of itself

The subject of proteid katabolism is one of exceeding complexity Without doubt the most abundant nitrogenous waste substance is urea and the amount excreted varies directly with the quantity of proteid food Inasmuch, also as the muscles form the great bulk of the proteid tissues it is from their waste that the greater quantity of the urea is derived At the same time, however, it is pretty certain that the urea is not formed in the muscles but in the liver, which thus becomes an organ concerned in the katabolic processes of nutrition as it is with the anabolic processes that I have before said are to be regarded as in great measure coincident and mutually related From this it would follow that some or all of the products of the disintegration of muscular tissue in the exercise of its function must be conveyed to the liver, there to be converted into the urea which is excreted. These substances are included under the general term of extractives and consist of creatine and creatinine, uric acid, xanthin and hypoxanthin, &c. None of these bodies, however, is the immediate precursor of urea, the actual substance being a compound of sarcolactic acid, a constant result of muscular action, and of ammonia which is another product of the same. The ability of the liver to form urea from certain ammonia salts has long been known and there is very little doubt but that it is in this manner the muscle waste is disposed of so far as the nitrogenous part is concerned, the non-nitrogenous portion forming, as will be immediately seen, a carbohydrate, being finally eliminated as carbonic acid and water. That a large proportion of the urea excreted is formed by the liver from the leucin and tyrosin which have resulted from proteid digestion has already been mentioned.[6] Another important product of proteid decomposition is uric acid, concerning the origin of which under normal and abnormal conditions most diverse opinions have been held. Here it will suffice to say that its origin, as that of other purin bodies, is to be found in the metabolism of the nucleo-proteids, and hence it is a product of nucleated cell activity such as occurs in secreting glands and the white cells of the blood.

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[5] Schäfer Text-book of Physiology vol 1, p 902, 1898

THE DIGESTION, ABSORPTION, AND DESTINATION OF CARBOHYDRATES.

Having thus traced the proteid elements of the food from their ingestion to their presentation to the living cell it now becomes necessary to pursue the same inquiry in respect to the carbohydrate food-stuffs. Here the subject is somewhat easier though much still remains to be learned. In whatever form these constituents of the food are offered, whether as starch, dextrin, gums, or as cane sugar, milk sugar, or maltose, they are only assimilable in the form of glucose (dextrose, levulose, &c.) and for the most part are absorbed into the blood in this form. Should such substances as cane sugar or maltose gain entrance as such into the blood they are excreted by the kidneys and are not made use of. Inasmuch as the greater part of our ingested carbohydrates is in the form of starch or cane sugar it is clear that during their course through the alimentary canal they must undergo certain changes which result in their conversion into the glucose form. The nature and agency of these changes are fairly well understood and are briefly a succession of hydrolytic actions effected in the case of polysaccharides $(C_6H_{10}O_5)_n$ such as starch by the diastatic or ferment action of (*a*) the salivary ptyalin, which is carried on almost entirely in the cardiac portion of the stomach unless the act of chewing be excessively prolonged; and (*b*) of the pancreatic amylopsin, by which the bulk of the material is converted into the disaccharide $(C_{12}H_{22}O_{11})$ maltose, and subsequently the conversion of the maltose into the monosaccharide $(C_6H_{12}O_6)$ dextrose by the inverting ferment of the succus entericus and, as appears to be very probable, by the action of the intestinal epithelial cells during the passage through them of the absorbed material The ingested disaccharides will, of course, only undergo the inverting action, a small amount of which may be effected by the acid of the gastric juice (comparable to the action of dilute mineral acids on cane sugar or maltose in the laboratory), as was shown by Ferris and Lusk,[7] the latter of whom has lately proved the absence of a cane-sugar inverting enzyme from the gastric juice.[8]

As with the digested proteids so the digested carbohydrates are absorbed by the epithelial cells of the small intestines and to a much lesser degree by those of the stomach, the rate of absorption being influenced by various circumstances, such as the degree of concentration, the rate of the blood current, and so on. I have just mentioned that these cells most probably exert an effect on the maltose, changing it into dextrose; as there is reason to believe they modify the other products of digestion as they pass through them. By the portal vein the dextrose is conveyed to the liver where it is partly reconverted by a process of condensation into a polysaccharide, glycogen, and stored as such in the hepatic cells; some passes through the liver and is laid up in the tissues, more especially the muscles, also as glycogen, though a considerable proportion, as will be seen, is converted into fat. It is further supposed that in addition to these destinations of the dextrose some enters into the construction of certain of the proteids and nucleo-proteids, forming within the molecule an atom group of the nature of a hexoglucose, the basis of what I referred to in my previous lecture as the glucoside theory of proteid constitution. Dr. Pavy has strongly adopted this view and has shown that from many proteids—though not from all—a body of glucose character can be obtained on treatment with caustic potash as it was previously known could be effected by dilute acids. That such a notion as to the destination of part of the carbohydrate intake is highly probable might be inferred from the fact that within the body the proteids—or at least some—are the source of some of the carbohydrate nutriment. It is well known that glycogen continues to be formed in animals who are fed on a diet absolutely free from carbohydrates and it is almost certain that the fat is not the origin of this substance; there remains only then the proteid aliment as a source. Some of this proteid-derived carbohydrate, like that ingested, may be stored up as glycogen and some may be circulated as dextrose and consumed without condensation into glycogen. That plants such as yeast cells may synthesise proteid matter from sugar, ammonium nitrate, the ash of yeast, and water is established, thus showing that carbohydrate matter is incorporated into the proteid in the course of its construction, and correspondingly from the proteid the carbohydrate may be split off in certain circumstances to be used up in the tissues.

There is, then, but little evidence of synthesis of carbohydrates within the animal body, whether from the food constituents or from any products of decomposition of tissue elements; such anabolic changes as do occur in these substances are of the nature of transformation among isomeric substances or of condensation of various saccharides effected by various enzymes each adapted to the special change required. This is in marked contrast to what obtains in plants, where a most extensive formation of starch, sugars, cellulose, and allied substances is effected by the synthesis of much simpler bodies of which carbonic oxide and water are the chief, or sometimes even of the elements themselves.

It is as glucose that that portion of the carbohydrate ingesta not converted into fat is ultimately used by the bioplasm, the stored glycogen being reconverted for that purpose, and the decomposition of the sugar in the muscle is effected by a ferment, which may be extracted in the muscle juice, acting in conjunction, as Otto Cohnheim has shown, with a probable ferment body formed by the pancreas and thrown into the general circulation in a manner comparable to the combination of enterokinase and trypsinogen already described. The final products of the destruction of the carbohydrates are carbonic acid and water which are excreted by the ordinary channels but there is reason to believe that among the intervening products of oxidation are lactic acid, alcohol, and aldehyde.

THE DIGESTION, ABSORPTION, AND DESTINATION OF FATS.

The fats of our food, derived as they are from both animal and vegetable sources, differ somewhat, but not entirely, from the chief fats found in the body—viz., tripalmitin, tristearin, and triolein. However fine the emulsion may be in which they are presented to the intestinal mucosa for absorption the molecules are still too large to pass into the epithelial cells on their way to the lacteals. It is almost certain that it is not in this form that the fats are absorbed for, among other reasons, although fat granules and globules are abundantly to be seen in the interior of the intestinal epithelial cells during digestion, they are never to be found in the striated border of those cells. Everything points to their being saponified, that is, split up into glycerine and fatty acids, the latter uniting with alkalies in the intestine to form soaps. These, which are moderately soluble, are absorbed together with the glycerine, to be reconverted into neutral fats within the epithelial cells, whence the particles and globules are conveyed by leucocytes into the lacteal radicles in the villi, finally to reach the thoracic duct. In the most favourable circumstances it is only a part of the absorbed fat which ultimately reaches the circulation; a considerable amount is in some unknown way disposed of *en route*, possibly in the lymphatic glands.[9] The effective agents in bringing about the saponification of the fats in the bowel are the alkaline bile and pancreatic juice, the latter of which contains a special fat-splitting ferment—steapsin. Although the exclusion from the intestine, either artificially or by disease, of these two secretions is followed by the presence of fatty matter in the stools it is chiefly in the form of fatty acids that fats are there met with, showing at least that the presence of these juices is not wholly essential to the fat-splitting, however important may be their influence in saponification and still more in facilitating the absorption of these materials. It seems that some fat-splitting occurs in the stomach, though much less than what takes place in the intestine, but very little formation of soap, however, takes place in that organ.

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[6] A ferment—argenase—has been found in the liver and other organs by which argenin, one of the products of proteid cleavage, is converted into urea.

[7] American Journal of Physiology, 1898.

[8] Ibid., February, 1904.

[9] Schafer: Text-book of Physiology, vol. i., p. 462.

Inasmuch as a great part, often the greater part, of the fats of the food differs somewhat in composition from the fats found in the body it would follow that if the former be the immediate source of the latter they must undergo some change. Moreover, it is by no means certain that such ingested fat as does correspond to that of the body directly goes to form the fat as it occurs in the tissues. That it may do so, however, appears possible from the fact that fats which do not normally occur in the tissues may yet be found there when administered with the food. Ordinarily fats form but a small proportion of the total ingesta but they constitute a very considerable part of the body weight and are the chief reserve store of potential energy. It is clear, therefore, that there must be some other source or sources of this material than that contained in the food and this is to be found chiefly in the carbohydrates from which it is well known the body fats are largely derived. Fat synthesis, therefore, becomes an important factor in nutrition. That there is a synthesis is obvious from what has just been said of the digestion of fats; the fatty acids and glycerine into which these substances are split up in the intestine for purposes of transference are re-combined in the epithelial cells to form the fat which is in great part stored. It has also been found that dogs fed upon fatty acids only were nevertheless able to lay up neutral fats, the synthesis in this case not only combining the acid and glycerine but also forming in some way not known the glycerine itself. It has been recently held that the fat-splitting enzyme or lipase which acts upon the fats in the intestine is the same agent that effects the condensation of the results of the cleavage—viz., the glycerine and fatty acid, an instance of what is termed "reversible action."[10]

As to the manner in which carbohydrates are converted into fats precise information is wanting, but it appears probable that it is the products of disintegration of the former that are synthesised. Among those products it will be remembered that lactic acid is prominent and that the same substance is formed from sugar of milk by an organism and is the well-known cause of milk "turning sour." Similarly butyric and caproic acid, lower terms of the fatty acid series, are formed from carbohydrates by another organism, lactic acid being first produced from glucose into which the carbohydrate is previously converted. The work of Leathes and others has shown it to be most probable that it is in the liver that the lactic acid is changed into butyric acid, as also that it is in the same organ that the butyric acid is built up into a higher term of the same series and that from the carbohydrates of the food first converted into glucose, and possibly from the glycogen of the tissues also converted into glucose, the several fatty acids—palmitic, stearic, and oleic—are in great part derived. Similarly, in the seeds of some plants oils are formed at the expense of the starch. Most probably also the glycerine with which the acid forms the neutral fat is derived from the sugars. In alcoholic fermentation of sugar by yeast this substance is known to be formed, which suggests an origin of a similar nature in the body.

It would be impossible in connexion with the origin of fat from carbohydrates to avoid reference to the views so ably advocated as the outcome of an almost life-long experimental study of the subject by our distinguished Fellow, Dr. Pavy. According to him a large proportion of the glucose resulting from the digestive changes in the carbohydrate food is stopped from entering the portal blood-stream by the intestinal epithelium, in the cells of which it is converted into fat, and in that form enters the lacteals. Such as escapes is condensed into glycogen in the liver, which in its turn is normally transformed into fat and not into sugar. Dr. Pavy considers that it is by the protoplasm of the cells that this conversion is effected and inclines to the view that the glucose becomes a constituent of the protoplasmic molecule previously to its giving rise to fat. I am not concerned to criticise this view; it is sufficient for my purpose to refer to it as indicating the very extensive transmutation of carbohydrate into fat that is held by some as normally taking place.

As to whether fats may be formed from proteids of the food or of the tissues the most opposite views have been held. At the one extreme was Voit who maintained that they were almost if not entirely so produced, and that even the carbohydrates did not give rise to them. The proteids, it was said, were so split up as to form a nitrogenous moiety which was thrown off as urea, the remaining portion consisting of carbon, hydrogen and oxygen only being stored as fat. That this was going too far was proved by the classical experiments of Lawes and Gilbert, by which the carbohydrates as being the chief source of the body fat was proved. It was still a question, however, whether any fat was formed from proteids and up to the present day it has generally been conceded that there is. The teaching of Virchow in respect to the fatty degeneration of proteid tissues has gone far to maintain this view. Quite lately, however, this explanation has been called in question, chiefly from the experiments of Rosenfeld, and there seems to be good reason to believe that in all cases of so-called "fatty degeneration" the fat is really transferred as such from some fat depot—adipose tissue or other—though admitting the possibility of a small amount being formed from the fat which is combined with the protoplasmic molecule or from such bodies as protagon and lecithin which are intimately associated with the proteid, but that in no case is fat a product of proteid degeneration.[11]

The katabolic changes which the fat undergoes are those of oxidation into carbonic acid and water without so far as is known the formation of any intermediate bodies, the combustion being complete. Most of the disintegration takes place in the muscles with the liberation of heat and chemical energy with transformation of the latter into muscular work.

A survey of the foregoing account,[12] necessarily brief, of the changes undergone by the ingesta subsequently to their digestion in the alimentary canal suggests several points for consideration, first among which are the conditions attendant upon their absorption by the intestinal epithelium. These cells, to which formerly was attributed the sole function of permitting the passage of the diffusible gastro-intestinal contents, are now seen to be possessed of powers of high metabolic value apart even from those scarcely less important which are concerned with the production of such a stimulus to pancreatic secretion as secretin or the actual formation of a special fluid, the succus entericus, with its specific powers. Upon two groups at least of the digested food-stuffs do these tissue elements effect an important change: the proteids are broken up into much simpler substances—amido-acids and allied bodies—and the fats which to permit of absorption had been split into their constituent acids and glycerine are re-formed by them. Upon the glucose into which the ingested carbohydrates have been converted less unanimity of opinion prevails; whilst some consider the sugar passes through unchanged into the portal blood, others with Dr. Pavy consider that this is prevented by the change into fat undergone by the glucose in these same epithelial cells.

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[10] Hanriot: Comptes Rendus, vol. cxxxii., 1901.

[11] An interesting summary of the evidence bearing on this point is given in a paper by Dr. Christian of Boston in the Johns Hopkins Hospital Bulletin for January, 1905. On the other hand, it is generally admitted that fat is formed by certain micro-organisms, especially the bacillus tuberculosis, to the large quantity of fat [illegible] in great [illegible] h. 1904). [illegible] with the [illegible] amounts [illegible] ot be the [illegible] only have [illegible] e formed [illegible] oteids and [illegible] ast, from some cleavage product or products other than the carbohydrate portion (Beebe and Buxton: American Journal of Physiology, vol. xii., No. 5, 1905).

[12] I have not thought it necessary in this account to take into consideration the action of micro-organisms in the alimentary canal upon the ingesta. That they are not absolutely necessary to the maintenance of normal nutrition has been demonstrated and that they may be [illegible]

Another feature which stands out from our more precise knowledge of these processes is the relation of the liver to the several groups of materials brought to it in the portal vein. In respect to few organs of the body have opinions so much varied from time to time as they have in regard to the functions of the liver, and although we cannot yet speak precisely as to what changes may be effected by the hepatic cells in the proteid products of digestion, if, indeed, any change be effected, we clearly recognise that glucose is stored partly as glycogen and partly as fat, the synthesis of the fatty acids having been shown to take place in this organ. From the katabolic side the liver also occupies an important position, since it is in that organ that the chief nitrogenous excreta are synthesised into that form in which they are finally eliminated.

The more accurate realisation of the metabolism of the food-stuffs leads to a wider conception as to the nature of the pabulum as offered to the living matter and the relative importance of the several constituents. Such proteid synthesis as takes place is concerned with some of the products of proteid destruction in the course of their elimination. But certain portions of proteid cleavage become utilised as fresh food, whether it be in carbohydrate form or as fat. From the former of these the chief bulk of the latter is constructed but there is no conclusive evidence to show that the reverse takes place and that sugar may be derived from fats. Thus the residues of katabolism, whilst in part eliminated as waste, partly go to form those materials which play an important part in the economy, whether as internal or as external secretions, and are to some extent synthesised into the integral constituents of living matter.

Even yet more important is the recognition of the fact that the pabulum, whether proteid, fat, or carbohydrate, is ever in a state, as it were, of flux, now stored up, now transferred elsewhere, again perhaps to be stored up before it undergoes its final changes and is eliminated. To enable the laid-up materials to undergo this translocation they must be rendered soluble for conveyance in the blood or lymph streams and this is done by the agency of ferments of the same nature as those the ingesta met with in their process of digestion in the alimentary canal. The occurrence within the living cells both animal and vegetable, of ferments which are capable of digesting the cells is almost if not quite universal. Such autolytic enzymes are proteolytic in action and hence must be largely concerned in the ultimate proteid metabolism. If they be regarded as possessed of reversible power it would follow that by their means is maintained "a nitrogenous equilibrium within the cells, building up and breaking down proteids as circumstances require."[13] Reference has already been made to the widespread occurrence throughout the tissues of erepsin. So also a glycolytic enzyme is to be found in muscles and elsewhere; and lipase with its reversible power has been met with in a number of tissues, especially when fat synthesis occurs, such as the mammary gland when active and adipose tissue, also, too, in the liver and blood.

(To be continued.)

TEN ABDOMINAL SECTIONS FOR ABNORMAL PREGNANCIES AND OBSTRUCTED LABOURS.[1]

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HAD a surgeon 20 or 30 years ago ventured to read a paper to this society on questions affecting pregnancy and labour he might have been arraigned for trespassing on the preserves of the obstetrician and general practitioner; if in his paper he had discussed a series of abdominal operations performed during pregnancy a further charge of malpraxis would surely have been preferred against him. But the [illegible] uterus is no longer a *noli me tangere* to the surgeon, for [illegible] it and its adnexa are now attacked for myoma or inflammatory tumour with little risk to mother or fœtus. The surgeon, moreover, can now legitimately claim to have a professional interest in complicated pregnancy and labour, for it is through his work that obstructed labour and ectopic pregnancy have lost many of their terrors. True it is that these complications are uncommon. Infrequency is the cause of their being forgotten and their study neglected. It is also my apology, if such be required, for bringing before you ten cases of abdominal section for obstructed labours and abnormal pregnancies which have occurred in my practice. A discussion on this subject should be valuable, not only from its scientific interest but also from its practical application, in so far as it may lead to a determination of what is possible and proper in the treatment of these emergencies, which require immediate recognition and skilled interference.

For the sake of clearness and to facilitate discussion I have divided the cases as follows: (1) two cases of ovarian tumour obstructing labour; (2) two cases of uterine fibroid, the one obstructing labour, the other complicating pregnancy; (3) four cases of extra-uterine pregnancy; (4) a case of tumour narrowing the pelvic outlet and necessitating Cæsarean section; and (5) a case of omental adhesions disturbing pregnancy.

1. *Ovarian tumours obstructing labour.*—A discussion on the removal of ovarian tumours during pregnancy was held by this society in 1897 on a case reported by me. Since that time this question has been much under review and it is to a member of this society that the profession is indebted for the most valuable and complete work on the subject. Dr. R. G. McKerron, in his book on "Pregnancy, Labour, and Child-bed with Ovarian Tumour," has, after a laborious collection and masterly analysis of 1290 recorded cases, deduced certain rules for our guidance which have met with general approval and acceptance. For a full description of ovarian tumour, so far as it complicates pregnancy and the puerperium, I must refer you to Dr. McKerron's excellent monograph. The treatment, however, of ovarian tumour obstructing labour may fitly engage our attention for a short time to-night. It is summarised in the following conclusions, which I quote: 1. Ovariotomy is the best treatment and should be preferred when the patient can without delay be placed under the charge of an experienced operator. The abdominal is in general to be preferred to the vaginal route. 2. When time or place does not admit of ovariotomy reposition should be attempted but the effort to push up the tumour should neither be too forcible nor too prolonged. 3. In the majority of cases it will be possible to deal successfully with the complication by one or other of these methods. When both are found impracticable no time must be lost in carrying out the measures which circumstances dictate. The greatest danger is in delay. 4. The tumour should be either aspirated or preferably incised; when incised it should be stitched to the vaginal wall if time permit or, which is better, it may be evacuated and plugged with iodoform gauze. Both these measures are temporary and should be followed by ovariotomy as soon as possible after labour. 5. When the tumour is solid or semi-solid and only partially reducible by incision an attempt must be made, no matter what the circumstances, to remove it by the vagina or by the abdomen and if this fail Cæsarean section must be performed. In the hands of even an inexperienced operator this will involve less danger than an attempt to drag the child past the obstruction with the forceps. 6. Version is in all circumstances contra-indicated. Forceps or craniotomy must never be employed unless the obstruction has been completely removed. 7. In the abdominal operation for the removal of the tumour Cæsarean section should rarely be necessary. In almost all cases it will be possible to deal with the tumour by first drawing the uterine fundus through the abdominal wound or by getting an assistant to push the tumour up from the vagina, while the uterus is simultaneously pushed by the operator to one or other side of the pelvic brim. 8. Tumours which have been reposed or incised during labour must be removed as soon as possible in the puerperium.

The frequency of ovarian tumour complicating pregnancy is about 1 in 2500 cases. The maternal mortality in obstructed cases is about 25 per cent. over all the series; that of the children nearly 50 per cent. One-fourth of obstructing ovarian tumours are dermoids.

CASE 1. *Dermoid cyst obstructing labour, removed during subsequent pregnancy; recovery.*—The patient, married, aged

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[13] H. G. Wells [illegible] o Proteid Metabolism. American [illegible]

[1] [illegible] Society of Aberdeen [illegible]

30 years, was attended at her fifth confinement in August, 1895, by Dr Kckerron For some time before labour set in she had been troubled with down bearing pain and irritability of the bladder Dr McKerron discovered when the os was half dilated that "the posterior vaginal wall was occupied by a flattened fleshy mass of about the size and thickness of a well developed placenta" He found it impossible to remove the obstruction, but with the assistance of Professor W Stephenson succeeded, under deep anæsthesia, in raising the tumour above the brim, when a living male child, considerably over the average size, was delivered with the forceps I saw the patient six weeks after her confinement and operation was advised She, however, did not arrange to come to the infirmary till ten months later when it was found that she was three and a half months pregnant A dermoid cyst of the right ovary, weighing 1 pound 12 ounces and with a very long pedicle, was removed in August and the patient made a good recovery, being delivered of a living female child the following January

CASE 2 *Dermoid cyst obstructing labour, reposition operation during puerperium, recovery* —(For the notes of this case I am indebted to Dr Thomas Fraser) The patient, aged 27 years, who was eight months pregnant, complained one afternoon in September, 1903, of a very severe vertex headache which lasted a short time and disappeared after a brisk walk The next afternoon she was seized with severe headache and suddenly went blind She was seen by a locum tenent who found her able to perceive light but she could only recognise that he was a stranger from his voice The urine was examined and found on boiling to be almost solid with albumin In the evening she had two severe convulsions for which one drachm of chloral hydrate was administered per rectum She had no more convulsions Labour started on the next morning and went on slowly A tumour was found on the left side a little in front of the head It could at first be pushed up but as labour progressed this could not be done Professor Stephenson saw the patient in the evening and under chloroform reposition of the tumour and delivery by forceps were easy The albumin in the urine diminished but there was slight elevation of temperature for a day or two She went to the Royal Infirmary on the fifth day after delivery and on the eighth day had a left dermoid cyst removed by me The tumour was lying in the pelvis and was flattened from pressure Albumin was present in the urine for a day or two before operation but it disappeared thereafter and the patient made an uneventful recovery In the beginning of December, 1904, she aborted at five and a half months, and at that time a tumour was felt on the right side of the abdomen She was examined under an anæsthetic by Dr Fraser and the tumour was diagnosed as a dermoid cyst of the right ovary which was found to be healthy at the first operation This tumour was removed by me on Saturday last You will see it is a dermoid cyst of about the size of an orange and containing much hair and one if not more teeth

2 *Uterine fibroids complicating pregnancy* —Bland Sutton has, under the title "The Inimicality of Pregnancy and Uterine Fibroids,' described the harmfulness of the association of these two conditions as being of three kinds (1) obstructive, (2) septic infection, and (3) degeneration of the fibroid The most extreme examples of the red degeneration described by Fairbairn occur in pregnancy, An examination of the literature on the subject shows considerable difference of opinion as to the tendency to abortion, the interference with labour, and the necessity for operative intervention in pregnancy with fibroid tumour Kelly s statistics seem to show frequent abortions as the result of the combination, while many observers, mostly continental, have found the reverse to be the case and maintain that operation is seldom required

Dr A Donald of Manchester, in an excellent paper on this subject published in the Transactions of the Obstetrical Society of London, vol xliii, 1901 gives his conclusions as follows 1 In the great majority of instances in which fibromyomata of the uterus and pregnancy coexist the course of the pregnancy and of the subsequent labour is not seriously influenced by the tumour but in a small proportion of cases the patient s life and the life of the child are seriously endangered 2 When pregnancy is found to be complicated by fibroid tumour it is best to allow the pregnancy to go to term as long as the mother's health is not seriously endangered 3 If at the outset of labour or shortly before it seems certain that the tumour will cause obstruction to the birth of the child Cæsarean section followed by hysterectomy should be performed 4 In cases in which the health of the mother makes it necessary to interfere in the earlier months abdominal section should be performed and an attempt made to enucleate the tumour 5 If in these circumstances myomectomy is found to be too dangerous hysterectomy should be performed

CASE 3 *Uterine fibroid obstructing labour reposed after cœliotomy, recovery* —The patient, aged 44 years, was admitted to the infirmary in June, 1902 at the request of Dr Gibb and Professor Stephenson She was in labour and the labour was obstructed by a tumour which they diagnosed as a myoma The tumour could not be reposed and it was thought that Cæsarean section would be necessary On opening the abdomen a myoma of about the size of a cocoanut was found impacted in the pelvis I found it quite impossible to get the tumour up past the pelvic brim and it was only after enlarging the incision up to the xiphoid and lifting the uterus out of the abdomen that sufficient space was given for the raising of the obstructing fibroid out of the pelvis While the uterus was swathed in warm sterile towels Professor Stephenson put on the forceps and speedily effected delivery After the placenta had been expressed the large abdominal wound was sutured The recovery was uneventful The age of the patient and her history decided me in not removing the fibroid, an operation which would only have added to the risks of the puerperium

CASE 4 *Pregnancy with large fibroid and adhesions, Porro Cæsarean section, recovery* —The patient, aged 42 years, was sent to me in August, 1903 by Dr S O Ironside of Fochabers She had a large abdominal tumour and Dr Ironside suspected either an ectopic or a complicated pregnancy On examination I found that she was pregnant about seven months and that the state of affairs was normal except for a large tumour lying in the abdomen to the left of, and attached to the enlarged uterus This was diagnosed as either an adherent dermoid cyst or a myoma and as it was painful and a likely source of danger it was decided to operate This I did on August 29th, when I found the tumour to be a fibroid From its relation to the

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serrenoeud was used an instrument which I have found very useful in those hysterectomies in which rapid operating is advisable

3 *Extra-uterine pregnancies* —The recognition of this condition in its early stages is not easy In the later months though the diagnosis does not present much difficulty the exact line of treatment has to be determined according to the peculiarities of the case There is not absolute agreement among gynæcologists as to the ' how " and "when of the operation Werth has stated that during the early months extra uterine pregnancy must be treated as if it were a malignant growth In ruptured tubal gestation with active bleeding the indications for operation are as clear as in the case of a severed artery In pelvic hæmatocele (intraperitoneal) or the subperitoneal hæmatoma between the layers of the broad ligament some advise operation as the routine but the consensus of opinion is in favour of expectant treatment unless the absorption is slow or a tubal mole or abortion coexists This waiting involves a considerable period of invalidism and certain risks Among these a common sequela is suppuration and this is best met by vaginal incision and drainage

Ectopic gestation after the fourth month demands special consideration, as authorities differ on certain important points Bland Sutton says "The great risk of violent hæmorrhage from the placental site renders operation for tubal pregnancy between the fifth and ninth months of gestation, the fœtus being alive, the most dangerous in the whole range of surgery, hence it cannot be urged with too much force that when it is fairly evident that a woman has a tubal or broad ligament pregnancy *it should be dealt with by operation without delay* ' Kelly s dicta are "When a diagnosis of an unruptured extra uterine sac is made the operation should be performed with as little delay as possible " And again "If the child is viable the operation should be performed without waiting for the pregnancy to complete its term, as false labour may set in at any time and the child be lost " "If the child be dead it is better in such cases to wait several weeks to give the thrombi a chance to of which there are 7500 to the cubic millimetre, consist of the following varieties: 1. Polynuclear cells. These are large cells, from 9 to 10 μ in diameter, the protoplasm of which contains fine granules, which stain faintly with both acid and basic dyes. The nucleus of the cell is very inconstant in shape, sometimes appearing in the form of a horseshoe, at other times as if divided into several distinct parts. These cells form from 60 to 70 per cent. of the leucocytes. 2. Small lymphocytes, cells of the size of, or a little larger than, the red corpuscles. Their nuclei are round, indented, or even horseshoe-shaped, stain deeply with basic dyes, and are surrounded by a small amount of clear protoplasm. They form from 20 to 30 per cent. of the leucocytes. 3. Large lymphocytes. These are as large as, or even larger than, the polynuclear cells, the protoplasm is "hyaline," and the nucleus, which is rounded or oval, stains faintly with the basic dyes. 4. Transitional forms. These are similar to the last with the exception that their nuclei are indented or horseshoe-shaped. The large lymphocytes and transitional cells form from 4 to 8 per cent. of the white cells. 5. Eosinophile cells. These are similar to the polynuclear in size and shape but the protoplasmic granules are larger and stain deeply with acid dyes; they form from ½ to 4 per cent. of the leucocytes. 6. Basophile cells. These are rarely seen in normal blood and although similar in form and size to the polynuclear cells their cell granules stain only with basic dyes.

The blood of a child differs from that of an adult in the following particulars: 1. Shortly after birth it contains a greater number of red corpuscles; thus Sorensen[3] states that in male infants from five to eight days old the number is 5,769,500 and in the female child from one to 14 days old 5,560,800 per cubic millimetre of blood. According also to Cabot the number in the newly born is very high. 2. The white corpuscles are very numerous; this excess is most marked immediately after birth and then gradually falls; thus Da Costa says that at birth the count varies between 15,000 and 20,000 or even higher; this decreases after the first 48 hours and at the end of the first week has fallen to 10,000 or 15,000, which number is normal for children under one year of age. From the sixth year and upwards the number of leucocytes is 7500.[4] Of the different varieties of leucocytes in childhood the small lymphocytes are relatively more numerous—from 40 to 60 per cent.—and the polynuclears are less numerous—from 16 to 40 per cent.

In considering the effect which a given disease may have in altering the composition of the blood one ought if possible to eliminate all those factors, which, whilst not forming an integral part of the disease in question, yet may profoundly affect the blood. Of these influences the following are those which most concern us here: 1. Digestion. The effect of digestion on the composition of the blood has been very fully studied by numerous observers, all of whom agree that the number of leucocytes in the circulatory blood increases soon after the taking of food, rises to a maximum four or five hours later, and then gradually subsides; this increase averages 33 per cent. of the whole number of leucocytes.[5] In children this digestion leucocytosis is especially marked and in infants under two years of age it frequently rises to as high a figure as 30,000. What influence digestion has on the differential count is doubtful, some observers having found an increase in the polynuclear cells[6] whilst others have found a lymphocytosis.[7] After a meal, especially when considerable quantities of liquid have been taken, the red cells fall in number owing to a temporary dilution of the blood. 2. Loss of fluids from the tissues of the body, such as occurs in severe vomiting or diarrhœa. The blood being by these means temporarily concentrated, there will be an apparent increase of both red and white corpuscles in number.

With this brief description of the blood in health and its chief physiological variations I shall now pass on to consider in detail the cases of which this thesis is composed.

Section B.

In the examination of the blood of my cases I adopted the following methods. The percentage of hæmoglobin was estimated by means of Gowers's hæmoglobinometer and von Fleischl's hæmometer. For the enumeration of the red corpuscles the Thoma-Zeiss apparatus was used, the diluting agent being Toison's fluid. For counting the leucocytes the same pipette as that used for the red cells was made use of and, except where otherwise stated, at least 500 white cells were counted in making the differential count. The stains used for the blood films were Jenner's, Leishman's, and Ehrlich's triacid stains. Of the ten cases of meningitis which I examined eight were tuberculous in nature—namely, Nos. 3, 4, 5, 6, 7, 8, 9, and 10 (*vide* Table). No. 2 was also probably of the same nature, as although an examination of the brain could not be made, yet there was miliary tubercle of the intestines and peritoneum and the symptoms during life were fully in accordance with what one would expect in tuberculous meningitis; I have therefore considered it as belonging to this group. The remaining case, No. 1, was one of serous meningitis or hydrocephalus. Since the hæmoglobin findings exhibit no constant or characteristic features they may be dismissed as being of little value as an aid to diagnosis. The count of red cells was in most of the cases relatively high. Very little has been written on the behaviour of the red cells in cases of tuberculous meningitis and the only statement which I can find is that "the red cells show, as a rule, but slight changes, as is so often found in other forms of tuberculosis."[8] In six of the nine cases of tuberculous meningitis—namely, Nos. 3, 5, 7, 8, 9, and 10—there was no leucocytosis; of the remaining three, in two, Nos. 4 and 6, there was decided leucocytosis—namely, 42,000 and 21,000 respectively—and in No. 2 the count varied, on one occasion being 12,092 and a week later 27,000. From these results it is seen that in over 60 per cent. of cases of tuberculous meningitis there is no increase in the number of white cells. These results differ somewhat from those obtained by other observers; thus Cabot has recorded 27 cases, in 18 of which a leucocytosis was present; his results, however, are indecisive, since apparently the diagnosis was confirmed by necropsy in three only of the cases. In one case reported by Kneas a leucocytosis was present.[9] Rieder[10] has reported two cases, one showing a leucocytosis, the other a normal or subnormal count of white cells. Türck studied three cases, all showing a leucocytosis. Osler[11] says "a leucocytosis is not infrequently present throughout the disease." On the other hand, von Limbeck, in four counts made shortly before death, found no leucocytosis.[12]

As regards the percentages of the different varieties of leucocytes two points are to be especially noted—namely, a diminution of the number of eosinophiles and an increase in the large lymphocytes and transitional cells: thus in eight of the nine cases of tuberculous meningitis, Nos. 3, 4, 5, 6, 7, 8, 9, and 10, the relative proportion of eosinophile cells was below normal, in no case reaching ½ per cent. and in four cases they were entirely absent—namely, Nos. 4, 7, 8, and 10. These results are in marked contrast to the condition found in the case of serous meningitis, in which the eosinophile cells were normal or increased in number. In six of the tuberculous cases the large lymphocytes and transitionals were increased in number—namely, in Nos. 2, 3, 5, 6, 9, and 10, and in one of these they formed 23 per cent. of the total leucocyte count (No. 2). Very few differential leucocyte counts have been reported in tuberculous meningitis, but in those which I have found recorded a diminution or absence of the eosinophile cells was the rule.[13]

Granted, then, that in tuberculous meningitis there is usually no leucocytosis, have we any satisfactory explanation as to why such should be the case? There are, I think, four possible explanations. Firstly, the tubercle bacillus may enter the body and exert its characteristic effects without influencing in any way the number of leucocytes in the circulating blood. We know that the number of leucocytes in the blood is not the same for every individual but varies according to the robustness or delicacy of the person's constitution; thus in the robust it is relatively high, whilst in the feeble it is low, sometimes reaching as low a number as 3000 per cubic millimetre.[14] Other things being equal, one may therefore assume that persons with a low leucocyte count are more

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[3] Cited by von Limbeck: Grundriss einer klinischen Pathologie des *Blutes, Jena, 1896.*

[4] Da Costa: Clinical Hæmatology.

[5] Cabot: Clinical Examination of the Blood.

[6] Burian and Schur: Wiener Klinische Wochenschrift, February, 1897.

[7] Cabot: Loc. cit.

[8] Ibid., pp. 283–84.

[9] Journal of Nervous and Mental Diseases, New York, 1903, vol. xxx., p. 431.

[10] Quoted by Cabot.

[11] The Principles and Practice of Medicine, fourth edition, p. 279.

[12] Quoted by Cabot.

[13] Turck: Quoted by Cabot.

[14] Cabot: Clinical Examination of the Blood, pp. 105 and 95.

APPENDIX OF CASES.*

No	Age.	Temperature.	Percentage of hæmoglobin.	Number of red cells per cubic millimetre.	Number of white cells per cubic millimetre.	Polynuclear cells (per cent.).	Small lymphocytes (per cent.).	Large lymphocytes and transitional forms (per cent.).	Eosinophile cells (per cent.).	Remarks.
1	One year and three months.	98·6° F. 98·0° F.	92 100 (?)	5,066,600 4,552,000	18,430 12,684	43·8 47·2	39·4 42·3	11·7 5·6	4·4 4·1	Necropsy. Serous meningitis with hydrocephalus. A week elapsed between the two blood examinations.
2	Seven months.	93·2° F. 100° F.	55 60	5,200,000 5,096,000	12,092 27,390	36·1 44·18	39·2 42·9	23·42 12·5	1·1 0·36	Necropsy. The brain could not be examined but there was miliary [illegible]
3	One year.	98° F.	64	4,952,000	11,455	78·9	11·0	9·5	0·47	Necropsy. General tuberculosis with tuberculous meningitis. Only 200 white cells were counted in the differential count.
4	11 months.	99·6° F.	82	5,480,000	42,934	83·3	11·5	5·1	—	Necropsy. General tuberculosis, excess of subarachnoid fluid, but no definite tubercles were seen.
5	Two years and eight months.	101·4° F.	94	4,760,000	10,476	65·7	24·5	9·5	0·18	Necropsy. Tuberculous meningitis.
6	Three years	100·2° F.	74	4,704,000	21,410	70·6	20·07	9·5	0·19	Necropsy. Miliary tuberculosis with tuberculous meningitis.
7	One year and one month.	93·0° F.	55	5,904,000	9,461	73·0	20·7	5·8	—	[illegible] with [illegible] y 275 [illegible] the
8	Four years and five months.	99·0° F.	70	6,720,000	5,343	88·8	6·7	5·0	—	Necropsy. General tuberculosis with tuberculous meningitis. Only 250 white cells were counted in the differential count
9	Seven months.	101·8° F. 97·0° F.	70	5,352,000	15,826 12,632	64·5 69·3	24·8 21·4	10·4 9·1	0·16 0·14	Necropsy. General tuberculosis with tuberculous meningitis. A week elapsed between the two blood counts.
10	Five years.	100·6° F. 100·4° F.	77	6,614,400	12,631 12,317	81·4 83·0	7·8 7·1	10·5 9·8	— —	No necropsy. Symptoms of meningitis during life. Three days elapsed between the two blood examinations.

* In the above list of cases the blood was taken from the patients shortly before or after a meal, so as to reduce to a minimum errors due to the effect of digestion on the composition of the blood. In no case was there any excessive drain on the blood, such as severe vomiting or diarrhœa.

liable to infectious diseases of all kinds than their more robust companions. On this supposition there is no direct connexion between the occurence of tuberculous disease and the leucocyte count, both being the result of a common cause—namely, depressed vitality. Secondly, there may be no leucocytosis because the irritation of the tissues by the tubercle bacillus and its toxins is either too mild in nature or too severe. In support of this we have experimental evidence; thus, if in an animal a dose of bacterial products of sufficient strength or large enough in quantity to cause death be injected, no leucocytosis occurs; to obtain a leucocytosis the dose [illegible] and the resistance of [illegible] dence that the toxic p[illegible] very mild nature; on the contrary, the exact opposite is the case, as evidenced by the effects produced by injection of tuberculin. For reasons, however, which will be discussed later, there is evidence to show that the most active constituent of the tubercle toxin can be taken up by the body tissues in very small quantities only and, such being the case, the irritation is insufficient to cause a leucocytosis (one of the signs of reaction of the body to an irritant). Thirdly, the tissues being constantly exposed to the toxins of the tubercle bacillus may in time come to be endowed with a relative immunity to them and therefore will no longer exhibit any reaction on further exposure to the irritant. Since every case of tuberculous meningitis is secondary to a deposit of tubercle in some other part of the body one may justly assume that during the time that elapses between the dates of primary infection and the onset of secondary disease in the cerebral meninges a continual absorption of tubercle toxin has been going on and although at the time of primary infection the irritant effect of the toxin may manifest itself in the usual manner, yet by a constant exposure to the poisons the body has so accommodated itself that a reaction in the form of a leucocytosis now no longer occurs, even when a general [illegible]bercle takes place. Fourthly, the most [illegible] toxin produced by the tubercle bacillus [illegible]ody of the bacillus itself but owing to the nature of the bacterial cell is unable to escape in sufficient quantities to exert its irritant action on the body tissues. All pathogenic organisms produce as a result of their growth extracellular toxins; some, however, such as the diphtheria, tetanus, and tubercle bacilli, also form intracellular toxins. Now the composition of the cell bodies of the diphtheria and tetanus bacilli is such that no great opposition is offered to the escape of any intracellular toxin which may be formed; this on being absorbed gives rise to a leucocytosis, the usual condition found in cases of diphtheria and tetanus. On the other hand, the tubercle bacillus being composed of various insoluble fatty acids any intracellular toxin formed can either not escape at all or can escape in very small quantities only unless the bacilli die in large numbers, when the intracellular toxins are diffused into the surrounding tissues and can then be readily absorbed. If tubercle cultures be filtered germ free and the filtrate be injected into an animal a less marked reaction occurs than if the bacilli as well as the filtrate be injected (some say this is due to the filtrate containing a toxalbumin having a temperature-lowering effect); this seems to favour the view that the intracellular toxins of the bacillus are more active than the extracellular. A patient, then, having become infected with the tubercle bacillus, there are produced at the seat of invasion extracellular toxin which has very little irritant effect on the tissues and intracellular toxin; the latter, however, is taken up by the body in such small quantities that the irritation produced is negligible and a reaction in the form of a leucocytosis does not appear.

Regarding the second finding in my cases—namely, a diminution in the number of eosinophile cells—we have no adequate explanation, the function of these cells being at present but imperfectly understood. Some observers consider that they are concerned with the defence of the body against invading micro-organisms, the granules of the protoplasm being secreted by the cells themselves and consisting of a substance which is injurious to bacteria. This view is supported by the fact that either finely granular oxyphil cells or coarsely granular (eosinophiles) are generally the first to arrive at the seat of invasion by a micro-organism.[15] Kanthack and Hardy,[16] however, state that in the case of the rat, the frog, or the guinea-pig, the coarsely granular oxyphil cells are never phagocytic. From these conflicting statements it is therefore evident that we are still far from knowing what the function of these cells is and any attempt to explain an increase or a diminution of them would be unwarrantable. The large lymphocytes and transitional forms being, as is well known, intensely phagocytic in nature their increase is most probably due to an attempt on the part of the body to rid itself of the offending agent—namely, the tubercle bacillus.

The conclusions to be drawn from the results of my investigations are that in tuberculous meningitis in children, (1) the red corpuscles are usually present in normal or increased numbers; (2) the majority of cases show no leucocytosis; (3) the eosinophile cells are reduced in number; and (4) the large lymphocytes and transitional cells are generally present in increased proportions.

For permission to make use of the cases in the wards of the North-Eastern Children's Hospital I am indebted to Dr. W. A. Wills, Dr. J. Taylor, Dr. J. Porter Parkinson, and Dr. G. Carpenter, and for access to the clinical notes of the cases my thanks are due to the house physicians, Mr. S. L. Harke, Mr. R. M. Im Thurn, and Dr. R. G. Nothwanger.

Colchester.

TWO CASES OF TRICHROMIC VISION.[1]

BY F. W. EDRIDGE-GREEN, M.D. DURH.,
F.R.C.S. ENG.

CASE 1.—One case (Professor J. J. Thomson) sees only three colours in the bright spectrum—red, green, and violet. He can distinguish nothing of the nature of pure yellow, like the sensation given him by the sodium flame in the spectrum. There is no definite colour to him at the portion of the spectrum where the normal sighted see pure blue. Reddish-green would describe the orange and yellow regions and greenish-violet the blue. λ 5950 (orange-yellow) is the point which differs most from red and green. There was no shortening of either end of the spectrum. The point of junction of the red and green differed somewhat in repeating the observations because of his great sensitiveness to simultaneous contrast. It was, however, always in the orange or orange-yellow, never in the yellow of the normal sighted.

Difference of hue perception.—I then tested him with my apparatus for ascertaining the size of different parts of the spectrum which appear monochromatic and found that he was defective in distinguishing differences of hue. A portion of the spectrum corresponding to the D lines and isolated by two shutters in the eye-piece of the spectroscope was first shown. The shutter on the red side was gradually opened until a difference of hue was seen. The monochromatic patch extended from λ 5889 to λ 6052, being exactly half as large again as that of the normal sighted, which occupies the space from λ 5889 to λ 5998. The monochromatic patch he called greenish-yellow. His monochromatic patch in the centre of the green bore exactly the same proportion to mine as in the case of the orange-yellow, being just half as large again.

Colour mixtures.—He was then tested with Rayleigh's apparatus for matching spectral yellow by a mixture of red and green. 0 of the scale corresponded to pure red, and 25 or 90° to pure green. He made the following 10 matches:—

Match.	Difference.	Match.	Difference.
†1. 13·40	+ 0·67	* 6. 11·75	− 0·98
*2. 12·0	− 0·73	* 7. 11·75	− 0·98
†3. 12·75	+ 0 02	8. 13·50	+ 0·77
*4. 12 0	− 0·73	† 9. 12·90	+ 0 17
†5. 13·50	+ 0·77	*10. 13·75	+ 1·02

Average, 12 73. Average difference, 0·684.

I find that my colour vision agrees with that of the large majority of persons and may therefore be regarded as normal. I made the following ten observations for comparison with those given above:—

Match.	Difference.	Match.	Difference.
*1. 11 0	+0·629	* 6. 10 0	−0·371
†2. 10·25	−0·121	† 7. 10·50	+0·129
*3. 9·80	−0·571	* 8. 10 50	+0·129
†4. 10·33	−0 041	† 9. 10 60	+0·229
†5. 10·33	−0 041	*10. 10·40	+0 029

Average, 10·371. Average difference, 0 229.

* Red shown first in the mixed colour. † Green shown first.

My match appeared to him bright-red and bright-green, the yellow appearing as green. The match appeared more correct through a pin-hole. The mixed colour of his match always appeared green to me. It will be noticed that his average difference is very nearly three times the amount of mine. On comparing the differences, according to the colour which was shown first, it will be found that these were all positive when the green was shown first and four out of the five were negative when he commenced with the red.

Green first	+ 0·67	Red first	− 0·73
	+ 0 02		− 0·73
	+ 0·77		− 0 98
	+ 0 77		− 0 98
	+ 0·17		+ 1·02
Average,	0 48	Average,	0 888

Below I give my differences for comparison.

Green first	− 0·121	Red first	+ 0 629
	− 0 041		− 0 571
	− 0·041		− 0·371
	+ 0·129		+ 0·129
	+ 0 229		+ 0 029
Average,	0·1122	Average,	0·3458

He seemed to get very easily fatigued with colours.

Classification test.—Called 1 (orange) "reddish-orange" and matched it with orange and dark yellows. Described 2 (violet) as mauve and put with it violets and purples. Named 3 (red) correctly and picked out various reds to go with it. Called 4 (blue-green) "green" and matched it with some greens. Only a few colours were selected in each case. On being asked to pick out all the yellows he chose those with orange in them. He regarded orange-yellow as his yellow and rejected pure yellows because he said that they had green in them. He had considerable difficulty in matching the colours. In common with the cases I have previously observed the effects of simultaneous contrast were much more marked than in the normal sighted. Two wools changed colour to him on being contrasted when no change was evident to me. This was particularly noticeable when one of the contrasted colours was red, green, or violet, and the other, one of the intermediate and adjacent colours.

Lantern test.—He correctly named the red, green, and violet with and without the neutral glasses and saw them at the normal distance. He had difficulty with yellow and blue. He called pure yellow "greenish yellow." It will be noticed that the examination with the spectrum gives a key to the mistakes made.

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[15] Lazarus-Barlow: Manual of Pathology, pp. 406 and 282.

[16] Kanthack and Hardy: Ibid.

[1] A paper read before the Royal Society. The research was made with the aid of an instrument purchased with a grant from the Government Grant fund.

CASE 2 —The other case is that of Mr P S Barlow, B Sc , a research student in the Cavendish Laboratory He sees three colours in the spectrum—red, green, and violet The red gradually passes into the green and red green would describe this region and green violet that of the blue He sees no yellow or blue in the spectrum When I put the pointer in the yellow he said it was in the green He gave λ 5892 three times out of four as the junction of the red and green, the fourth time λ 5950 Both are in the orange-yellow He selected λ 4800 (blue) as the point of union of the green and violet He was very sensitive to simultaneous contrast When shown the violet first he put the junction of the green and violet at λ 4861, when shown the green first at λ 4740 There was no shortening of either end of the spectrum

Difference of hue perception —He was tested in the same way as Professor Thomson He also called the orange-yellow patch "yellow green," and I had to increase the size of the patch until it was half as large again (λ 5889 to λ 6052) as that of the normal sighted before a difference was seen I examined him in the same way with the other colours of the spectrum and found that in every part he marked out a much larger monochromatic patch than the normal sighted

Colour mixtures —He was then tested with Rayleigh's apparatus On being shown my match he said that the yellow was green and the mixed colour salmon pink He said that the yellow of my match was too dark, and in order to make a match, as far as luminosity was concerned, he had to increase the brightness of the yellow No match was then possible to me He made the following 10 matches —

Match		Difference	Difference, red first	Difference, green first
* 1	15·66	−0·815	—	—
* 2	17·0	+0·525	—	—
† 3	16·90	+0·425	—	—
* 4	16·33	−0·145	—	—
† 5	17·40	+0·925	—	—
† 6	17·0	+0·525	−0·815	+0·425
* 7	16·0	−0·475	+0·525	+0·925
† 8	15·33	−1·145	−0·145	+0·525
* 9	15·80	−0·675	−0·475	−1·145
†10	17·33	+0·855	−0·675	+0·855
Average,	16·475	Average 0·651	Average, 0·527	Average, 0·775

* Red first † Green first

Lantern test —He called pure yellow "yellow green' and pure blue "blue green ' Dark blue he called purple The other colours he named correctly.

Classification test.—1 he designated "golden yellow ' and matched it with orange 2 he called "purple" and put with it violets and purples 3 he said was "crimson" and sorted out a few reds to go with it 4 he named "blue" and matched with greens and blues Many colours were omitted He called yellow "yellow green " He chose orange yellow for yellow He found great difficulty with blue and green Ladies have several times told him of mistakes in this respect On being shown 4 (blue green) a second time he said that it was "pure green without a trace of blue " Simultaneous contrast was very strongly marked

I use the term *trichromic* as a statement of the fact that persons having this vision see only three colours in the bright spectrum, whilst the normal sighted see six and may, therefore, be designated *hexachromic* It is probable that the appearance of the bright spectrum to the trichromic is very similar to that of a spectrum of feeble luminosity to the normal sighted in which only three colours—red, green, and violet—are seen The defective difference perception which is found in these cases accounts for most of the facts Both these cases are bordering on the tetrachromic, as the sodium flame appears to give rise to a distinct sensation

Cambridge

OBSERVATIONS UPON THE BLOOD [1]

BY C WILLETT CUNNINGTON, M B , B C CANTAB

MUCH attention is rightly paid nowadays to the condition of the blood for purposes of diagnosis and prognosis Although a vast mass of information has already been recorded by many observers, yet much work remains to be done In this paper chief attention will be paid to points hitherto neglected The question of the granularity of the eosinophile cell has not been touched upon so far as I am aware, yet it is of considerable importance and it would be interesting if others directed their attention to this with a view to confirming or correcting my results Further work requires to be done on the blood in those obscure conditions of "abdominal pain associated with pyrexia" where the diagnosis is uncertain Some other conditions of the blood will be briefly referred to

The granularity of the eosinophile cell —In order to count the number of granules in these cells it is necessary to use a high degree of magnification A Zeiss $\frac{1}{12}$ objective, oc 5, tube length 160 millimetres, was employed Even with this magnification (nearly 1200 diameters) the smallness of the granules entailed considerable eye strain Furthermore, the granules in many of the cells are uncountable as they are so crowded together Suitable cells must be carefully sought for, "crowded" ones being rejected An average of the counts obtained in each specimen may be considered as a fairly accurate estimation of the granularity of the cell for that particular specimen of blood The first question that arises is whether the number of granules is at all constant in the blood of health, and next whether the granularity is constant or varies with different people This was the first point to be settled Briefly, it was found that the granularity of the eosinophile was almost the same for all healthy adults , each cell contains from 210 to 220 granules , during health the limits of variation are narrow This being settled the blood in various diseases was examined In most acute diseases it is well known that the (coarsely granular) eosinophile cell is diminished and may entirely disappear On its reappearance marked changes in the granularity are seen The cell is no longer uniform , it reappears in two forms , the commoner form is smaller than normal and has a considerably diminished granularity Thus, from 100 to 120 granules per cell is the common figure

The second variety of cell is larger, the nucleus perhaps more spherical, and the number of granules greatly increased These "megaleosins," as they may conveniently be termed, generally have from 250 to 350 granules per cell The granules themselves are larger, I think, than those in the "microeosins," but it is difficult to assert this definitely If during recovery from almost any acute illness the blood be examined from time to time it will be seen that the small celled variety (which may be called "microeosins") increases gradually in granularity, while the "megaleosins" disappear, until ultimately the normal conditions are resumed

Reference to some cases may be made in proof of these statements A case of syphilitic psoriasis where eosinophilia was present (11·6 per cent) showed a diminished granularity (120 granules per cell) In typhoid fever, where the eosinophile cell is generally late in returning to the peripheral blood, the granularity is at first from 140 to 150 Slowly this increases during recovery in one case the normal figure was only reached three weeks after the temperature became normal In lobar pneumonia, where the cell returns rapidly after the crisis, the granularity at first is below this figure—namely, from 120 to 130 Indeed, most of the lowest figures were obtained in cases of pneumonia about the time of crisis In some cases where a disease is acute and terminates rapidly—e g , a slight attack of appendicitis lasting a couple of days—the granularity of the eosinophile increases during convalescence until it exceeds the normal After a few days the figures diminish again to normal in a manner resembling a temperature chart where the line falls below the normal for a few days after an acute fever

Much more work has to be done upon the granularity of the eosinophile cell before definite conclusions can be safely made At present, however, I cannot help connecting the suggestions afforded by these notes with the hypothesis of the function of this cell—namely, that the granules are antitoxic or bactericidal in nature, that they are discharged into the blood at the onset of an infection and that after the toxins have been neutralised the blood becomes richer in antibodies The manner in which the granules steadily increase in number during convalescence certainly suggests that of a gland cell and its method of secretion

as "abdominal influenza," [illegible] tion," often not diagnosed at all Supposing a patient is seen with pain over the abdominal area (not localised) associated with two or three degrees of fever, if it is a hospital case, it is easy to anticipate the diagnosis that will be made. The physician murmurs "enteritis," the gynæcologist talks of "salpingitis," while the surgeon whips out the appendix. Will a blood examination help these seekers after truth? The more experience one has on blood counts in these obscure cases the more one realises that the answer is in the negative.

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[1] An abstract from the thesis for the degree of M B Cantab

A surgeon has been heard to state that a leucocytosis of over 20,000 "means pus." A glance at any collection of statistics shows the inaccuracy of such a remark. Three or four days' constipation may send the white count up to the "pus level." Woe betide your appendix if you enter an up-to-date surgical ward with a loaded cæcum! Of course, great value is rightly attached to a *series* of blood counts upon any one patient. This point is so well recognised now that it is unnecessary to discuss it further. I would suggest, however, that consideration of the percentage of the coarsely granular eosinophile cell in these cases is often helpful.

To summarise my results, it may be briefly stated that when this cell is present to the extent of 1 per cent. or more it is almost certain that there is no active suppuration taking place. This cell may be quite absent although there is no abscess. In some cases of abscess there is no leucocytosis but in these cases the eosinophile cell is always greatly diminished in percentage and is generally absent. Cases of chronic pyosalpinx frequently show no leucocytosis, yet the eosinophile percentage is very small, thus differing from cases of ovarian tumours. It is often asked, Why do some cases of suppuration give a leucocytosis and others not? Briefly the answer is that when toxins are being absorbed under pressure there is a high leucocytosis; when the fibrous wall of the abscess is so dense that very little absorption of toxins is taking place there is little or no leucocytosis; when pus is draining freely away the same absence of leucocytosis is found. But in both of these two conditions (conditions of suppuration without leucocytosis) the eosinophile cell is greatly diminished or absent. Hence the importance of paying attention to the *differential* as well as the *simple* blood count.

Secondary pernicious anæmia.—A man, aged 48 years, was seen in August, 1903, suffering from a moderate attack of purpura hæmorrhagica. The blood count showed 4,216,000 red cells and 1500 white cells per cubic millimetre. A differential count showed: finely granular eosinophiles, 50·5 per cent.; coarsely granular eosinophiles, 1·5 per cent.; lymphocytes, 47 per cent.; and hyalines, 1 per cent. There were no abnormal white cells or red cells. Eight months later, after one or two slight attacks of purpura, his blood count was as follows: red cells, 1,900,000 and white cells 3500 per cubic millimetre; hæmoglobin, 45 per cent. A differential count showed: finely granular eosinophiles, 41·4 per cent.; coarsely granular eosinophiles, 0·0 per cent.; lymphocytes, 52·4 per cent.; hyalines, 6·1 per cent.; myelocytes, 0·2 per cent.; and nucleated red cells, 770 per cubic millimetre (chiefly normoblasts, a few megaloblasts). The colour index was 1·1. There was marked poikilocytosis. In other words, the blood was typical of pernicious anæmia. At the necropsy the usual changes of pernicious anæmia were found.

The point of interest in this case is this. Was the intense anæmia secondary to the repeated hæmorrhages or was it true pernicious anæmia in which the hæmorrhages began before the characteristic blood changes? This case suggests that anæmia gravis is not always a primary disease. One wonders, indeed, is it ever? It is generally stated that the cardinal blood changes in pernicious anæmia are low red count, high colour index, poikilocytosis, presence of nucleated red cells, and generally myelocytes. Now if a number of cases of chronic anæmia, secondary to hæmorrhages or malignant disease, phthisis, &c., rickets, scurvy rickets, or dyspepsia, are examined, one loses much faith in "cardinal signs." One finds an anæmic patients with red cells under 3,000,000 per cubic millimetre, poikilocytosis, nucleated red cells, and *low* colour index, and this persists for months and months. Or a patient may have all the changes mentioned except the presence of nucleated red cells and one watches and waits until the complete set of signs appear. Are these "pernicious anæmias"? Are they on the border-line? Later, when all the signs are found, have they passed the line? The more one sees of such puzzling cases the more one hesitates to employ the term "primary pernicious anæmia."

Highbury-hill, N.

TETANUS AND CHLORAL HYDRATE.

BY JOHN MABERLY, M.R.C.S. ENG., L.R.C.P. LOND.

IN reading the reports of cases of tetanus we are usually struck with the number of drugs (including antitetanic serum) which have been administered and consequently it is quite impossible to decide which drug had the chief influence in curing the disease. The following case, however, stands on a different basis, the only antitetanic drug given being chloral hydrate. It is therefore possible to form some estimate of the action of that drug on the disease and on this account the record may be of some value in throwing light on the subject and in affording a suggestion for the treatment of tetanus in the future.

The patient, a powerfully built man, 21 years of age, was brought to me by Mr. P. B. T. Stubbs of Wynberg on May 27th, 1904, at about 11 A.M., suffering from violent abdominal pain. He was sent to the Woodstock Hospital where on examination we found a board-like hardness of the muscles of the abdomen with a tender spot at about the centre of the right hypochondriac region; pressure over this spot brought on tonic spasms which extended thence over the whole body. Neither trismus nor opisthotonos was very marked. The history elicited was that 48 hours prior to the attack the patient had been in his usual robust health; he then began to feel ill and about 18 hours prior to admission to hospital had severe rigors and abdominal pains followed by muscular spasms which rapidly became very severe and painful. There was no history of injury and, with the exception of one or two thorn scratches on the hand, there was no mark of any. The only possible diagnosis was that of tetanus, the poison having probably been conveyed into the system by one of the natural orifices. The temperature was 97·4° F. and the pulse-rate was 86. The patient was ordered 20-grain doses of chloral hydrate by the mouth every three hours. This had not the slightest effect, the spasms becoming more frequent and severe. At 6 P.M. a further consultation was held in which Dr. Casalis joined; the latter agreed in the diagnosis and we decided to increase the doses of chloral hydrate to 60 grains every four hours. The first dose was administered by the mouth in the form of six drachms of the B.P. syrup of chloral with half an ounce of brandy. This dose was immediately preceded and followed by a most violent tetanic spasm, accompanied by marked opisthotonos. The dose was repeated at 9 P.M., at 1 A.M., and at 5 A.M., the last two doses being given per rectum. In 11 hours 240 grains of chloral were administered. With the exception of the one immediately after the first dose of 60 grains no spasms occurred, the patient slept for about seven hours, his pulse remained steady at 88, and the temperature at about 98·6°. 25 ounces of urine were drawn off by catheter at midnight; the first portion was blood-stained. At 8 A.M. on the 28th the patient appeared to be well under the influence of chloral and I gave orders to stop the administration of the drug until the spasms reappeared. At 12.30 P.M. 18 ounces of clear urine were drawn off and a slight spasm occurred. Milk and hot water administered by the mouth were mostly returned and rectal feeding was adopted. The bowels were slightly opened after a soap-and-water enema. At 4 P.M.—i.e., 11 hours after the last dose of chloral—a severe tetanic spasm occurred; 60 grains of chloral hydrate were administered by the rectum; some slight spasms occurred after this. At 10 P.M. a dose of 40 grains of chloral was given and this dose was repeated every four hours till 6 A.M. on the 29th; the dose was then reduced to 30 grains given at 2 P.M. and at 6 P.M. No spasms had occurred for 18 hours and the administration of the drug was again discontinued. Two doses of one minim each of croton oil in a little butter were given during the night, with the result that the bowels were well opened with the assistance of an enema on the morning of the 29th. At 4 A.M. on the 30th a slight spasm occurred and 30 grains of chloral were administered. Another spasm occurred at 11.30 A.M. and the dose was repeated. At 5.30 P.M. the last spasm occurred and the last dose of 30 grains of chloral was given. The patient complained of feeling sore all over and was for the first time really conscious. He had no recollection of anything since the afternoon of May 26th, a period of rather more than four days, although during the greater part of the time he appeared to be partially conscious. He made a rapid recovery, his only trouble being inability at first to pass urine without the assistance of the catheter and a tendency to constipation. These symptoms subsided and he returned home on June 3rd in perfect health. His illness lasted altogether about 10 days.

During the last few years the discoveries of bacteriologists, particularly with regard to antitoxic sera, have at times threatened to revolutionise certain branches of medicine and have induced a tendency among medical men to put aside some of our old and well-tried therapeutic agents in the hope of replacing them by more scientific substitutes. The use of chloral hydrate in tetanus is, I think, a case in point. Anti-tetanic serum has not in practice realised the hopes raised in its favour by laboratory experiments and the result of this case induces me to put in a plea on behalf of the drug which in this instance, at any rate, proved equal to the task of controlling the symptoms and arresting the disease.

I am not aware of any records in which such large doses as [illegible] en given every four [illegible] ed within 11 hours [illegible] either the temperature or pulse. In the normal condition of the system such an enormous quantity taken in the same time would surely produce a fatal result, the evident explanation of a contrary effect in this case being that the system under the influence of the tetanic poison is capable of bearing enormous doses without any ill-effect, provided, of course, that one can draw any definite conclusion from a single case. In other words, chloral hydrate and the poison of tetanus are directly antidotal a[illegible] er work carried out [illegible] ssertion. In order to [illegible] of commencing the [illegible] by doses of about 30 or 40 grains of chloral hydrate and steadily increasing this to a drachm or more until the desired effect was produced, repeating the dose when the spasms recurred, and gradually reducing the quantity as the spasms became less violent in character. In this particular instance 20-grain doses had not the least effect, but 60 grains completely controlled the symptoms. It was possibly a favourable case for treatment, but it at any rate demonstrated the fact that chloral hydrate is a very antitetanic remedy and one well worth further investigation on the lines suggested.

Woodstock, Cape Colony.

THE THERAPEUTICS OF ASPIRIN AND MESOTAN.[1]

BY JAMES BURNET, M.A., M.B., B.CH. EDIN., M.R.C.P. EDIN.,

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EDINBURGH.

IT was in March, 1876, that is, nearly 30 years ago, that the late Dr. T. J. Maclagan contributed to THE LANCET a paper, entitled "The Treatment of Acute Rheumatism by Salicin." The opening sentences of that paper I may be allowed to quote, as they are historically interesting: "In the course of an investigation into the causation and pathology of acute febrile ailments, which have for some time engaged my attention, I was led to give some consideration to intermittent and to rheumatic fever. The more I studied these ailments the more was I struck with the points of analogy which existed between them. On a detailed consideration of these I shall not now enter, suffice it to say that they were sufficiently marked to lead me to regard rheumatic fever as being, in its pathology, more closely allied to intermittent fever than to any other disease, an opinion which further reflection and extended experience have served only to strengthen."

[illegible] ta[illegible] m[illegible] or [illegible] as they are [illegible] being employed in every case. The series of these compounds is a large one, its basis being the radicle salicyl ($C_7H_5O_2$). Salicin itself has the formula $C_{13}H_{18}O_7$, while that of salicylic acid is $C_7H_6O_3$. Salicylate of sodium, a remedy which has to a large extent replaced both salicin and salicylic acid, has a complicated chemical formula, represented by $(NaC_7H_5O_3)_2H_2O$. Methyl salicylate, or oil of winter-green, possesses the formula $CH_3C_7H_5O_3$. Salol, another member of this group, is the phenyl ether of salicylic acid. The preparations named are the more familiar of the salicyl compounds. To-day, however, I am able to speak of two newer remedies belonging to this series—viz., aspirin and mesotan, both of which have been introduced with a view of replacing those already mentioned. Aspirin is the acetic ester, while mesotan is the methoxymethylester of salicylic acid. I shall now give a brief account of these two preparations in order to show their value in the treatment of disease and more especially in their application to rheumatism and rheumatic affections.

Aspirin, as I have already stated, is the acetic ester of salicylic acid; in other words, it is a combination of acetic and salicylic acids. It occurs in the form of fine white acicular crystals, possessing a distinctly acid odour and an agreeable acid taste. It is soluble to the extent of 1 per cent. in water at 37° C., while it is easily soluble in alcohol and in ether. Dilute alkaline solutions also readily dissolve it, splitting it up into its component parts, a matter of considerable practical importance and one to which I shall have again to refer. It is only slightly soluble in an acid medium. When, therefore, it is taken into the stomach the salicylic acid is not liberated; in fact, it is not until this compound reaches the intestinal canal that it becomes split up and the salicylic acid is set free. Aspirin differs chiefly from other salicyl compounds in that it is much less irritating to the gastric mucous membrane. It has been found experimentally that it takes at least two hours for artificial gastric juices to liberate even a minute quantity of salicylic acid from aspirin, but as it is not the least likely that an ordinary dose would remain for this length of time in the stomach we can readily understand that, generally speaking, this compound does not produce the gastric discomfort so often experienced after taking a dose of salicylic acid or of sodium salicylate. In the intestinal canal, however, the disintegration of aspirin is effected very rapidly, the salicylic acid entering into its composition being there set free. According to certain observers the elimination of aspirin takes place much more slowly than that of sodium salicylate and consequently its salicylic acid component circulates for a longer period in the blood than does an equal amount of salicylate. Again, it has been proved by experiment that whereas salicylate of sodium acts as a cardiac depressant aspirin tends to increase the heart's activity. Another point of distinction is that tinnitus aurium, which so frequently occurs during the administration of sodium salicylate, is rarely if ever met with when aspirin is administered. This is probably due to the difference in the rate of absorption of the two remedies. In the case of the former the salicylic acid is absorbed very rapidly, so that the circulation becomes suddenly affected thereby, whereas in the case of aspirin absorption of the salicylic acid takes place more gradually. It would appear that the liberation and elimination of the salicylic acid contained in aspirin take place with considerable rapidity, as in many cases we have been able to detect its presence by the ferric perchloride test within an hour after an ordinary dose had been administered. Another interesting fact regarding aspirin is that it produces an increased excretion of uric acid.

I have already referred to the fact that in presence of dilute alkalies aspirin becomes rapidly disintegrated. Too much importance cannot be attached to this matter as I have time and again found medical men prescribing it in combination with bicarbonate of potash. The result of doing so is to liberate the salicylic acid almost as soon as the powder enters the stomach, with the disastrous effect of producing considerable gastric irritation and discomfort. Personally I have been in the habit of giving it suspended in a glass of lemon water. It may, however, be placed dry on the tongue, or administered in cachets, or in wafer papers. I would particularly warn against prescribing it in tablet form, as not only do the patients thereby get to know what they are taking but one can never be certain when a tablet may dissolve, and there is consequently a risk lest the dissolution of two or three tablets may take place at once, an occurrence which might not prove advantageous to the patient.

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[1] A paper read before the Therapeutical Society on March 28th, 1905.

In a few cases I have given it in *cold* milk and have found, especially in the case of children, that this method of administration was distinctly beneficial. Hot fluids, of course, must be avoided, as these as well as moisture tend to decompose the drug.

As regards the dosage of aspirin little need be said. The average single adult dose is from 10 to 15 grains. In cases where its administration requires to be frequently repeated the dose ranges from five to ten grains, although a larger amount may be given at frequent intervals in certain cases. To children I usually give from three to five grains, but in many instances I have given as much as ten grains without any bad effects and with considerable benefit to the patient.

I shall now consider the therapeutic indications for the administration of aspirin. It is in rheumatism and rheumatic affections that this remedy is more especially to be employed. Personally I have prescribed this preparation to over 200 adults suffering from rheumatism in one or other of its varying manifestations. Regarding my employment of this remedy in acute rheumatism I can speak in terms of the highest praise. When a patient is seen at the outset with a temperature of 103° F., swollen joints, and profuse sour-smelling sweat he is at once put between blankets and the affected joints are wrapped up in cotton-wool. Aspirin in 10 to 15 grain doses is then given every four hours. Within three days the temperature in almost every case becomes normal. The drug is then administered thrice daily for a week longer and then a dose varying from five to ten grains is given for the next three weeks. Experience has shown that if we stop the administration too soon or give the drug in too small doses a relapse is almost certain to take place. My practice of late has accordingly been to push the drug and almost invariably I have given it in lemon-water. In particular I have found that when the patient is in bed and between blankets very copious perspiration results from a half to one hour after the first dose has been given and the temperature is thereby reduced. When, however, aspirin is given to patients who are going about there is not nearly the same tendency to sweating. There can be little doubt that the amount of sweating produced is apt to prove extremely disagreeable to the patient, as the clothing and blankets soon become wet just as if they had been wrung out of water. To counterbalance this, however, the almost immediate relief from pain which the patient experiences is highly satisfactory. In chronic rheumatic affections aspirin also acts well and many cases of lumbago and pleurodynia are benefited by its use.

I have had considerable experience of the value of aspirin in the treatment of rheumatic affections of childhood and I shall now refer to its employment in this connexion at somewhat greater length. It is now four years ago since I began to employ aspirin in the treatment of chorea, which may be taken as a rheumatic condition in practically every case. The first case of chorea which I treated with aspirin was that of a girl, aged 13 years. She had been under treatment previously for the same condition. She was small for her age and had a definite history of acute rheumatism. There were well-marked mitral presystolic and systolic murmurs, while the heart was considerably enlarged. She was, moreover, very anæmic. It was considered advisable to keep her in bed and to put her on iron and digitalis, as she suffered considerably from breathlessness. Under this treatment she improved slightly but at the end of a month I could not pronounce her condition as being at all satisfactory. Accordingly the iron and digitalis were stopped and instead I ordered ten grains of aspirin to be given every four hours. She began almost immediately to improve, so that in three weeks' time she was comparatively well and in two months she was completely restored to health. Even the anæmia was scarcely perceptible, although the cardiac murmurs still remained. This case naturally impressed me and since then I have treated several cases of chorea successfully by means of aspirin. Arsenic, which is usually given in this disease, is no doubt beneficial in many cases but it has been known to fail. I have yet to meet with a case of chorea in which aspirin, given in suitable doses, failed to bring about alleviation of the patient's condition. It must be distinctly borne in mind, however, that if this remedy is to do any good it must be given in fairly large doses, say from 10 even up to 15 grains. Children, as a rule, take it well and I have never yet found it to produce anything like toxic symptoms. I am quite prepared to admit that it is exceedingly hazardous to maintain that chorea may be cured by the administration of any particular drug; still, I consider that aspirin has a powerful influence over this disease, more so indeed than any other single remedy with which I am acquainted.

In the acute rheumatism of childhood I have likewise obtained good results from the use of aspirin. I have given it in from five- to ten-grain doses every three or four hours and have found that the temperature was thereby rapidly reduced and the symptoms were greatly alleviated. I have especially found the value of aspirin displayed in cases of acute sore-throat of rheumatic origin, so often met with in children. I believe that pharyngitis is one of the commonest manifestations of acute rheumatism in childhood and have frequently observed children who complain of nothing save sore-throat develop in a day or two other more characteristic manifestations of rheumatism. Further, I maintain that many cases of tonsillitis attended, as these so often are, by malaise and a general soreness all over the body are in reality examples of acute rheumatism, quite as important from a therapeutic point of view as an arthritic attack. It is, however, always a matter of difficulty when we find a child suffering from acute sore-throat to say whether the case is a simple or a rheumatic one. That many of these attacks yield to anti-rheumatic remedies is to my mind a matter of considerable importance in settling this question. In such cases aspirin proves of great value. I have known patients with a temperature of from 102° to 103° F. obtain relief within 24 hours from the administration of frequently repeated doses, varying from five to ten grains, of this remedy. At the same time, moreover, the local condition improves, even when no application has been made to the throat, although as a rule some glycerine pigment will be found a helpful adjunct to the internal treatment.

Children not infrequently suffer from rheumatic torticollis, which is a very painful affection. Aspirin will be found of the greatest possible service in this condition. So, too, I have found it helpful in the treatment of certain cases which I have ventured to term gastro-enteric spasm. In this condition the patient complains of acute gastric pain after a meal and has an urgent call to stool. These cases are certainly not all rheumatic in origin but many of them undoubtedly are, and in some of these aspirin has a decidedly curative effect. There is, again, no remedy so useful as aspirin in the so-called growing pains of childhood. No doubt salicylate of soda acts well in such cases but it is usually badly taken by children and tends to upset the stomach, whereas aspirin has no such tendency and moreover is more pleasant of administration. In the psoriasis of childhood, which I have always maintained to be of rheumatic origin, I have time and again proved the marked success attending the administration of aspirin in full doses. Small doses are valueless and only failure will result if the remedy is not given in from 10 to 15 grain doses thrice daily.

Regarding the use of aspirin in rheumatic eye affections I personally speak with considerable diffidence as I have only treated two cases altogether, one being a rheumatic iritis and the other a conjunctivitis occurring in a rheumatic subject. Fortunately, however, for my present purpose we have testimony as to its efficacy from authorities much more able to speak on this subject than I am. Thus, Frank[2] of New York has recorded his successful experience of the treatment of rheumatic iritis by means of aspirin which he administered in eight-grain doses four times a day, combining it with the external application of mesotan to the part of the face immediately bordering on the affected eye. Again, Neustatter[3] of Munich speaks highly of this remedy in ophthalmic practice after its employment for more than two years. He finds it of value in iritis, episcleritis, and certain other conditions. In the majority of these cases it has a favourable influence on the morbid processes not only indirectly but also directly by curtailing the duration of the disease and contributing to the more speedy removal of the severer symptoms. He asserts that aspirin acts in these cases as an analgesic, while in some it seems to produce an hypnotic effect as well.

Although aspirin undoubtedly finds its chief indication in rheumatism and rheumatic affections it has been employed with more or less success in certain other conditions. I must now briefly refer to these In this connexion I may specially mention its employment in the treatment of the hectic fever which forms so prominent a feature in cases of pulmonary tuberculosis I believe it was first used in this connexion by Renon[4] of Paris He administered aspirin in from seven and a half to fifteen grain doses between 12 noon and 5 P M *In three fourths of his cases he observed an immediate anti thermic effect* The temperature decreased by one two, and even three degrees in the afternoon, with a tendency to rise again in the evening towards 8 or 9 o clock The temperature, axillary or rectal, gave a diagram inverse to the normal type with a maximum rise in the morning When, however, the drug was discontinued the temperature rose nearly always to the high degree it showed before its use I have been able to investigate the action of aspirin on the temperature of tuberculous patients Thus, in a case of abdominal tuberculosis I gave aspirin in five grain doses every four hours and found that so long as its administration was kept up I could rely pretty confidently on controlling the temperature No excessive perspiration ever took place, nor was I able to detect salicylic acid in the urine although it was carefully looked for every day I also tried the effect of aspirin in reducing the temperature of pulmonary cases In every instance when it was given in five grain doses every four hours the temperature was reduced by one or two degrees, but in no case can I say that I was able to effect a return to the normal by the use of aspirin alone One fact I learned from the employment of aspirin in this connexion—viz , that small doses frequently repeated do not, as a rule, produce the excessive perspiration which large single doses bring about especially when the patient is in bed between blankets I cannot, however say that any real advantage results from the employment of aspirin in cases of tuberculosis

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[2] The American Journal of Ophthalmology, June, 1904.

[3] Munchener Medicinische Wochenschrift, 1903, No. 42.

I shall now refer to the use of aspirin as an analgesic in conditions other than rheumatic More especially on the continent it has been used successfully in alleviating the pain of uterine, rectal, and mammary cancer In such cases it proves most satisfactory when given in fairly large doses say 15 grains every four hours Again, in many cases of neuralgia it acts well and within the last few years it has found a considerable field of usefulness in dental practice Thus it has been administered with a view to alleviate the pain after the application of arsenic to the nerve in cases of carious teeth It is also said to be of service in the treatment of some varieties of toothache In all such cases it must be given in from 15 to 20 grain doses in order to achieve satisfactory results I have prescribed it in several cases of neuralgia with varying effect Practically speaking however, I find it specially suitable in cases of sciatica and in cases of supra orbital neuralgia I think I have also seen benefit follow its use in two cases of peripheral neuritis although in both of these hypodermics of strychnine were also employed In every case in which I obtained analgesia from the use of aspirin I never gave less than 15 grains at a single dose Its value in that form of influenza which is attended by myalgia is undoubted A dose of ten grains given three times a day will be found very serviceable, not only in alleviating the pain but also in reducing the temperature Its use has been suggested also in cases of pleurisy with effusion and no doubt the copious perspiration produced by its administration might be of value here

Lastly, I wish to say a word or two regarding the treatment of diabetes mellitus and glycosuria by means of aspirin Williamson[5] of Manchester has already written on this subject In 11 cases which were under careful observation for a long time, he obtained the following results —(1) in four very severe cases of diabetes aspirin did not produce any decided effect on the excretion of sugar (2) in three cases of chronic glycosuria the excretion of sugar ceased when aspirin was given the diet being kept unchanged , and (3) in four cases of diabetes mellitus of the milder form the excretion of sugar appeared clearly to be diminished by the aspirin The dose necessary to produce a decided diminution of the excretion of sugar he found to be 15 grains given from four to six times a day I have recently had one case of chronic glycosuria under my care and to this patient I gave 15 grains of aspirin four times a day, with the result that although he had been under treatment for this condition for a considerable time still without change of dietary I was able to reduce the amount of sugar excreted to a mere trace This to me is a significant proof of the value of aspirin in some of these cases at least

In conclusion, let me briefly summarise the advantages which aspirin appears to me to possess 1 If given in acidulated water it never produces any gastric disturbance, and *only* after the administration of large doses do we occasionally meet with untoward symptoms, such as tinnitus aurium 2 It does not de
produce any renal irritation
temperature more rapidly and
of soda 4 In doses of from 10 to 15 grains given to febrile patients who are in bed between blankets aspirin produces copious perspiration within half an hour This, however, does not result when the drug is taken in afebrile states and when the patient is going about nor does it result when doses of five grains are given, even if the patient is in bed 5 Aspirin is pleasant to take whereas salicylate of soda even when administered in cachets or in mixtures, is very liable to produce nausea The advantage of this is that aspirin can be tolerated for a longer period than can the salicylates In my opinion, therefore aspirin entirely replaces all the other salicyl compounds, as it is a more powerful analgesic and antithermic agent than any of the others, while at the same time it is readily taken and has no tendency to produce gastric disturbance

I shall now briefly refer to my experiences with mesotan[6] which as I have already indicated is the methoxy methyl ester of salicylic acid It is a pale yellowish fluid possessing very little odour and perfectly miscible with alcohol, ether and vegetable oils Until the introduction of mesotan oil of wintergreen was the salicyl compound most commonly employed for external application , the latter however possesses a disagreeable and penetrating odour Mesotan is readily absorbed by the skin and thus naturally produces a very rapid effect upon the underlying tissues Its absorption is proved by the fact that when the skin is examined after the application of mesotan to the cutaneous surface salicylic acid is found to be present Before use it should be diluted with an equal quantity of olive oil It should either be painted on the affected part with a brush or gently rubbed over the surface of the skin about a teaspoonful being used for a single application When rubbed over healthy skin a slight redness takes place accompanied by a warm sensation and an odour which is somewhat suggestive of oil of wintergreen but not by any means so pungent or disagreeable When an examination of the urine is made the presence of salicylic acid can be detected within an hour or less after the inunction

I have used mesotan in at least 100 cases and can therefore speak with some knowledge of its potency In patients suffering from acute articular rheumatism I have painted on a mixture of equal parts of mesotan and olive oil thrice daily After these applications the joints were not wrapped up in cotton wool nor was any other covering applied The result so far as the alleviation of the pain was concerned, manifested itself as a rule on the second day of treatment but there was practically no effect upon the temperature until aspirin was administered internally I wish particularly to point out that the wrapping up of the affected joints in this disease appears to be unnecessary when mesotan is used At all events in the case of the patients under my care the joints were left exposed and yet no bad effects followed I may also mention that in every case the salicylic reaction was obtained in the urine within two hours at the latest after the first application This fact proves that mesotan is absorbed even after simple painting of it over the cutaneous surface

In chronic articular rheumatism I have used a mixture of mesotan and olive oil which was directed to be well rubbed into the affected parts In one of these cases a slight amount of erythema appeared but on stopping the inunctions for a few days it completely vanished In the majority of instances more or less complete relief from pain and stiffness took place within three or four weeks although a few of the patients derived little or no benefit from the treatment We must, of course expect failures with every remedy and probably some of my cases in which mesotan failed to act may not have been rheumatic in origin at all

Of arthritis deformans I have only seen three cases recently In all of these mesotan inunctions afforded considerable relief but this unfortunately was only of a temporary nature , still it was found more beneficial than oil of wintergreen which had been previously employed in two of the cases. In this disease, however, we cannot look for an absolutely complete cure as the condition of the joint has become pathologically fixed, so to speak, and consequently alleviation of the attendant symptoms is all that we can expect. Mesotan, however, appears to possess a certain power of affording temporary relief to the pain which is present in these cases, and must therefore, I think, be regarded as a valuable adjunct to treatment.

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[4] Bulletins et Memoires de la Société Medical des Hopitaux de Paris 1900 No 22

[5] Brit Med Jour Dec 27th 190[illegible]

[6] Its chemical formula is said to be $C_6H_4<{}^{OH}_{COO\ CH_2\ O\ CH_3}$ and it contains [illegible] per cent of salicylic acid

It is in cases of muscular rheumatism that I have had the most marked examples of success from the use of mesotan. I have prescribed it largely for lumbago and also for pleurodynia, as well as for other forms of muscular rheumatism. In most of these cases the mesotan and olive oil mixture was rubbed well over the affected part. In none of my cases was there any irritation of the skin produced and in a very small proportion was the result imperfect. Two cases of torticollis were completely cured within three days after vigorous applications of the oil to the neck. A somewhat disagreeable papular cruption made its appearance in one of my patients but it yielded readily to the application of a soothing ointment. Practically speaking, therefore, mesotan has afforded me uniform success in cases of muscular rheumatism. In fact, I regard it as a specific for such conditions and I much prefer it to internal medication or the application of liniments and of blisters.

Several cases of sore-throat of undoubted rheumatic origin yielded when mesotan was painted over the front of the neck. In some cases of acute pharyngitis and tonsillitis it proved unsuccessful and I have no doubt whatever that these were non-rheumatic. I am of opinion, therefore, that mesotan is a most valuable external application in those forms of sore-throat which occur in rheumatic subjects. It has been stated that mesotan is of no use in cases of sciatica; this, however, is not my experience, for though it has failed in some instances, in two more particularly it proved of the greatest possible service. I may mention that both of these patients had a very distinct rheumatic history. Two drachms of mesotan and olive oil were well rubbed in along the course of the nerve and after each inunction the patients always experienced marked relief; consequently I think mesotan is worthy of a trial in cases of sciatica where the patient is a rheumatic subject. Of five cases of acute pleurisy in which I employed mesotan externally not one obtained the slightest benefit. The oily mixture was either rubbed into the skin over the affected part or else painted on thrice daily for two or three days but no relief even of the pain was thereby afforded. It was in the hope that some of these cases might eventually prove to be rheumatic that I resorted to mesotan but in this expectation I was entirely disappointed. Facial neuralgia again is not in my experience a condition in which mesotan is of much service. None of my cases improved under its use, while one even asserted that the pain was always aggravated by it. Nor is it of any use in arthritis of gonorrhœal origin. I tried it experimentally in four cases of this kind and in no single instance did any result whatever follow its use.

My experience of mesotan, considerable as it has been, has afforded me valuable information as to its mode of employment and also as to the kind of case in which it may be expected to yield good results. I have no hesitation whatever in saying that it is in cases of muscular rheumatism that mesotan proves of most effect. True, it possesses a distinct value in other rheumatic conditions but not to the same extent and is then generally of use merely as an adjunct to internal remedies, such as aspirin.

A good deal has been written recently regarding the irritative effects which mesotan is apt to produce upon the skin. As I have seldom witnessed these perhaps I may be allowed to state what, in my humble opinion, are the causes which lead to cutaneous irritation when mesotan is employed. In the first place it should, as a general rule, be diluted with an equal part of olive oil before use. Then, again, the mixture should be merely painted over the area involved and not used as an inunction when the skin is at all sensitive or delicate. It is also advisable in most cases to apply the remedy to different portions of the affected area on each occasion and whenever any undue redness appears it is well to intermit its use altogether for a day or two. Moisture, it should be remembered, decomposes mesotan and its decomposition will undoubtedly lead to the appearance of skin eruptions. This, to my mind, is one of the principal causes for the complaints one sometimes hears regarding the so-called irritating properties of mesotan. For this reason mesotan should always be placed in a bottle which is absolutely dry and which is kept well corked when not in use. Again, this remedy should never be mixed with water, as this also tends to decompose it. Another important point which must be attended to is to see that the patient's skin is carefully dried with a towel before the mesotan is painted over it. Moreover, after its application the affected area should not be covered up by any impervious material which would allow the accumulation of sweat upon the surface of the skin. I think if these details are attended to mesotan will be found to be a useful remedial agent and one which does not, as a general rule, produce any untoward results. As an additional precaution, where this remedy has to be used for a lengthy period I always advise the applications to be discontinued at the end of a week and not renewed until after the lapse of two or three days.

I am confident that those of you who may not have had an opportunity of trying aspirin and mesotan will find that in these two agents we possess very potent remedies against rheumatism and rheumatic affections and that at the same time aspirin is of considerable value in certain other painful and febrile conditions.

Edinburgh.

A CASE OF HÆMATOMA OF THE OVARY SIMULATING AN ATTACK OF APPENDICITIS.

BY HAROLD W. WILSON, M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR HOUSE SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

THE patient, aged 19 years, an unmarried woman, was admitted into President ward, St. Bartholomew's Hospital, on Feb. 11th, 1905, under the care of Mr. H. J. Waring, complaining of abdominal pain and general malaise of two days' duration. She had been in her usual fair state of health up to Feb. 9th. In the afternoon of that day, while sitting at her work, she was seized with sudden colicky pain in the right iliac fossa which lasted for approximately ten minutes. Then the acuteness of the attack wore off and she was left with a dull aching and a feeling of soreness in the same region which remained until the date of her admission. This pain was severe and was made worse by direct pressure and by movement. She vomited once at the time of onset and once subsequently in the evening of the same day. She had been more constipated than usual during the preceding week; otherwise no further symptoms could be elicited. There were no history of any hæmorrhage or discharge from the vagina, no pain on micturition, and no pain in the left iliac fossa. She had never had a similar previous attack and had never suffered from "indigestion" or from a purulent vaginal discharge. The catamenia had been regular every 28 days and of average amount. There had been no pain. The last normal period occurred from Jan. 3rd to 6th and had since then been absent.

The patient was seen in the out-patient department and was immediately admitted. When examined in the ward she was lying comfortably in bed on her back with her right leg slightly drawn up. Her general condition was good. Although anæmic she did not look actually ill. The tongue was furred and showed no signs of cleaning. The pulse was 112, regular, and of fair volume and tension; it gradually dropped to 94 on the second day after admission. The temperature was 98·2° F. and remained subnormal throughout. Nothing abnormal was discovered in the thorax. The breasts were not active. The movement of the abdomen was fair but there was slight restriction in the lower part. No fulness was evident. There were considerable tenderness and muscular rigidity in the right iliac fossa, the most tender point being about two inches below the centre of a line drawn from the right anterior superior iliac spine to the umbilicus. No actual swelling was felt. On examination the vagina was found to admit two fingers, there being a very small crescentic hymen. No discharge was visible. The cervix was nulliparous, the canal being closed. There was considerable tenderness in the right lateral fornix. Bimanual examination was difficult owing to the patient holding herself extremely rigid. The uterus was normal in position and size. In the anterior part of the right posterior quadrant was a rounded, indefinite, elastic, tender swelling, which appeared to be about one and a half inches in diameter and was not continuous with the uterus. Per rectum there was tenderness in the region of Douglas's pouch but no actual swelling could be felt. The leucocyte count was 8000 per cubic millimetre and remained constant.

As regards the diagnosis, the patient was thought to be recovering from what was most probably a slight attack of appendicitis. Except for the continuous subnormal temperature the signs and the symptoms would do very well for the acute catarrhal form, occurring in a "south-east" appendix. But bearing in mind the missed period the possibility of an ectopic gestation was discussed, the symptoms fitting in with what would be expected in the case of an unruptured tubal pregnancy into the sac of which a small hæmorrhage had occurred. In these circumstances, after a couple of days' observation, it was decided to operate at once and not to risk any further delay. The abdomen was opened by an incision, rather lower than the usual appendicectomy one, the muscles being divided in the direction of their fibres. The appendix was found lying in the "south-east" position and appeared to be quite normal, except that at its tip it was attached to a swelling in the pelvis by a recent adhesion. In, and projecting from, the upper and back part of the right broad ligament was a globular purplish swelling about two inches in diameter. It was extremely tense and contained fluid. The tumour was identified as an enlarged right ovary over the apex of which ran the right tube with its fimbria ovarica attached to the swelling. A good pedicle was obtained, transfixed, and the tumour was removed; in so doing, however, the ovary ruptured and about one ounce of dark fluid blood escaped. The left ovary feeling normal the abdomen was closed. The patient made a good recovery.

The ruptured specimen on being hardened quickly contracted down to the shape and size of an ordinary ovary. Continuous sections showed the normal ovarian stroma to be infiltrated with blood and at one edge of the hæmatoma a mass of lutean tissue was seen. No trace of chorionic villi could be discovered.

During the last two years five somewhat similar cases of ovarian hæmorrhage coming on at or about the time of a menstrual period have been admitted into this hospital. In two of these [illegible] and there was a n[illegible] to a localised peri[illegible] more illustrating the extreme importance of carefully going into a woman's menstrual history in all cases of attacks of acute abdominal pain, even though the pain be not within [illegible] be, completely clears up in a week or ten days.

I am indebted to Mr. Waring for his kindness in allowing me to publish this case.

St. Bartholomew's Hospital, E.C.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GENERAL SEPTIC PERITONITIS ON THE TENTH DAY OF ENTERIC FEVER WITHOUT EVIDENCE OF PERFORATION OF THE BOWEL.

By C. GORDON WATSON, F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE METROPOLITAN HOSPITAL.

THE patient, who was a boy, aged nine years, was admitted into the Metropolitan Hospital on Jan. 30th, 1905, with the following history. He began to suffer from headache and shivering on Jan. 21st but continued at school till Jan. 25th and then took to his bed. On Jan. 26th and 27th his principal symptoms were vomiting, delirium, and abdominal pain. On the 30th these symptoms increased in severity and the illness was certified to be enteric fever. The boy was thereupon removed to the North-Eastern Fever Hospital of the Metropolitan Asylums Board, from which he was at once sent to the Metropolitan Hospital with a provisional diagnosis of "appendicitis with peritonitis." I saw the patient immediately on admission. General peritonitis was evident. Laparotomy was decided on, though the case seemed hopeless. His condition before operation was as follows. The abdomen was uniformly distended, hard, and tender all over, scarcely moving on respiration, and dull on percussion in the lower half on both sides. The temperature was 102·6° F. and the pulse rate was 160. The tongue was brown and much furred, the patient was very restless, and *facies Hippocratica* was present. For the laparotomy an incision was made in the middle line below the umbilicus. The peritoneal cavity was found to be full of thin white odourless pus, with flakes of lymph on the intestines; there were no adhesions; the intestines were not much distended but were red and dull in places. Enlarged glands were felt in the mesentery and one which was pendulous at the root of the mesentery was removed for examination and proved to be tuberculous. The appendix was felt but was apparently not diseased. There was no free gas in the peritoneum nor was there any evidence of extravasation of intestinal contents. Two counter incisions were made, one in either flank, and the abdomen was rapidly irrigated with weak lysoform and finally with hot saline solution, some of which was left in. Three large drainage tubes were left in the incisions. The operation lasted 20 minutes. Restlessness and vomiting on the part of the patient continued and were temporarily relieved by a saline infusion but death occurred seven hours after operation.

At the necropsy much slightly blood-stained fluid was found in the abdomen; this fluid was quite odourless and there was no pus. The small intestines were slightly matted together by recent adhesions. The peritoneal surface was red and inflamed, especially near the ileo-cæcal valve. A careful search revealed no evidence of perforation and the bowel held water. When laid open the small intestine showed several early typhoid ulcers in the lower two feet and some swollen Peyer's patches. There were no sloughs. At one point the base of an ulcer seemed to be near the peritoneal coat, but the peritoneal coat was not visible from within at any point, nor was there any adherent spot which suggested a closed perforation. The large intestine was not involved. The spleen was very markedly enlarged. The glands in the mesentery were tuberculous but there was no evidence of recent activity or of rupture of any gland. Cultivations from the spleen and heart's blood gave pure cultures of the typhoid bacillus.

It may be remarked that peritonitis in enteric fever without evidence of perforation of the bowel is sufficiently rare to be worth recording, especially when occurring so early in the course of the disease. That no actual perforation had taken place in this case seems probable on account of (1) the absence of free gas or intestinal extravasation; (2) the nature of the pus (and the probable absence of bacillus coli); and (3) the condition of the ulcers and the peritoneal coat. It seems not unlikely that this was a case of pure typhoid peritonitis and had it been seen earlier might have been treated successfully. It is much to be regretted that no cultivations were made from the abdomen at the time of operation, but the case was very urgent and appliances were not at hand.

Welbeck street, W.

A CASE OF FÆCAL OBSTRUCTION DUE TO "TIGER-NUTS."

By EDWARD C. B. IBOTSON, M.B. LOND.

I WAS called on April 9th to see a boy, aged 12 years, who was said to be suffering from stoppage of the bowels. He was a stout, ruddy boy whose bowels were usually very regular but for two days there had been no action of them. He complained of pain in the abdomen and the "back passage." Various aperients, such as castor oil and senna, had been giv[illegible]curred. The abdomen [illegible]ion in all regions. [illegible]bering Hilton's maxim, "Never neglect to examine the rectum," I did so and found it to be distended and packed with a dry, hard, chaffy mass quite unlike fæces. A portion which was removed for examination proved to be light-coloured chippy scraps of nutshell and fibre, practically not agglutinated by any fæcal material whatever. I elicited from the patient that he had had "a ha'porth of tiger-nuts"—he added that they "were very sweet and you got a lot for your money." I should imagine that he had eaten half a pound at least, probably more. Several large glycerine enemata, followed by soap-and-water, were necessary to effect thorough evacuation of the rectum. In two days he was able to take part in a swimming race. The director of the Royal Gardens at Kew states that the "nuts" are the tubers of *Cyperus esculentus*, a common tropical sedge. A lady nurse of my acquaintance tells me that she has known of several cases of obstruction of the bowels in boys from eating these nuts too greedily.

Dover.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. MARY'S HOSPITAL.

A CASE OF IMPACTION OF A PIN IN THE VERMIFORM APPENDIX; FORMATION OF AN ABSCESS IN THE LIVER AFTER A LONG INTERVAL; RUPTURE OF THE ABSCESS INTO THE LEFT PLEURAL SAC; DEATH.

(Under the care of Dr. SIDNEY PHILLIPS.)

THE patient was a girl, aged 15 years. She felt well until Nov. 16th, 1904, when she was attacked by cold shivers and headache. She went to bed at once and had some pains about the umbilicus during the night. There was no vomiting. She was ordered medicine and a liquid diet by a medical man on the next day. Some diarrhœa followed and on the 24th there was pain in the left hypochondrium. The patient got gradually worse and she came under the care of Dr. Sidney Phillips at St. Mary's Hospital on the 29th. Her only complaint was of shortness of breath, but her pallor was intense; the temperature was 101·8° F., the pulse was 128, and the respirations were 40 per minute. There was dulness on percussion over the lower two-thirds of the left back and as high up as the fourth rib in the left axilla there was almost complete absence of breath sounds below the sixth rib, and above this there was bronchial breathing. The temperature rose in the evening to 103°. It seemed probable that she had an empyema, but an exploring needle introduced into the sixth space on the next day withdrew only blood from an evidently pneumonic lung. On Dec. 2nd loud tubular breathing was audible over the whole of the dull area in the left back, confirming the diagnosis of pneumonia. On the 3rd there was a crisis of the pneumonia, the temperature falling to normal, the pulse to 118, and the respirations to 30 per minute. But on the same night the patient became suddenly collapsed, the pulse being almost uncountable and the skin breaking into profuse sweats; her heart became displaced to the right, and Dr. E. Ash, the house physician, aspirated the left side of the chest below the angle of the scapula, withdrawing 25 ounces of pus. This gave considerable relief. On the next day the patient was anæsthetised and Dr. Ash, under the direction of Dr. Phillips, opened up the intercostal space previously aspirated, giving exit to 40 ounces more pus. There was no cavity as in an ordinary empyema, the solid lung being felt and seen close up to the ribs and only a very short drainage-tube could be inserted. Pus, however, discharged very freely and except for a temporary rise the temperature was normal but the pulse-rate kept up at 140 and there were signs of a pus collection in the left chest which was not drained by our wound. Mr. V. W. Low therefore, at the request of Dr. Phillips, made an incision in the fifth space in the left axilla and let out about 20 ounces of thick flocculated pus; the finger in the wound showed that this empyema cavity was quite shut off from the cavity previously opened. A large drainage-tube was inserted and the patient had a good night. On the next morning loud amphoric breathing was audible below the left clavicle due apparently to the pneumothorax produced by the opening up of the pleural sac. This passed off by the 7th. On the 8th the patient became much more dyspnœic, both lungs became the seat of coarse bubbling râles, seeming to be swamped by bronchial secretion, and death soon occurred.

At the necropsy by Dr. J. F. H. Broadbent the two separate openings into the left thorax were seen—one opening into a loculated empyema sac, the other into the general pleural cavity. The left lung was coated with lymph and the liver was enlarged. In the left lobe of the liver was an abscess containing about four ounces of pus and this lobe of the liver having become adherent to the diaphragm the abscess had burst through the latter into the left pleural sac. The vermiform appendix was swollen, thickened, and distended with fluid. On laying it open a pin one and a quarter inches long was found in it lying with the head downwards. The pin was rusty and was surrounded with fæcal concretion which had evidently been moulded on it while it laid in the appendix. There was no sign of acute inflammation or of pus in or around the appendix nor any perforation. It subsequently was ascertained from the relatives that the patient had two years before had an attack of what was considered to be appendicitis.

Remarks by Dr. PHILLIPS.—The pin had certainly lain a long time in the appendix and was probably the cause of the inflammatory attack from which the patient had suffered two years previously. After lying there for some time an acute infective process seems to have arisen in connexion with the appendix, giving rise to a hepatic abscess which burst into the pleural cavity and led to the symptoms of collapse which were relieved by aspiration. The pneumonia and loculated empyema must have arisen before this; the latter, though suspected, was not detectable at first, its percussion dulness merging into that produced by the consolidated lung. The abscess of the liver was not suspected, nor do I think that it would have been possible to detect it in the inaccessible position in which it formed.

A very similar case is reported by Dr. J. F. Payne[1] where post mortem a pin was found in the vermiform appendix surrounded by fæcal concretion. No symptoms had occurred except pain on the right side followed by pyrexia, signs of pyæmia, and death in three or four weeks, the necropsy showing a large abscess and two or three small ones in the liver and a small one also in the left lung. As in my own case, there was no sign of suppuration in or around the appendix. Hepatic suppuration is a very rare result of appendix inflammation. Treves computes it at 0·5 per cent. of cases. When it does occur there is usually suppuration in or about the appendix and the liver is permeated by channels of pus—suppurative pylephlebitis. It is much more rare for localised abscess to form in the liver, as in Dr. Payne's and the present case. In neither of these cases was there any pus formation around the appendix and the liver abscess probably resulted, as Dr. Payne suggests, from embolic detachment of part of a clot produced by the presence of the pin.

PS.—Since the above was written a case of appendicitis has been recorded in THE LANCET of April 29th, 1905, p. 147.

DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL

A CASE OF ABDOMINO-PERINEAL EXCISION OF THE RECTUM.

(Under the care of Mr. R. W. MURRAY.)

A MAN, aged 50 years, was admitted to the David Lewis Northern Hospital on Dec. 16th, 1904, on account of constipation and a feeling of discomfort in the rectum. For the past six months he had suffered from alternating attacks of diarrhœa and constipation and had noticed that the motions which he passed were becoming smaller and more elongated; relief was obtained with difficulty. He had occasionally passed slime but no blood. His general health had suffered and he was rapidly losing flesh. On admission he was a man of sallow complexion and looked older than his years. His chief complaint was a feeling of fulness in the rectum and an inability satisfactorily to empty the bowel. On examination a hard circular constriction of the rectum could be felt just within reach of the finger, but the upper limit of the growth could not be determined. The mass appeared to be freely moveable and as there was no evidence of secondary deposits elsewhere the case was considered a suitable one for operation. There was no abdominal distension or other evidence of marked fæcal accumulation.

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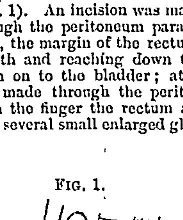
[1] Transactions of the Pathological Society of London, vol. xxi., p. 231.

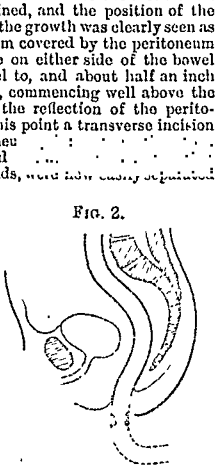
Operation.—On Dec. 20th the patient was anæsthetised and placed in the Trendelenburg position. The abdomen was opened in the middle line below the umbilicus by an incision five inches in length. An excellent view of the rectum and the pelvic colon was thus obtained, and the position of the portion of the bowel involved in the growth was clearly seen as it lay in the hollow of the sacrum covered by the peritoneum (Fig. 1). An incision was made on either side of the bowel through the peritoneum parallel to, and about half an inch from, the margin of the rectum, commencing well above the growth and reaching down to the reflection of the peritoneum on to the bladder; at this point a transverse incision was made through the peritone[illegible] With the finger the rectum and [illegible] with several small enlarged glands, were now easily separated from the hollow of the sacrum. The separation of the rectum was continued right down to the anus and the pelvic colon was freed until it was estimated that sufficient "slack" had thus been obtained to enable the bowel well above the growth to reach to the anal orifice easily. The abdominal wound was then completely closed. The patient was now placed in the lithotomy position and after widely dilating the anus a circular incision was made through the mucous membrane close to the anal margin, the mucous membrane was reflected for about an inch, and the rectum was then divided completely at this point. The rectum was pulled through the anus until the growth and healthy bowel above it were reached (Fig. 2). The protruding mass was then cut away well above the growth and the divided end was attached to the anal margin. A small gauze drain was inserted posteriorly between the cut edges.

FIG. 1.



Position of the growth.

FIG. 2.



Illustrating prolapsed bowel and growth.

The patient stood the operation well and made a very satisfactory recovery. For the first week following the operation he suffered from retention of urine and owing probably to the necessarily wide dilatation of the anus it was about three weeks before he had complete control over the anal sphincter. Offensive diarrhœa was another early complication, but this was found to be due to the accumulation of large hard masses of fæces in the rectum for the removal of which it was necessary to administer an anæsthetic. His general health and comfort have so greatly improved by the operation that he has been able to resume his former occupation of a millwright.

Remarks by MR. MURRAY.—Though it is no doubt true that in certain cases of carcinoma of the rectum when the growth is situated well within reach of the finger a good result may be obtained by the perineal or trans-sacral method of operating, still, if the truth could be known, it would almost certainly show that in the vast majority of cases the results obtained have not been satisfactory. The probable reasons for this are that in the first place this route does not permit of a clear view of the whole of the diseased area, and secondly, that only in exceptional cases can the divided end of the bowel above the growth be brought to the natural position of the anus. The abdomino-perineal method, on the other hand, with the patient in the Trendelenburg position, not only affords a good view of the diseased area and so enables the surgeon to see clearly what he is doing, but permits of the pelvic colon being freed so that the bowel well above the growth may be brought down to the level of the anus.

Sir Charles B. Ball in the Erasmus Wilson lectures on Adenoma and Adeno-Carcinoma of the Rectum, delivered in 1903, expressed himself as being by no means satisfied with the trans-sacral method, but concluded by speaking in most encouraging terms of the abdomino-perineal route, and in the same year an instructive paper appeared by by Dr. Louisa B. Aldrich-Blake,[1] in which a very clear account of the operation was given. Dr. Aldrich-Blake's operation differs in one important particular from that recommended by Sir Charles Ball. After opening the abdomen with the patient in the Trendelenburg position, and having freed the bowel well above and below the growth, Sir Charles Ball recommended division of the bowel *in situ*, after tying it above and, if possible, below the growth, in doing which there would certainly be a risk of soiling the peritoneum. Dr. Aldrich-Blake, on the other hand, after thoroughly freeing the bowel and growth, closes the abdominal wound and the growth is removed through the anus, thus avoiding all fear of peritoneal infection.

Though my experience of the abdomino-perineal operation has been limited to one case, I have been so favourably impressed with its advantages that I have ventured to give a brief account of the case in which I adopted it. The outstanding features of the operation are: (1) the extent of the disease can be clearly seen; (2) the whole of the diseased area can be freely removed, and this without soiling the peritoneum; (3) the anus is in the natural position; and (4) by denuding the small anal stump left of its mucous membrane, a procedure adopted by Moulonguet, a raw surface remains to which the prolapsed upper segment will attach itself, and at the same time the anal sphincter is retained.

In conclusion, I have to express my sense of indebtedness to Dr. Aldrich Blake, for it was entirely owing to her clear description of the operation that I obtained the success which I did.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

[illegible] ty *Growths.—Squamous-celled* [illegible] *Exposure to the X Rays.—New* [illegible] *olated from the Air.—Further* [illegible] *gy of Streptothrix Infection.*

A MEETING of this society was held on May 2nd in the Pathological Laboratory at the Middlesex Hospital, Sir JOHN BURDON SANDERSON, the President, being in the chair.

Dr. W. F. VICTOR BONNEY showed slides illustrating Nuclear Division in so-called "Gonorrhœal" Warts. Although the present investigation was by no means complete the slides that he showed exhibited a form of division apparently identical with the heterotype and homotype form of mitosis which was natural to gametic cells and which had recently been shown by Farmer, Moore, and Walker to occur freely in the cells of malignant new growths. He pointed out that if further investigation established this fact an explanation of the infective character of these neoplasms was at hand and would place them upon the same pathological footing as the intracystic papillomata occurring in certain ovarian cysts, in the epithelial cells of which the speaker had previously demonstrated the gametic type of mitosis at a previous meeting of the society. Although still called "gonorrhœal" these warts were well known to have no necessary connexion with gonorrhœal infection. Microscopically they presented the features of neoplasms and not inflammatory tumours, and he reminded the society that they occasionally exhibited a local infectivity and rapidity of growth that approached very closely to malignancy. It was therefore highly probable that the infective agent in these growths was the epithelial cell itself rather than a parasite and that this infective character was in some way closely associated with these abnormal nuclear changes. In view of the fact that gametoid mitosis occurred very freely in the locally infective ovarian intracystic papillomata and as now appeared in this form of infective wart also, he thought that these types of nuclear division must be held to be associated with the *infectivity* of a neoplasm rather than with the complex term *malignancy*.

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[1] Brit. Med. Jour., Dec. 19th, 1903.

Mr. A. G. R. FOULERTON showed sections from a case of Squamous-Celled Carcinoma of the Finger associated with frequent and prolonged exposure to the x rays. The patient was a surgeon who had commenced systematic work with the rays in 1897. In May, 1903, a severe attack of dermatitis followed the performance of a long operation in the course of which the back of the left hand was closely exposed to the rays. Blistering of the skin of the back of the index and second fingers followed. The resulting ulcers healed after some four months, and the new skin was thin and tender and showed nævoid-looking petechiæ; the nails fell out and the new ones which formed were hard and brittle. A second attack of dermatitis, affecting especially the skin on the back of the index and second fingers of the left hand, followed another prolonged single exposure to the rays in December, 1903, and ulcers formed on each finger again. The ulcer on the back of the second finger healed but that on the index finger remained open and in April, 1904, began to assume a malignant character. Between May and September the ulcer slowly increased in superficial area and in depth and in the latter month the finger was amputated at the metacarpo-phalangeal joint. At the present time the skin of both hands was thin and of shiny appearance, numerous small nævoid-looking petechiæ were scattered over the dorsum of both the right and the left hand, and there was a small superficial ulcer over the middle phalanx of the second left finger. Otherwise the condition was quite satisfactory. Sections of the index finger showed a typical squamous celled carcinoma; cell-nest formation was frequent and conspicuous and the appearances generally were such as are usually associated with squamous-celled carcinoma of a chronic type. Mr. Foulerton did not think that the x rays exerted any special specific influence stimulating the activity of epithelial cells; all the evidence available suggested that the action was rather of an inhibitory nature At the same time this was the third case of the sort which had occurred amongst the comparatively small number of those who were working frequently with the x rays in London. The starting of malignant epithelial growth from the edge of a chronic ulcer was, of course, of comparatively common occurrence and the special liability of a chronic ulcer to assume a malignant character in these cases must be attributed to the general irritating effect of the x rays, the most obvious result of which was commonly seen in the dermatitis produced by exposure to their influence. In the present case it seemed probable that the ulcer having assumed a malignant character the growth of epithelium below the surface had been checked to some extent by the continued influence of the rays.

Mr. FOULERTON also showed Cultures of a New Species of Streptothrix, streptothrix Chalcea, which had been isolated from the air. Growth occurred freely on all the ordinary culture media and rather more freely at 37° C. than at 22° C. On nutrient agar the growth was of a copper colour, becoming a deep reddish-brown with age; gelatin was liquefied slowly; growth on potato was of a deep red colour, free, and of crystalline appearance; growth in broth produced typical round, flattened, streptothrix colonies; free growth occurred in milk, with the production of appearances often met with in the growth of members of this genus, the deposition of a very fine sediment from the milk and the gradual clearing of the medium. The thermic death point was between 60° and 70° C. The organism had a diastatic action on starch. The pathogenic action on lower animals had not yet been tested.

Mr. FOULERTON also read a paper entitled "A Further Contribution to the Pathology of Streptothrix Infections." Details were given of 33 cases which had been examined in the bacteriological department of the Middlesex Hospital during the last six years. Of these, six were probably cases of primary lung infection, there were four cases of appendicitis, and three cases of right iliac abscess in which connexion with disease of the appendix was probable but not proved, there was a single case of conjunctivitis, and there were 19 cases of lesions occurring about the mouth and neck in which it seemed probable that infection had occurred either through breach of the mucous membrane or through carious teeth. Of the 19 cases of mouth infection one was an abscess in the substance of the tongue, two cases represented an infection of the subcutaneous tissues of the neck, probably in one case following infection by the tonsil, there were two cases of abscess of the cheek, nine of the cases presented abscesses apparently connected with the mandible, and there were five cases of infection of the submaxillary region which might also have been connected with infection of the mandible. In nine of the cases no attempt to obtain cultures of the streptothrix was made but in all these a typical streptothrix parasite was seen in microscopic specimens. In the remaining 24 cases various culture media were inoculated in the hope of obtaining growth of the parasite present; in 12 of these cases the attempt either failed altogether or else the amount of growth obtained was so small that it was impossible to identify the species present. In the remaining 12 cases growth was obtained. The results were as follows: Streptothrix luteola (previously described) was obtained from the case of conjunctivitis and from one case of alveolar abscess of the mandible. Streptothrix hominis I. (also previously described) was obtained from two of the lung cases, from one case of infection of the subcutaneous tissue of the neck, from one abscess of the cheek, and from two abscesses connected with the mandible. Streptothrix hominis II., an organism of rather scanty growth, somewhat resembling *streptothrix hominis* I., was obtained from the case of abscess of the tongue. Streptothrix hominis III. was obtained from an interesting case in which the kidney was removed for suspected tuberculous disease. On examination of the kidney, however, the case proved to be one of streptothrix infection, the organism being demonstrated microscopically in the tissue of the kidney and recovered in culture. From a right iliac abscess an organism somewhat resembling the last but not sufficiently examined to determine its absolute identity was isolated. From another case, one of appendicitis, an organism, again closely resembling streptothrix hominis III. but differing from it in respect of its diastasic action on starch, was isolated. This case was one of considerable interest; the patient underwent an operation for appendicitis and shortly afterwards jaundice and severe symptoms supervened. The patient died and at the examination after death the appendix, which had been left, was found obstructed and thickened, the aortic and cœliac glands were enlarged and softened, and there was an abscess in the pancreas. The splenic vein came into close relation with this abscess and contained a purulent thrombus which had extended into the portal vein, which with its intra-hepatic branches was full of pus. Microscopic preparations of the pus from the pancreatic abscess and from the portal vein showed an immense quantity of the streptothrix, which was subsequently recovered in culture. In the series of cases examined the pathogenic action of the streptothrix had generally appeared to extend by continuity of tissue but, as in the last case, general infection was possible. Mr. Foulerton had not himself met with any of the cases, such as those recorded by Eppinger, Birt and Leishman, McDonald, Aoyama and Miyamoto, and others, in which widely spread infection had been associated with an acid-fast streptothrix. Owing to the kindness of Dr. McDonald he had, however, had the opportunity of examining the organism isolated from his case and he found that it corresponded in every respect with a culture which he had of Eppinger's streptothrix and caused a general infection in guinea-pigs.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 28th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Mr. J. JACKSON CLARKE exhibited three cases of Congenital Dislocation of the Hip reduced by the Method of Lorenz, with skiagrams. The first case was that of a girl, aged seven years, who had a typical displacement of the right hip, which was reduced in August, 1903. She was shown at the Clinical Society on Oct. 28th, 1904, with a skiagram, at which time the joint was stiff and abducted, exemplifying "the pubic position" with rigidity. Now the joint moved freely and without pain. The patient walked well and the restored joint was firm. The second case was that of a girl, aged eight years, who had been operated upon in August, 1903, for congenital dislocation of the right hip. This patient illustrated "the normal result"—*i.e.*, the walking and the anatomical conditions, save for a slight degree of abduction, which was purposely maintained, appeared to be the same as those of a normal child. The third case was that of a girl, aged three and three quarter years, who was operated upon for congenital dislocation of the right hip in June, 1904, with a good result —Mr T H OPENSHAW was of opinion that in one of the cases the head of the femur could be felt on the lip of the acetabulum He referred to the frequency with which the neck of the bone was rotated in this condition and the prognosis varied according to the degree of rotation After Lorenz s operation the head was never fully replaced in the acetabular cavity, but in spite of that the result was satisfactory inasmuch as the functions of the joint were restored —Mr JACKSON CLARKE agreed that often there was no true cavity into which the head could be placed, this could be well seen by dissecting the bodies of infants born with such a condition But the actual anatomical condition was unimportant so long as perfect movements resulted It was important to study the cases at some long interval after the operation

Dr H MORLEY FLETCHER and Mr H BETHAM ROBINSON exhibited a case of Dilatation of the Large Intestine beginning at the Hepatic Flexure and ending in the Rectum at the Pelvic Floor The patient, a boy, aged 12 years had always had a large abdomen In November 1904, there was a marked increase in abdominal distension, accompanied by constipation and some pain in defæcation Abdominal section disclosed the dilatation and the thickening of the large intestine The circumference of the upper part of the rectum measured 19¾ inches The bowel was emptied per anum by manipulation, many pounds of soft dark fæces being forced out The abdomen was then closed and the result had been very satisfactory —Dr J PORTER PARKINSON remarked on the distension of the veins upon the upper abdomen and discussed the possibility of some other morbid condition being present in the liver or the upper part of the abdomen —Mr DOUGLAS DREW referred to a similar case in a child about four years of age upon whom he had operated recently
he expressed the view that
the colon was in operation
the cases of this kind which he had seen the hypertrophy had been more limited in extent One case, that of a youth aged 19 years, came under notice for obstruction and died after colotomy and cæcotomy had been performed He advocated anastomosis of the sigmoid loop as the best surgical procedure —Mr ROBINSON remarked in reply that short-circuiting of the intestine in this case was out of the question because the hypertrophy existed as far as the anus

Dr J FAWCETT exhibited a case of Sclerodactylia with Vaso motor Phenomena A man, aged 21 years first noticed in May 1904 that his hands readily became cold and in September that his fingers became "thick and stiff so that there was difficulty in closing them His hands had now a permanently bluish white tint and were cold The feet and the lips were similarly affected The skin of the face and other parts was smooth, shiny, and tightly drawn When warmed the hands became very moist There was no ulceration Treatment by massage galvanism, thyroid extract, and nitroglycerine had been equally unsuccessful

Dr FAWCETT also exhibited a case of Xeroderma Pigmentosum (Kaposi s disease) A girl aged 16 year was first noticed to have freckles when aged two and a half years Until 14 she was at school and had no surface lesion For
s had appeared at
scars
Swelling of the Left
velling having
his before and

Dr A M GOSSAGE exhibited a case of Stokes Adams Disease The patient, a woman aged 58 years, went to the hospital a few weeks ago complaining of faintness, she had fallen several times and had had momentary loss of consciousness Her heart was beating regularly at 40 per minute, the heart and the pulse corresponding The pulse was strong and the arterial tension rather increased, with decided evidence of thickening and sclerosis of the vessel wall The heart itself was not enlarged and there was no marked hypertrophy to be made out and no murmurs were to be heard

Mr DOUGLAS DREW exhibited a case of Tuberculosis of the Parotid Salivary Gland The swelling had commenced in the patient, a boy aged nine years about eight months ago, simultaneously with a discharge from the left ear His father had died from consumption

Mr J R LUNN showed a case of Thoracic Aneurysm in the Right Carotid and Subclavian Arteries with weakness and blueness of the left hand and arm The patient, aged 35 years, was admitted with urethral stricture following gonorrhœa but without a history of syphilis Weakness and coldness of the left arm and abdominal pain had appeared five weeks ago A loud systolic murmur was to be heard over the aortic area the apex beat was in the sixth interspace below the nipple

Mr LUNN also showed a case of Tumour of the Tongue in a girl The patient aged 12 years first noticed a lump on the tongue six months ago About the middle of the dorsum of the tongue on the right side were two swellings one behind the other over which the papillæ were markedly hypertrophied On palpation the swellings were felt to consist of indurated tissue without nodules The right half of the tongue was larger than the left and the cervical glands on the right side were enlarged There were some scars at the left angle of the mouth and evidences of past keratitis —Mr W G SPENCER regarded the condition as one of lymphangioma with incipient macroglossia

Dr T D SAVILL showed a case of Traumatic Stricture of the Œsophagus possibly associated with Dilatation relieved by Electricity The patient a woman, aged 49 years in the year 1880 swallowed by mistake some vitriol This was followed by extreme dysphagia and stricture, so that two years later a small bougie could only be passed with difficulty After a time the difficulty in passing the bougie increased and when first seen in June 1903 a bougie had not been passed and she had not swallowed solids for nine weeks and fluids could only be swallowed with the greatest difficulty She had seen several surgeons and gastrostomy had been discussed Electric treatment was quickly followed by improvement, in six weeks she could swallow minced meat and had gained seven pounds in weight The improvement was maintained for 18 months when a relapse required a renewal of the electricity and she could now take solids without having to pass a bougie

Mr CHARTERS J SYMONDS exhibited a case of Ununited Fracture of the Tibia and Fibula in a man, aged 40 years to which a walking apparatus had been fitted and there had since been marked progress towards union —Mr OPENSHAW endorsed the efficacy of this apparatus in such cases

Mr CHARLES GIBBS exhibited a case of Multiple Circumscribed Fibrous Masses in the Corpora Cavernosa in a man, aged 48 years

Mr T CRISP ENGLISH exhibited a case of Traumatic Cephalhydrocele in a boy aged eight and a half years who when six months old fell 12 feet on to a stone floor and was unconscious for three hours

Mr SPENCER showed a case of Abnormality of the Left Testis The patient aged 21 years had never felt either in the left scrotum or groin a testis like the right one

Dr CHARLES BOLTON exhibited a case of Absence of the Abdominal Muscles in a male child, aged three weeks The recti abdominis were present but not the lateral muscles There were hypertrophy and dilatation of the bladder and undescended testes

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LIVERPOOL MEDICAL INSTITUTION

Hydatid Cyst of the Lung —Second Dentition —Instruments for Recording Blood Pressure —Surgical Treatment of Chronic Constipation —Exhibition of Specimens

A MEETING of this society was held on April 27th, Dr JAMES BARR the President being in the chair

Dr A GORDON GULLAN read a note on a case of Hydatid Cyst of the Lung The patient a woman aged 38 year was admitted to hospital in June 1903 She was then very thin weighing only 7 stones and the right lung showed signs of consolidation from the fourth rib to its base and there was a large cavity in the upper part She expectorated
a to that of a
muco purulent
alin inhalations
and intra tracheal injections consisting of menthol 10 per cent guaiacol 2 per cent, and olive oil 88 per cent, from one to two drachms being injected daily No hydatids were expelled after July 20th and the patient made a satisfactory recovery, having since gained 2 stones 10 pounds in weight —Mr COLIN CAMPBELL said he had no experience of the treatment of hydatids of the lung but could hardly

believe that injections of such small quantities of oily solutions could produce much eliminative effect, they would simply float on the contents of the cavity. He had for years employed heavy glycerine solutions which by displacing muco-purulent secretions in pulmonary cavities brought antiseptic drugs into direct contact with the diseased tissues.

Dr. HUBERT ARMSTRONG read a note on the Second Dentition—its Medical Aspects. He dealt with the subject under the following headings: (1) general or local disease as a cause of faulty dentition; (2) faulty dentition as a cause of general or local disease; and (3) the influence of dentition upon concurrent general disease. Under the first heading reference was made to rickets, cretinism, syphilis, the exanthemata and other acute febrile diseases, adenoids, thumb-sucking, &c. The second section dealt with general symptoms, ulcerative stomatitis, anæmia, dyspepsia, and other symptoms and diseases associated with the second dentition; while in the third section the neuroses, epilepsy, chorea, and acute febrile illnesses were briefly mentioned. The importance of good health in insuring a sound dentition and *vice versâ* that of a sound dentition to the general health in after life were emphasised, and it was pointed out how in various ways the medical man could supplement the effort of the dental surgeon in this double object.

The PRESIDENT exhibited and explained the use of Several Instruments for Recording the Blood Pressure.

Dr. W. BLAIR BELL read a note on the Surgical Treatment of Chronic Constipation. He did not consider that ileo-sigmoidostomy was a suitable operation for dilated conditions of the big bowel owing to the "backing up" which occurred. He thought cæco-plication or excision of the dilated portion of the cæcum more rational. Ileo-sigmoidostomy, however, was valuable in those cases in which the big bowel was contracted and he related a case of this kind in which he had performed ileo-sigmoidostomy with satisfactory results. He was convinced that one operation, however, could never be successful in all cases of intractable constipation and that until the various pathological conditions obtaining in chronic constipation were accurately defined and rendered possible of recognition clinically surgical procedures could not be carried out on empirical lines.—Dr. W. ALEXANDER, Mr. F. T. PAUL, and Dr. R. E. HARCOURT took part in the discussion.

Mr. RUSHTON PARKER showed models of an old Roman Catheter, a Rectum Dilator, and an Unguent Injector. He also showed drawings, coloured photographs, and lantern slides of a few cases, some unusual, recently under observation. They comprised chancre of the mammary areola, sarcoma of the chest wall recurring after the excision of a cystic adenomyxoma of the breast, a galactocele containing inspissated milk, the brain and spinal cord from a case of cerebro-spinal meningitis, and a large prostate removed a week previously by suprapubic cystotomy.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Asylum Dysentery.—Poisoning by Carbon Monoxide.

A MEETING of this section was held on April 14th, Sir JOHN W. MOORE, the President, being in the chair.

Professor E. J. MCWEENEY showed a large series of Cultures of an Organism which he had isolated by the Drigalski plate method from the muco-purulent stools of a typical case of asylum dysentery. He also showed, for purposes of comparison, parallel cultures of genuine typhoid fever bacillus and of two strains of bacillus coli, one derived from human stools and highly pathogenic for rabbits, and the other freshly cultivated from a pure water-supply and presumably non-pathogenic. The organism of dysentery was thus shown to have the closest cultural resemblance to the organism of typhoid fever. the chief morphological difference being its non-motility. The chief cultural differences appeared on Endo's fuchsin medium and in mannite agar. Professor McWeeney discussed the question as to the identity of the organism isolated by him with that of Shiga and Kruse. For the material he was indebted to Dr. P. Heffernan, assistant medical officer at the Clonmel District Asylum.—Dr. A. R. PARSONS expressed the hope that Professor McWeeney would be able to keep a strain of this micro-organism growing, so that other cases of asylum dysentery might be tested against it.

Dr. W. J. THOMPSON described a case of Poisoning by Carbon Monoxide. The circumstances were unusual, in that the poisoning was due not to inhaling ordinary coal gas but to the patient being in a small room (17 feet by 8 feet by 7 feet) with a smouldering fire. It took place on one of the dredgers belonging to the Port and Docks Board. The patient was admitted to Jervis-street Hospital, Dublin, on Nov. 12th, 1904; he was in a state of deep coma and had a dusky, dark-greyish colour; the respirations were short, shallow, and stertorous, about 24 per minute: the pulse was small and thready; the first sound of the heart was lost; the pupils were irregular; the surface of the body was cold and the abdomen retracted; there was also suppression of urine. He was treated by hypodermic injections of digitalin, strychnine, and ether, by continued artificial respiration with inhalation of oxygen, by blood-letting, and by the application of heat to all parts of the body. The blood when drawn off had the characteristic bright red colour of carbon monoxide poisoning. The patient regained consciousness towards evening and left the hospital in 15 days perfectly well. On the first day he only passed nine ounces of urine, on the second 15 ounces, and on the third 23 ounces, and afterwards the normal quantity; no sugar or albumin was detected and the amount of urea per ounce was normal.—Professor MCWEENEY stated that he had made an examination of the blood from Dr. Thompson's patient. The first specimen he examined was too small in amount for detailed examination but presented all the appearances of the presence of carbon monoxide gas combined with the hæmoglobin. At a subsequent examination no trace of carbon monoxide gas was found and the leucocyte count was also normal.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on April 14th, Dr. J. F. J. Sykes, the President, being in the chair.—Mr. G. H. Fosbroke, county medical officer of health of Worcestershire, read a paper on the Midwives Act of 1902. The full provisions of the Act would not, he said, come into force until April, 1910, and meanwhile all respectable women already practising, if enrolled before April of the present year, would be entitled to call themselves midwives, though others might act as such if they did not assume the name. The central administrative body was the Central Midwives Board, consisting of five physicians, three ladies, and one layman; the local supervision was vested in the county or county borough councils which were empowered to delegate it to committees to which other persons and ladies might be coöpted, or, a course which he held to be open to grave objections, to the district councils. They were advised by the Central Board to appoint the county medical officer or where there was none some other selected practitioner, with or without assistance, as chief executive officer with disciplinary power. In his own county the committee comprised nine councillors and five coöpted ladies, while he had secured the assistance of a lady M.B., B.S. Lond., D.P.H. Cantab., the wife of a medical man. The need for some legislation was obvious when they considered that fully 60 per cent. of births were attended by midwives who were responsible for the majority of the 2000 deaths from puerperal fever yearly. As to the intelligence and character of these women, 11,475 of whom had been enrolled up to Dec. 31st, 1904, he might say that of 581 in his own county, every one of whom had been visited by him or his assistant, only 22, or 4 per cent., had a certificate of any kind. 11 per cent. were absolutely illiterate, 17 per cent. were over 65 years of age, 8 per cent. were very dirty, 16 per cent. had no washable dresses, 10 per cent. lived in filthy houses, and 5 per cent. were suspected of drink—that is, allowing for a plurality of faults, at least 50 per cent. were, properly speaking, unfit from causes other than professional ignorance. The Central Board had issued a number of rules and recommendations, excellent in themselves but some of them useless or dangerous in view of the class of women enrolled. Rule 1, Section E, required the midwife to be scrupulously clean in every way and to wear a clean washable apron over a washable dress, and not to go from a case with foul-smelling discharges to another without changing her dress and thoroughly cleansing and disinfecting her hands, arms, and instruments. He had known a very dirty midwife doing a large practice with suppurating ulcers on her legs which she dressed with a single layer of rag. Indeed,

the simple and obvious duties here enjoined had deterred not a few from enrolling Rule 2 Section E, specified the instruments the midwife should carry, viz scissors, nailbrush,
and vaginal syringe,
But of what use was
id, or, indeed, to many
who could, very few of such women could be safely entrusted with a catheter, and as to vaginal douches which were disapproved by the best authorities in normal cases they were already in the hands of the dirty and ignorant a frequent cause of puerperal fever A leathern bag into which the instruments would often be put without previous cleansing would be highly infective and he recommended Dr Barwise s suggestion of a white linen bag with pockets, and if desired, a waterproof cover, as very cheap and easily washed Next in importance to the precautions for the prevention of puerperal fever, in respect of which the majority of midwives were scandalously negligent, were the steps to be taken in the event of its occurrence Apart from its notification to the sanitary or district authority through which the local medical officer of health became cognisant, the midwife was required by Rule 18 Section 3, to notify the case within 12 hours to the local supervising authority, usually the county council Mr Fosbroke had recently heard, through the local medical officers, of ten cases occurring in the practice of midwives not one of which had been reported by them though four ended fatally The absence of any provision in the Midwives Act for the payment of medical men called in was a grave omission which might be met by a one clause Amendment Act, for the county councils had no legal power to pay while the guardians and sanitary authorities had no *locus standi* The registration of stillbirths called for strict investigation The disinfection of clothing and bedding save by boiling, was in a very unsatisfactory state a small minority only of the sanitary authorities possessed proper steam disinfectors, the "stoving' sufficient for killing vermin being quite inadequate The means for inquiring into the character of midwives as regards insobriety ignorance, negligence, or malpraxis were unsatisfactory and there were other defects and omissions in the Act which called for consideration —Dr O J Cullingworth speaking for the Central Board, said that the rules would be revised after three years' experience of its working but since there were 22 000 midwives already enrolled there was no fear of a dearth until the supply of qualified women was adequate The provision *re* stillbirths was intended to force the hands of the legislature in the interest of vital statistics —Dr J W Hembrough of Northumberland said that his council had received only 85 applicants, of whom 50 had been enrolled but 35 were more or less illiterate They did not insist on the instruments which few were competent to use They paid medical men for notifying puerperal fever but not for medical assistance His council was tr
Dr J R Kaye said that in
934 women, of whom 37 p
and very few had washable dresses Besides these 135 continued to practise largely under cover of medical men and many refused to be enrolled or gave up practising rather than comply with the rules Numbers of those who had registered did not know what a thermometer was or how to use a catheter and their syringes, &c , were put away dirty and blood stained The only disinfection on which he relied was by boiling for 35 minutes —Mr O E Paget said that in Northamptonshire 400 applicants had been reduced to 100 by retirements brought about by the visits and representations of an inspector a L O S , who gave instruction to the rest —Mr J Tubb Thomas said that in Wiltshire of 500 midwives in practice before the Act only 100 could enrol, the majority being illiterate he had had their thermometers marked with a red line at 100 4° —After Dr J S Tew Dr E O Seaton, and others as well as some ladies had spoken the secretary of the Central Midwives Board stated that the rules would be revised thoroughly next year He deprecated delegation which was resorted to where there was no county medical officer of health an omission in which Kent wealthy though it was set a bad example According to the census there were 30,055 midwives of whom 22 000 had enrolled though many of these seemed to desire the certificate as an ornament only and some claimed to have been in practice for 60 years The absence of any provision for payment of medical men was a defect on which they had asked the Privy Council and the Local Government Board to legislate The midwife s certificate ought to be equivalent to the order of the relieving officer A definition of an 'offence for which a midwife might be removed was wanted, one woman was convicted of keeping a lodging house for which a licence had been refused because she kept a brothel also and another who had a milk shop had been fined for adulteration But these defects were due to its having been a private Member s Bill rushed through in two and a half hours on a Wednesday afternoon

British Gynæcological Society —A meeting of this society was held on April 13th Dr William Alexander, the President being in the chair —Professor O Jacobs (Brussels) read a paper on Surgical Intervention in Cancer of the Uterus with actual results Surgical treatment of uterine cancer must have two essential objects total ablation of the infected organs and removal of the neighbouring lymphatic territory Surgeons were not unanimous as to the best form of treatment Intervention must take place as widely as possible from the seat of the infection and the sooner done the less the chance of extension The only chance of cure was early diagnosis and prompt intervention In 13 cases of supravaginal amputation 12 showed recurrence within one year and one 15 months later Vaginal hysterectomy was systematically performed in 81 cases with an immediate mortality of 1 2 per cent while in four years not one patient was alive Abdominal hysterectomy was performed in 95 cases with an immediate mortality of 6 3 per cent and recurrence took place within six years in the remainder In both varieties of cancer of the cervix infection took place through the lymphatics consequently all glands of parametrium and cellular tissue must be removed Glands were invaded beyond the limits visible to the naked eye The invasion of tissues and glands was demonstrated far from the primary growth Cancer did not recur but continued and would not reappear if completely removed Actual results appeared to prove either that cure was usually impossible or that operations were imperfect Cancer of the cervix being primarily a local infection propagated by lymphatics induced Professor Jacobs to advocate abdominal hysterectomy Reports on five inoperable cases were given which improved sufficiently to permit of intervention after injections of Doyen s anti neoplasic serum —Professor J W Taylor considered it had been well shown that cancerous deposit was found at a considerable distance from the point of invasion He was interested in the reference to the serum treatment and agreed with Professor Jacobs that it was not possible to judge of results at present —Mr F Bowreman Jessett gave a series of 160 cases removed by the vaginal method with the exception of two or three by combined operation He preferred the vaginal operation If the sacral or lumbar glands were involved it made little difference which method was adopted —Miss L Garrett Anderson was interested to know that Professor Jacobs approved of the abdominal rather than the vaginal route —Dr George Elder considered that the low rate of mortality *must be attributed to the operative dexterity* of Professor Jacobs —Dr Thomas Wilson considered that the results of extensive abdominal operations were certainly no better than those by the vaginal method —Dr F J McCann opposed the extensive operations now practised in carcinoma of the uterus owing to anatomical difficulties of removal The supravaginal method had still a place in treatment In the vaginal operation he removed considerable portions of the anterior and posterior walls of the vagina with the cervix —Dr T A Helme considered

that the abdominal route was to be preferred but while operative results remained as at present many would choose the vaginal method —Mr Christopher Martin wished for fuller details as to Professor Jacobs s method of performing abdominal hysterectomy —Miss L B Aldrich Blake had practised the abdominal method for the last four years in cancer of the cervix She had 15 cases with no operative
final result
Macnaughton
the certainty of lymphatic invasion the difficulty of reaching the limits of that infection and that a period of five or six years must elapse before any case could be considered cured He had to make 700 sections of a lymph gland before finding evidence of carcinoma in one of his cases —Professor Jacobs, in reply, said his paper was limited to cancer of the

cervix and his results after vaginal hysterectomy were discouraging. The results of abdominal hysterectomy with clearing out of pelvic tissue were unsatisfactory but by improving his method he hoped for still lower mortality results. Finally, he urged the abandonment of vaginal in favour of abdominal hysterectomy in cancer of the cervix.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held at 20, Hanover-square, London, W., on April 19th, Mr. William Bowen Davies (Llandrindod Wells), the President, being in the chair.—Dr. Henry McClure read a paper on the Climatology of the Sahara. He spoke of the several characteristics of the desert; of his experiences of the great desert regions of North America lying between the Rocky Mountains of Colorado as well as of the Sierra Nevada of California; and of the points that differentiated the climate of the desert from that of other regions. Climatic features in the Sahara were the absence of clouds, the peculiar properties of the desert air, the wide range of temperature, and the absence of moisture which enabled people to endure such extremes without discomfort. Biskra with the Sahara country about it and the mirage were described. The climate indications in diseases of faulty metabolism or those due to toxins and neuritis were touched upon. The striking psychical influence of the desert environment was strongly emphasised.—Dr. E. Symes-Thompson compared, from personal observation, the climate of Biskra with that of Helouan and Assouan. He said that desert air, by promoting evaporation, metabolism, and elimination, was of proved value in many rheumatic and gouty affections, and especially in syphilis and in renal disease. The desert between Khartoum and Fashoda was becoming more and more accessible as a health resort.—Dr. C. Theodore Williams said that the climate of the desert was characterised by great insolation, extremes of temperature, marked radiation, and wonderful dryness, and the result was a most exhilarating influence on the nervous system and marked stimulation of the processes of secretion and metabolism. He recommended the desert climate for patients suffering from chronic rheumatism, chronic bronchitis, asthma, and limited tuberculous cavity in the lungs. He wished the climate of the Egyptian desert could be rendered available for patients of moderate means.—Mr. W. Armstrong (Buxton) said that while practising in Egypt during the past winter he had observed patients at Mena, on the edge of the desert, at Helouan, in the desert, and also in desert camps. Cases of rheumatism, rheumatoid arthritis, neuritis, and atonic gout were greatly benefited. He considered that there was a great future before treatment in small camps. At present the expense and the loneliness were objections but by next winter arrangements would be made for combined camps, by means of which expense would be much reduced and some companionship assured.—Dr. J. T. Leon (Southsea) stated that he had quite recently been in Biskra and had experienced the exhilarating effect of the desert air. The water was extremely hard, in fact, brackish, owing to the large amount of sodium chloride and lime salts. This, combined with the keen air, played havoc with ladies' complexions and made toilet operations unpleasant. The life was distinctly monotonous and after a time rather depressing.—Dr. Leonard Ll. B. Williams, Dr. Harry Campbell, Dr. R. W. Felkin, and Dr. P. G. Lewis (Folkestone) also took part in the discussion.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 13th, Mr. W. Horton Date, Vice-President, being in the chair.—Mr. G. L. Thornton read a paper on Modern Therapeutics. He began by calling attention to the modern tendency to the unnecessary prescription of the compressed drug which had the disadvantage of encouraging self-medication by laymen. He then passed in review various lines of treatment, firstly, remedies which we owe to bacteriology. The great reduction in the diphtheria mortality due to antitoxin was emphasised. He commented on the larger dosage of the antitoxin in vogue now in comparison with the number of units employed some five years ago and, drawing from his own statistics, questioned if this larger dosage was always necessary. In tetanus it was a question whether recoveries were *post hoc* or *propter hoc* with respect to serum treatment. He mentioned the striking results from the use of Sclavo's serum in anthrax but was sceptical of the value of antistreptococcic serum, which needed further elaboration. The open-air treatment at present held out best hope of cure in pulmonary tuberculosis, althou[illegible] future an antitoxin would probably be found, when a combination of these methods was not unlikely. He touched on protection from typhoid fever and referred to the valuable lecture by Dr. F. F. Caiger[1] on treatment in this disease. He drew attention to the dangers of tar derivatives in influenza and advocated a more general employment of quinine. He recommended that measles should be made generally notifiable. In whooping-cough he mentioned the good results which he had obtained with quinine. He discussed the displacement of sodium salicylate by aspirin in acute rheumatism and considered that failure with sodium salicylate was often due to the employment of an impure preparation. In spasmodic asthma patients sometimes triumphantly referred a cure to the use of a proprietary remedy administered in an atomiser and he commented on the position of medical men in the matter from the point of view both of humanity and professional ethics. In the treatment of broken-down compensation in heart disease Dr. A. Morison had compared the physician to the surgeon in the presence of a grave catastrophe and had advocated the administration of digitalis in maximal pharmacopœial doses—and even higher if necessary—at frequent intervals. Mr. Thornton criticised the modern tendency to run riot in organotherapy and mentioned as the latest example the employment of extract of raw kidney in Bright's disease; in the latter disease he testified to the value of small doses of morphine for uræmic symptoms. In diabetes the dietetic treatment was less rigid and he mentioned the value of potatoes as a means of supplying carbohydrates. The yelk of egg had been found useful as a vehicle for fat easy of assimilation.—In the discussion which followed Mr. Date, Dr. J. A. W. Pereira, Dr. R. V. Solly, and Dr. C. J. Vlieland took part and Mr. Thornton replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 14th.—The following cases, pathological specimens, &c., were shown:—Mr. J. F. Dobson: A case of Bilateral Congenital Dislocation of the Hip in a patient 10 years old.—Dr. J. C. Teasdale: Anencephalic Fœtus with Extroversion of Abdominal Viscera.—Dr. T. Churton: Bilateral Empyema in a child, aged two years; one side was incised and the other was aspirated.—Mr. H. Littlewood: (*a*) A case of Proctectomy; (*b*) Ectopic Gestation; (*c*) Parovarian Cyst with a Twisted Pedicle; (*d*) Calculus in the Vermiform Appendix; and (*e*) Osteoma of the Upper Jaw.—Dr. T. Wardrop Griffith: (*a*) Imperforate Anus with Atresia of Duodenum and other formations; and (*b*) (with Mr. Nixon) Complete Pulmc Atresia in a man, aged 35 years.—Dr. W. H. Maxwell Tel (*a*) Aortic Stenosis in a boy, aged 17 years; (*b*) A Stenosis in a girl, aged 13 years; (*c*) Chronic Urti with Pigmentation in a child; (*d*) Tuberculoma of the Thalamus and Corpora Quadrigemina from a child agec years; and (*e*) Deformed Liver showing Constrictive L —Dr. J. B. Hellier: (*a*) Tuberculous Salpingitis; (*b*) My Uteri; and (*c*) Fibro-cystic Myoma.—Dr. E. F. Trevel (*a*) A case of Tabo-paralysis; (*b*) an early case of Ge Paralysis; (*c*) a specimen of Multiple Tuberculous M in the Brain; and (*d*) a specimen of Secondary Carcin the Pons.—Mr. E. Ward: Hypernephroma (suprarenal tumour of the kidney).—Mr. A. L. Whitehead: Parts rem from a case of Submucous Resection of the Nasal Septun Complete Obstruction of the Nostril. The patient was shown.

ROYAL DEVON AND EXETER HOSPITAL.—A months ago Mrs. Nosworthy of Dawlish gave the of £1000 for the purpose of erecting a new operating the for the Royal Devon and Exeter Hospital. It has since been discovered that the cost of the undertaking will £1500 and when Mrs. Nosworthy was acquainted with fact she generously decided to give an additional £50 complete the work.

PHYSICAL AND MENTAL DEGENERATION.—T will be a meeting in the I[illegible] go[illegible] a case day next, May [illegible]ner without changing delivered by [illegible]leansing and disinfecting her Causes a[illegible]nts. He had known a very dirty posed [illegible] practice with suppurating ulcers on [illegible]essed with a single layer of rag. Indeed,

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[1] THE LANCET, Nov. 26th, 1904, p. 1467.

Reviews and Notices of Books.

A Treatise on Plague, dealing with the Historical, Epidemiological, Clinical, Therapeutic, and Preventive Aspects of the Disease By W J R SIMPSON, M D Aberd, F R C P Lond, D P H Cantab, Professor of Hygiene, King's College London, Lecturer on Tropical Hygiene, London School of Tropical Medicine, formerly Health Officer, Calcutta, &c Illustrated by Maps, Diagrams, Charts, and reproductions of Photographs Cambridge The University Press 1905 Pp 466 Price 16s net

Professor Simpson by his wide experience of plague in many countries and in all its bearings and by his personal and scientific attainments is eminently fitted to deal with a subject which he has made peculiarly his own, and he has evidently spared no pains to render his work authoritative, comprehensive, and practical Naturally the greatest amount of interest is centred in India, for plague has in India attained so firm a hold that we doubt whether any records of ancient or mediæval times surpass the enormity of the scourge now prevailing in that country

The subject of plague is divided into four principal parts The three chapters of Part I are devoted to the History and Distribution of Plague. Chapter I deals with Plague from the Early Centuries to the Nineteenth Century Under this heading is given a succinct and interesting account of plague from Biblical to modern times Commencing with the first well authenticated pandemic which originated at Pelusium in Egypt in 542 B C and its subsequent extension to Constantinople described by Procopius of Cæsarea we are afforded a historical picture of the way in which plague maintained its prevalence throughout the sixth, seventh, eighth, eleventh fourteenth fifteenth, sixteenth, seventeenth, and nineteenth centuries down to the present day

Chapter II deals with Plague in India and Chapter III with the Present Pandemic The information afforded in the historical part of the work is comprehensive, lucid, and accurate In the statistical details of the plague in London evidence is again brought home to us of the persistency of plague when once it has attained a serious hold upon a locality or city For no less than 136 years—from 1543 to 1680 A D —did plague continue to threaten London, appearing during no fewer than 84 years of that period, and from 1605 to 1680, with the exception of four years deaths from the disease were recorded The inference to be drawn from the experience of London does not afford a hopeful prospect that the disease will be quickly eradicated from India as many anticipated when plague first appeared in Bombay in 1896 This part of the treatise is abundantly illustrated by clear and useful maps indicating the course and the prevalence of plague throughout the world

Part II is concerned with the Epidemiology of Plague The earlier views of the theory of contagion, the culture, the characteristics, the vitality and the varying virulence of the bacillus, are amply considered in Chapter IV, under the title of the ' Nature of Infection ' One of the most interesting chapters is that devoted to the Relationship of Epizootics to Plague It is curious to note how in even ancient times this relationship was observed and how disease and death in rats and mice have been always associated with plague in man Attention is also drawn to the results of Dr William Hunter's observations in Hong Kong showing "that the plague in rats continues to exist at a low level throughout the non epidemic period of plague" and that "the epizootic rises at the season when young rats are most numerous" Inquiries made among European medical men in South China by the author afforded practically unanimous evidence that the rat mortality is a precursor of plague A careful analysis of the experiments made by the German and Austrian commission, by Professor Simpson and Dr Hunter in Hong-Kong, by Mr Ernest Hill in Natal, and by other observers tends to show an intimate relationship between plague-infected animals and the disease in man, and the chronicity of the infection of some animals is important evidence as to how a prolonged continuation of plague may prevail in endemic centres

In Chapter VI we are made acquainted with the "different views as regards the etiology of pandemics and epidemics of plague" Under this heading perhaps the most interesting facts will be found to be the abnormality of seasons and the exceptional meteorological conditions which have been noticed to precede epidemics of plague in many localities That these stand to each other as cause and effect may be questioned, for such varying influences as war, famine, wet seasons, drought volcanic eruptions, unhygienic surroundings, and political, social, or economical conditions the reverse of prosperous have all found supporters as etiological factors in bringing about an outbreak of the disease Epidemics of plague and seasonal influences afford a wide and useful field of study The most recent observations on this point are those of Gotschlich, quoted by the author who attempts to explain the regularity of the seasonal periodicity of plague in an infected locality by the seasonal breeding period of the rat and states "that in the plague free months many of the older rats suffered from a latent or chronic form of plague, while when the younger rats came into existence these young rats were susceptible to the acute disease" In Chapters VII to XI inclusive the subjects treated are the Variation in Powers of Diffusion of Epidemics, the Variation in Virulence of Plague Epidemics, the Fostering Conditions of Endemicity and Epidemicity, and the Diffusion and Modes of Dissemination of Plague

Part III deals with Plague in the Individual and in Chapters XII to XVI an excellent *résumé* of the morbid anatomy and the pathology, the clinical features (with reproductions of photographs of patients with buboes), the diagnosis the prognosis, and the treatment of the disease are concisely and clearly given

Part IV of the treatise is devoted to Measures for Prevention and Suppression of Plague This important subject is divided into five chapters and extends to no less than 80 pages The prophylactic measures employed before and after the discovery of the bacillus pestis are admirably enunciated and in no part of his work has the author shown more forcibly his qualifications for undertaking a book on plague We are especially interested in his recommendations as to the main lines along which inquiry in regard to plague is needed The more urgent questions to be answered by future investigators are some 17 in number, of which the chief are 1 The length of time during which an infected patient or infected animal retains infection 2 Whether rats or human beings are the chief disseminators of plague and in what proportion 3 Whether other animals are disseminators of plague without being affected themselves and in what way 4 Whether insects, such as fleas, bugs, flies, and so on, disseminate plague 5 What are the species of fleas on the rats, fowls, cats, and dogs in the locality investigated and which of them attack man? 6 Whether there are other modes of dissemination besides animals and insects 7 How is the infection conveyed from man to man and from animal to animal? 8 Does season affect the bacillus or its carriers? 9 What is the reason of dormancy in non epidemic seasons and what are the agents at work producing recrudescence? 10 What are the best *agents for destroying* the bacillus or its carriers?

These are but examples of some [illegible] problems concerning plague that await to be [illegible] the disease

"The Roman and the Teuton." All who are interested in he early history of our island should read Dr. Williamson's book, *for it tells the story of one who went out with his life* n his hand to conquer with no earthly sword and whose example no doubt inspired Livingstone, Patteson, and many others who have spent their lives in the service of their ellows.

Preaching and Healing, 1904. London: The Church Missionary House.—Under the above title the Medical Auxiliary of the Church Missionary Society publishes its annual report. It contains much information regarding medical missions in the East and the two maps which accompany the report, one showing the Mahomedan lands of the East and India and the other China and Japan, enable the reader to realise clearly the great extent of the operations of the auxiliary. The reports of the medical officers n charge of the various stations show that continuous progress is being made but it must not be forgotten that the work of the auxiliary entails a great strain upon its financial resources. Lack of monetary aid is not, however, the only difficulty with which the medical missionary has to contend. Mr. Leonard G. Hill, writing from Pakhoi, describes the case of a pirate who, after being treated for a bullet wound of the leg, stole money from his fellow patients and as soon as he could use his leg again left the hospital with a blanket. On the other hand, it is not an uncommon thing to meet with cases of genuine gratitude on the part of the patients. Pakhoi seems to be a very interesting station to the medical man. The officer in charge of this station reports: "We get an immense variety of diseases ...... but never enteric fever, scarlet fever, nor diphtheria. On the other hand, we get every skin disease there is and every eye disease known from a professional point of view, many affording the greatest clinical interest. Our clinic would be the envy of many a professional man in Europe, and indeed it would make a splendid training-ground for a medical career." Many other paragraphs might be quoted if space permitted, for the whole report is full of graphically written details showing the work that is done, and still remains to be done, in the mission field, he life which the self-sacrificing missionaries lead, the need for more labourers, and the help which those at home can render by more liberal financial assistance.

German Technical Words and Phrases: an English-German and German-English Dictionary. By C. A. THIMM, F.R.G.S., and W. VON KNOBLAUCH. London: E. Marlborough and Co. 1904. Pp. 218. Price 2*s.* 6*d.*; leather, gilt edges, 3*s.* 6*d.*—This is a companion to the little book of "French Technical Words and Phrases" which we believe appeared about five years ago. It is of a handy size for the pocket and contains a lot of useful information. Roman type, which is much preferred by many persons studying German, has been employed in place of he German characters throughout the volume. This little book is well worth possessing by those whose work brings them into frequent contact with German technical words in common use. The publishers now have the Italian volume in hand.

JOURNALS AND MAGAZINES.

The Practitioner.—The number of this periodical for April is distinguished by the variety of subjects considered in the articles that compose this issue of the journal. Dr. G. Newton Pitt, in an article upon Some Obscure Cases of Cancer of the Stomach, draws attention again to the diagnostic importance which he attaches to enlargement of the glands behind the eft sterno-mastoid muscle. The most important gland, he states, and often the only one to be involved, lies behind the two lower roots of the sterno-mastoid. In order to feel it it is often necessary to make the patient cough. This may be the only external gland affected by cancer within the abdominal cavity. Specific remedies for tuberculosis, the treatment of ringworm, the pathology of puerperal eclampsia, and the cyto-diagnosis of pleural and cerebro-spinal fluids are amongst the other matters discussed in a very interesting number of the magazine.

New Inventions.

THE "REED" HUMANISER.

THIS is an apparatus designed for modifying cows' milk so that the product shall conform as nearly as possible to the composition of human milk. The method is based on the principle that by allowing cows' milk to stand a portion of the skim milk may be run off by which the excess of proteid and salts is removed. Afterwards some milk sugar and a little water are added to the fatty portion. The apparatus employed for the purpose is simple enough and consists of a graduated jar provided with a draw-off stopcock and mounted on a stand. An ingenious balance accompanies the apparatus for measuring the requisite quantities of water and milk sugar but this has recently been superseded by the more convenient plan of tablets of milk sugar each containing a definite weight of sugar. The *modus operandi* is as follows. A convenient quantity of good fresh cow's milk is poured into the graduated glass vessel and allowed to stand until the cream has risen. The number of divisions of cream is noted. A definite proportion, according to the age of the infant or special requirements, of the separated milk is then drawn off. A definite quantity of water together with a specific number of sugar of milk tablets is then added to the remainder. The quantities required are indicated in the table provided with the apparatus. Proceeding in this way and following the directions given for a child aged six months we obtained from cow's milk a milk of the following composition: fat, 3·00 per cent.; milk sugar, 7·00 per cent.; proteid, 1·00 per cent.; and mineral salts, 0·37 per cent., which accords very well with the published analyses of human milk. The advantages of the method are simplicity, accuracy, and the use of a fresh and not a sterilised product. We have received also a statement as to the satisfactory results yielded by this method in actual practice. The apparatus is supplied by Messrs. Teed and Co. of 11, Grove Hill-road, Camberwell, S.E.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.—The following is the pass list of the examinations held in April:—Of six candidates who entered for the intermediate examination three passed: J. D. Kettle, B.Sc. Lond., Elison A. Macadam, and R. Simmons. In the final examination for the Associateship (A.I.C.), of seven examined in the branch of mineral chemistry, three passed: J. Alexander, B. O'Shaughnessy, Assoc.R.C.Sc. Lond., and E. Rhodes, B.Sc. Vict.; of five in organic chemistry three passed: S. J. M. Auld, Ph.D. Würzburg, H. W. Goodwin, and R. Robison; and of eight who entered in the branch of the analysis of food and drugs and of water, including an examination in therapeutics, pharmacology, and microscopy, the following six passed: J. H. Barnes, B.Sc. Birm., J. W. Brisbane, D. Gair, B.Sc. Lond., H. G. Harrison, B.A. Cantab., R. Park, and J. Race. One candidate passed an examination for the Fellowship (F.I.C.): A. E. Brown, B.Sc. Lond. The examiners in chemistry were Mr. W. W. Fisher, M.A. Oxon., F.I.C., and Dr. G. G. Henderson, M.A., F.I.C. The examination in therapeutics, pharmacology, and microscopy was conducted by Dr. F. Gowland Hopkins, M.A., F.I.C.

THE LANCET.

LONDON: SATURDAY, MAY 6, 1905.

Underfed Children.

THE Order concerning underfed children which has been recently issued by the Local Government Board and explained and enforced by a circular letter from the Board of Education, is one which will be regarded from very different points of view by different persons. It imposes upon the managers of elementary schools the duty of discovering and of reporting to boards of guardians all instances of underfeeding among the children and it imposes upon boards of guardians the duty of seeing that necessary food is supplied, either as ordinary relief or as a "loan" to the father which may be recovered from him, if necessary, by county court process. It empowers the county court judge to make an order upon the employer of the father, under which the necessary portion of any wages due to the latter must be withheld from him and handed over to a court official. These somewhat drastic proceedings will, of course, be cordially welcomed by many who might be described primarily as educationists and who believe, as the matter has before now been stated, that the effects of schooling bear some analogy to those of a laminaria tent and that the introduction of compressed facts will suffice to bring about the mechanical expansion of the budding intellect. To such people schooling is the primary necessity of modern life, the one agency to which they look with hopefulness for the maintenance or the improvement of our position among the nations, the chief means for enabling us and our children to speak forcibly to the enemy in the gate. The Order will be equally welcome to the philanthropists who are prone to overlook the existence of two sides to every question and whose hearts have been wrung by piteous descriptions of the sufferings of vast numbers of half-starved children, whose parents, it is alleged, habitually spend in drink or in tobacco the money which should be used to procure food for their offspring. By the public generally it will probably be regarded as a well-intentioned and therefore praiseworthy endeavour to deal with an admitted evil but surely as an endeavour the character of which can hardly be correctly estimated except under the guidance of experience. There will at least be universal agreement with the view expressed by the Board of Education to the effect that the cost of obviating the consequences of parental neglect, when the existence of this is well established, should not be suffered to fall upon the ratepayers.

The whole principle of the Education Acts must be taken to rest upon the assumption that the children of the nation are, at least to some extent, the property of the nation and not the exclusive property of their parents. It rests, furthermore, upon the assumption that to suffer these children to grow up in ignorance will diminish their prospective usefulness to the State and that the State on this ground has a right to send them to school. If these propositions be admitted it certainly follows that the State has at least an equal right to concern itself with the prevention of any other unfavourable conditions by which eventual usefulness would probably be diminished; and this description would include not only underfeeding but also residence in unwholesome houses and, generally speaking, exposure to insanitary or demoralising conditions of any kind. Every argument which can be urged in support of the position that the State is called upon to intervene in order to cause children to be sufficiently fed can be urged with equal force in support of the position that it is called upon to intervene in order to protect them against small-pox and its sequelæ by compulsory vaccination, or against tuberculosis by the reform of slum dwellings, or against an inheritance of syphilis or of imbecility as a consequence of a marriage which due consideration of its probable consequences would have prohibited. The assumption of State property in the young, and consequently of State responsibility for their welfare, is manifestly one which may entail operations of indefinite magnitude and extent, only the smallest beginnings of which are as yet coming prominently before the public view; and the principle that it is the business of the State to remedy the neglects of parents, and to compel the parents themselves to defray the cost of the necessary proceedings, is one of which the full reach and the ultimate applications may at present be impossible to foresee. It is by no means to be accepted with a light heart or without much consideration alike of the consequences to which it may lead and of the methods which may be found necessary in order to reduce it to practice. All that seems at present to be decided is that every child in an elementary school who seems to the teachers or the managers to be underfed wil be supplied with food at the primary cost of the ratepayers and with some uncertain prospect of eventual recovery of the expenditure from the father.

It is only too well known to all who are concerned in the practical work of education that what may properly be called underfeeding is lamentably common and that children are constantly sent to school without having had any proper breakfast or without having any reasonable prospect of a proper dinner. The evidence rests partly upon their weakly condition, partly upon their answers to the questions that are put to them. As long as these answers can have no worse effect than to produce a probability of charitable feeding they are likely, within limits, to be true and trustworthy, but as soon as they become convertible into evidence against parents they are almost certain to assume a different character. Not only will the children be in fear of domestic consequences if they speak the truth but they will also be actuated in many instances by a desire to screen their parents prompted by the habitual attitude of their class towards persons in authority or towards the law. The teacher may suspect underfeeding and may fail to obtain any confirmation of the suspicion from the pupil. In such circumstances, we presume, the question would frequently be submitted to medical examination and [illegible] medical practitioner would be officially welfare we are nationally responsible and for whose possession and maintenance some of the noblest British blood has been shed. Now and again a frank correspondent, like our own, or a question in the House of Commons will give a picture of the actual condition of affairs, and one of the questions recently asked in the House of Commons elicited a statement from the Secretary of State for India that over 200,000 persons had died from plague in India during January and February of this year. To this statement was added the information that a committee would sit in London to consider the scientific aspects of the question and that two bacteriologists would go out to India to study the disease. We have commented in THE LANCET upon the inquiry undertaken jointly by the Lister Institute of Preventive Medicine, the India Office, and the Royal Society, the first-fruit of which is to be the despatch of two bacteriologists to the East, and while allowing that the idea of the inquiry is a sound one we have pointed out that we do not think the measures to be undertaken really meet the case. Three and a half millions of people have died from plague in India since 1896, and the proposal to send out two bacteriologists to look into the causes of the tragedy strikes us as inadequate, however capable and distinguished the gentlemen connected with the joint inquiry may be, and indeed are. The surplus of the Imperial Indian exchequer this year is £4,000,000 sterling. Some part of this surplus might well be used to set in motion machinery having for its object seriously to combat plague, so that something more practical, larger in design and more likely to lead to real and early preventive measures, might be undertaken.

Annotations.

"Ne quid nimis."

THE INDUSTRIAL CLASSES AND THE TREATMENT OF TUBERCULOSIS.

AT the annual meeting of the Hospital Saturday Fund held on April 28th, Dr. Arthur C. Latham drew attention to several important points in the treatment of tuberculosis amongst the industrial classes. The value of the sanatorium treatment is now generally recognised but there are certain facts connected with it that have not been sufficiently appreciated by the laity, more particularly amongst the working classes. The first is the importance of an early diagnosis; secondly, that a sufficient time must be devoted to treatment; and thirdly, that after leaving the sanatorium an outdoor occupation must be adopted. The difficulties of carrying out these recommendations will be at once obvious. Dr. Latham maintains that the charitable institutions which deal more particularly with tuberculosis are not established on right principles in this country and there is doubtless much to be said in support of this contention. He states that if the full economic value of the money spent in the treatment of tuberculosis is to be obtained the following reforms are essential: 1. There should be a number of institutions, municipal or other, such as the French dispensaries, where, on payment of a small fee, any working man or woman in a suspicious state of health could have the expectoration examined—this plan greatly facilitates the early recognition of the disease. 2. All hospitals should be brought into close connexion with the various organisations which exist for the relief of the poor, so that the patients can be assisted in obtaining admission to special institutions. 3. The "pernicious system" of in- and out-patient letters to the hospitals should be discarded and "cases should be admitted on their merits." The point thus raised is an important one but is so involved that we cannot enter into a discussion on it here. 4. Every "consumption hospital" should be in close touch with sanatoriums in the country to which patients could be sent from the town hospitals. If these proposals were carried out some of the difficulties which now exist would be removed but others would remain. One of the chief of these is the support of families whilst the bread-winners are in the sanatorium. As soon as a patient finds that he is improving he is naturally anxious to return to work so as to earn money for those dependent on him and so he leaves the institution before the processes of repair are satisfactorily established. Dr. Latham referred to the well-known German methods of insurance but expressed his belief that this plan would not be adopted in England. He therefore made an appeal to the friendly and allied societies to take the matter up for the benefit of their members. He believed that these societies have the money and the necessary organisation. He stated that a beginning had already been made and that the friendly societies of the Midland counties have formed an association for this purpose. He also referred to the National Committee for the Establishment of Sanatoria for Workers which has been formed at the initiative of the Hospital Saturday Fund. The friendly societies, Post-office employés, trade unions, employers of labour, and all other classes interested in the subject are invited to coöperate. Such an organisation is likely to be most valuable and we wish it every success. Dr. Latham's address was a practical and suggestive one and doubtless it will receive due attention.

EPSOM COLLEGE.

WE have received from Dr. J. H. Galton, the chairman of the finance committee of Epsom College, an appeal on behalf of the benevolent side of the institution. As most of our readers are aware, the College gives gratuitously to 50 sons of medical men in necessitous circumstances a first-class education, with board, clothing, and maintenance, and provides pensions of £30 a year for 50 poor aged medical men or the widows of those deceased. The pressure of unexpected heavy sanitary expenses has so crippled the resources of the College that the council has been compelled to increase the mortgage from £10,000 to £14,000 and to incur a debt of £2000, money advanced for immediate necessities by the bankers. Last year a sum of £1600 was spent on account of repairing and renewing the drainage system of the College and it is estimated that a further sum of £3300 will have to be expended in order to bring the sanitary condition to that degree of perfection which should exist in the case of a college governed by a council chiefly composed of medical men. It is hardly necessary to state that the present governing body is in no way responsible for the condition of affairs which has necessitated this enormous expenditure; perhaps no past council can be fairly considered to be answerable, since the system of laying drains in vogue from 30 to 50 years ago was primitive compared with the rigid requirements of our present sanitary authorities. The council considers the present year, when the jubilee of the opening of the College is to be celebrated by old Epsomians, to be an excellent occasion for making a strenuous effort to wipe away the indebtedness of £16,000. The amount is trivial compared with the sums appealed for by other charities and if the majority of medical men, in whose interest the institution was founded by Mr. Propert, were to make a genuine effort to procure this sum the College would be freed from debt, perhaps for ever. When it is recollected that there are over 38,000 medical men on the Register it will be seen that not much self-sacrifice is required on the part of each member of the profession to raise the sum of £16,000. Few persons can be more fully aware than we are of the slender incomes of very many members of the profession, but we are as fully aware of the good work done by the benevolent side of Epsom College, and know that a restriction of this work would be little short of a calamity, since it would tax the already overstrained funds of the other benevolent agencies of the profession. The council has issued with the appeal a list of the educational successes which have been gained since 1893 and these for a school of about 240 boys are most satisfactory. No fewer than 24 open scholarships have been gained at the Universities of Oxford and Cambridge; 140 boys have passed the matriculation examination of the University of London, 80 of whom were in Division 1; 38 boys have passed the preliminary scientific examination for the degree of M.B of the University of London, and 41 boys have passed a part of that examination; 88 higher certificates of the Oxford and Cambridge Schools Examination Board, with 23 distinctions, and 293 lower certificates have been gained. The fee charged for boarders is 75 guineas a year but all sons of medical men are allowed a reduction of ten guineas. Day boys are charged 25 guineas, and sons of less fortunate members of the profession can compete for "council exhibitions," which reduce the fee from 65 guineas to 35 guineas. There are also open entrance scholarships awarded annually of the value of £30 a year. The work of the council in steering the College through the numerous financial difficulties which have arisen during the past few years has been onerous in the extreme and no one has worked with greater energy than the treasurer, Sir Constantine Holman. It is to be hoped, therefore, that all friends of the College, especially old boys who have benefited by the sound education provided at a moderate fee, will come to the assistance of the council and the treasurer at the present time when funds are so urgently needed.

ANNUAL REPORTS OF THE PROGRESS OF CHEMISTRY.

THE decision of the council of the Chemical Society to issue a systematic series of reports in English on the progress of chemistry in its several divisions and applications will be cordially welcomed. Practical effect has already been given to this decision, for we have recently received a copy of the Annual Report on the Progress of Chemistry for 1904.[1] We heartily congratulate the Chemical Society on the fulfilment of the scheme and, judging by the first volume, it is quite clear to us that these annual reports will be of extreme value. In the words of Dr. W. A. Tilden, in his introduction to the report, the object of the reports is to present an epitome of the principal definite steps in advance which have been accomplished in the preceding year for the benefit of all workers, students, or teachers of chemistry, or those chemists who are engaged in technical or manufacturing applications of chemistry. Thus those who make a special study of any one department of the science may obtain without difficulty information as to the nature and extent of progress in other branches of the subject to which they have not paid special attention. In accordance with this object the council invited the assistance of a number of gentlemen distinguished for their acquaintance with the several divisions of the subject and the result is a series of reports contributed by admitted authorities on the various sections of the science. Necessarily the report cannot be placed in the hands of the Fellows of the society until a month or so after the close of the year. In the report just published, which deals with the progress of chemistry for 1904, ten articles are contributed. The first is by James Walker, D.Sc., Ph.D., F.R.S., on General and Physical Chemistry, in which he deals, amongst other things, with the researches of the year on colloidal solutions, fluid crystals, catalysis, enzyme action, and passivity of metals. The second article, on Inorganic Chemistry, is written by P. Phillips Bedson, M.A., D.Sc., and consists of an admirable *résumé* of the year's contribution to the chemistry of the inorganic elements. Organic chemistry comes next and is divided into two sections, the aliphatic series by H. J. H. Fenton, M A., F.R.S., and the aromatic series by Julius B. Cohen, Ph.D. The article on Stereo-Chemistry is by William Jackson Pope, F.R S., F I.C.; that on Analytical Chemistry by A. C. Chapman, F.I.C.; that on Physiological Chemistry by W. D. Halliburton, M D, F.R.C.S.; that on Agricultural Chemistry and Vegetable Physiology by J. A. Voelcker, M.A., Ph.D; that on Mineralogical Chemistry by A. Hutchison, M.A., Ph.D; and the last article on Radio-Activity is by Frederick Soddy, M.A. These articles all afford extremely interesting reading and the whole scheme will be most helpful to those who desire to keep *au courant* with the trend of modern research.

THE "CHINESE SPY" ON MEDICINE AND SURGERY.

THE "Chinaman" who has recently so severely satirised America's love of quackery may have drawn the idea of his theme from the "Chinese Spy," a work published so long ago as 1766. In Letter XIII., Book VI., of the "Chinese Spy," the mandarin Cham-pi-pi, writing from London to his friend, Kie-tou-na, in Peking, draws a gloomy picture of the state of contemporary science and denounces medicine and surgery with an acrimony impartially used by the satirists of the eighteenth century towards all medical men, whether good or bad. "This letter," he says, "shall be taken up with physic, that dreadful science, which has got the life of man within its gripe. There are companies in Europe who have a licence to kill: these sentences of death are called a 'physician's prescription. The practice of this science is thus: A man in black, of a solemn deportment, comes into a sick person's chamber: after asking some questions concerning his illness, he writes down on a paper the medicaments proper for curing him; and a few days after the death of the patient, this black man comes and asks payment for his cure: nay, there are countries in Europe where a dead person cannot be buried, till the physician who killed him be paid. The annals of the universe inform us, that anciently only one family was acquainted with physic; and greatly is it to be wished, for the sake of mankind, that this science was still a family-secret. At present, any one who pleases may practise physic; and all the mystery is, to learn, in a few years, the cures of all kinds of distempers. This science has been rendered more destructive by adding to it surgery, which is the art of slashing bodies and dissecting carcasses.' Physicians, in order to come at a knowledge of the human body, cut it into a thousand pieces; and, besides shortening the life of men, they kill them a second time when dead. Europeans will very gravely ask, whether we can do without physicians? This is asking, in other words, whether God has created a nature so imperfect, that it cannot subsist without the help of art. What physicians have animals? This decides the question. The annals of the Christian religion mention a king, named Hezekiah, who suppressed a book on the virtues of plants, lest it might come into use, and thus multiply distempers: it were proper to suppress physic, that everybody, having no other recourse, might become his own physician." Who was the "Chinese Spy"? Could he spastic. According to these writers if flaccidity persists there is not only transverse division of the cord but destruction of the nerve centres in the lumbar region. The observation showed that these centres were not destroyed. Faradic and galvanic stimulation of the muscles was prescribed so as to keep them in as healthy a condition as possible. After six months the flaccid paralysis persisted, showing the correctness of Dr. Bastian's view and proving for the first time on record that permanent flaccid paralysis and loss of reflexes are due to removal of the influence of the higher centres and not to any concomitant injury of the lumbar centres. 11 months after the operation the recent work which had been done on the regeneration of nerves, showing that transplantation of peripheral nerves might be successfully performed, suggested to Dr. Shirres that the transplantation of a piece of a dog's cord might be tried in this case. The spinal cord of a large dog was exposed under chloroform while the operation on the patient proceeded. The lesion was exposed and the gap between the ends of the cord was found to be now one and a half inches. With a mild faradic current the anterior and posterior roots of the cord were stimulated and a slight response was obtained in the muscles. Three inches of the dog's cord were placed in the gap and the pia arachnoid was united to that of the patient by a few fine stitches. The dura mater was closed, the wound was sutured, and a plaster jacket was applied. Perfect recovery from the operation took place and the temperature never rose above 100° F. In the fifth week after the operation the patient was conscious of flatus in the lower part of the abdomen, a sensation which he never had before the operation. Six days later he felt the passage of the catheter when the usual lavage of the bladder was performed. Ten days later he was conscious that his bowels were about to act and he felt a sensation of pins and needles in the right foot. A week later he felt the same in the left foot. The temperature rose to 103° and the patient began to fail. After a fortnight he died. A large abscess was found in the right kidney and appeared to have been the cause of death. The cord was removed and hardened in Müller's fluid. After six weeks the dura mater was opened and a diffluent mass was found between the ends of the cord. Sections were made above and below the lesion and through the dura mater and adherent mass between the ends of the cord and stained by the Pal-Weigert method. The usual ascending and descending degenerations were found. In the intermediate mass minute myelin sheaths of nerve fibres were demonstrated closely adherent to the dura mater and were traced upwards and downwards into the ends of the cord, showing that some regeneration had taken place. Dr. Shirres does not assert that the piece of dog's cord lived or that it started the regeneration. His case at least suggests that something might be done in cases of division of the cord to favour regeneration of the fibres. Dr. James Collier, in a recent paper published in *Brain*, states that experiments on animals show that after immediate suture of the cord regeneration is possible.

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[1] London: Gurney and Jackson, 10, Paternoster-row.

THE ASSOCIATION OF ECONOMIC BIOLOGISTS.

THE first congress of the above-named association was held on April 19th and 20th in the University of Birmingham, Mr. F. V. Theobald, the President, being in the chair. As the term "economic biology" is not very widely known we may state that it applies to the study of biology in reference to the application of that study with regard to its bearings on agriculture and incidentally to the arts. Long ago Darwin applied the principles of economic biology in his famous dictum that the facilities for the growth of a certain kind of clover depended on the number of old maids in any given district. The clover in question could only be fertilised by a certain kind of bee; the larvæ of this bee were eaten by a certain kind of field mouse which in its turn was eaten by cats and these cats as a rule were kept by old maids. So we find the economic biologists discussing the vagaries of the life of the hop aphis, and the President in his paper on the subject pointed out that the great thing for the hop farmer to do to preserve his hops from this aphis was to "wash his damsons early in the year and use drastic measures in destroying the hedgerows of sloe." Another interesting paper was one read by Mr. Herbert Stone on the Porosity of Wood which led up to a discussion on the best means of seasoning timber. Dr. Macdougall addressed the meeting on a parasite of the sheep, Lucilia Sericata. In the course of his paper he threw doubts upon the usefulness of the starling as a "*sanitary inspector of sheep.*" As regards this question he had received from two widely separated districts of Scotland information from men whose opinion he valued that they traced the increase in the prevalence of sheep fly to the enormous increase in the quantity of starlings, and they suggested that the fly was attracted by the excreta which the starlings left on the sheep's backs. We should hardly think that this suggestion is plausible for the excreta of birds is mainly made up of uric acid and phosphates and would not be likely to attract a fly, more especially one the larvæ of which do not feed on excreta but live in animal tissues. If the starlings do eat the grubs of the fly we should have thought that the increase in the number of birds was the effect of an increase in the number of flies and not the contrary. The concluding paper of what seems to have been a most interesting meeting was by the President on Ticks and Flies as Agents in the Distribution of Disease; this paper will be published *in extenso*.

AORTIC REGURGITATION WITH ANGINA; LICHEN ON THE PAINFUL AREAS.

THE areas of skin in which the pain of angina pectoris is felt usually show no objective phenomenon. At the meeting of the Société Médicale des Hôpitaux de Paris on March 31st M. Gasne and M. Chiray reported the following remarkable case in which lichen planus appeared. A man, aged 31 years, was admitted into hospital. He was addicted to alcohol and had suffered from malaria, dysentery, and acute rheumatism. In October, 1904, he began to suffer from cardiac palpitation and a feeling of pulsation in the neck and the temples. In November these symptoms were increased and a constant uncomfortable sensation was felt in the præcordium which at times gave place to a severe and constrictive pain which had never the characters of definite angina, for it was not accompanied by a feeling of impending death but by one of vertigo and did not instantly cause immobility of the body. During the paroxysms the pain radiated into the left arm along its internal aspect as far as the fingers and was accompanied by a feeling of numbness. The whole arm became very warm and the veins dilated. These attacks occurred three or four times a week. On examination the apex beat was found in the sixth intercostal space and was abnormally strong. There were a diastolic aortic murmur and other signs of aortic regurgitation. The patient, who had always been very neurotic, had felt for two months acute sensations of itching, especially on the internal surface of the left arm. He had scratched himself considerably and on the pruriginous patches there were areas of lichen. There were four patches in a linear series along the internal surface of the upper arm corresponding to the distribution of the intercosto-humeral nerve. Above and outside the left nipple, in the area in which the intercostal nerves anastomose with this nerve, was another small patch. On the rest of the body only acne was observed, except in the right popliteal space where there were some spots of lichen planus. The whole of the area of distribution of the intercosto-humeral nerve was hyperæsthetic to touch and to heat. The affected area consisted of a band on the inner surface of the upper arm and an area on the thorax extending from the third to the fourth intercostal space and from a vertical line passing two fingers' breadth outside the nipple to the posterior axillary line. M. Gasne and M. Chiray suggested that the neurotic condition of the patient predisposed him to lichen which was localised in the distribution of the intercosto-humeral nerve and its intercostal anastomoses. They thought that this localisation was due to reflex irritation provoked by the crises of angina. Such localisation is easily explained. Dr. Henry Head has put forward the view that the angina of aortic regurgitation is due to irritation of the cardiac nerves from the high intraventricular tension. According to Dr. G. A. Gibson the greater part of the cardiac plexus is furnished by the left inferior cardiac nerve —i.e., by the left inferior cervical ganglion of the sympathetic. This ganglion receives branches from the segments of the cord whence arise the eighth cervical and the first and the second dorsal nerves. From the same segments arise also the fibres of the intercosto-humeral nerve. Thus the localisation of the pain and the eruption is explained.

A SUGGESTION IN PRISON REFORM FROM FRANCE.

IN our issue of August 20th, 1904, we commented upon an experiment in prison reform carried out by Miss Charlotte Smith-Rossie. The experiment was that of giving fortnightly lectures upon sanitary subjects to women prisoners in Portsmouth prison. So successful was this work that we learn that by direction of the Home Secretary a complete system of lectures on hygiene has now been initiated at Holloway prison. Miss Smith-Rossie has lately been studying a different section of prison life in France and has been permitted to visit the children's prison of La Roquette —i.e., the Petite Roquette. The regulations under which children can be imprisoned in France differ widely from those which obtain here, but that is not the point which we wish to notice. Miss Smith-Rossie in her article, which appears in the May number of *Good Words*, lays special stress upon the way in which French child prisoners work. The reason of their doing good work and of their taking an interest in their work is that they are paid "a small sum daily in proportion to the work done, which sum can be at once spent by the prisoner himself within the prison." Work for work's sake may be all very well when the worker labours for himself, but to work for someone else without getting any credit for it takes all the heart out of the worker and we think that the French system might be adopted in our own prisons.

THE annual meeting of the Asylum Workers' Association will be held at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., on Friday, May 19th, at 4 P.M. with Sir John Batty Tuke, M.P., President of the Association, in the chair. The Archbishop of Canterbury has promised to attend and there will be a presentation of two gold and two silver medals awarded by the association for long and meritorious nursing service. All interested in asylum work and workers are cordially invited to attend the meeting of this association which was founded in 1895 to improve the status of asylum nurses and attendants, to provide for them "Homes of Rest and Nursing," and to enlist public sympathy in their work.

THE Glasgow University Club, London, will dine at the Trocadéro Restaurant, Shaftesbury-avenue, London, W., on Friday, May 26th, at 7.15 P.M., when Professor Sir William Ramsay, K.C.B., will occupy the chair. Members of the club who intend to be present or to introduce guests are requested to give notice as early as possible to the honorary secretaries, Dr. James M. Dodds and Dr. C. O. Hawthorne, at 63, Harley-street, W. The annual general meeting of the club will be held at the same place and on the same date at 6.45 P.M.

THE opening lecture of the summer session of the North-East London Post-Graduate College will be given by Dr. H. D. Rolleston, physician to St. George's Hospital, on Thursday, May 11th, at 4 30 P.M., at the Tottenham Hospital, London, N., on High Arterial Tension, its Results and Prevention. The series of clinical lectures, of which this is the first for the present session, is free to all qualified medical practitioners.

THE eighth annual meeting of the Childhood Society will be held at 7, St. James's-square, London, S.W., on Wednesday, May 10th, when an address on Teaching "*Commonsense*" in the School of the Future will be delivered by Professor H. E. Armstrong, Ph.D., LL.D., F.R.S. The chair will be taken at 3 P.M. by the President, Earl Egerton of Tatton.

THE May dinner of the Aberdeen University Club, London, will be held at the Trocadéro Restaurant on Wednesday, May 17th, at 7.30 P.M. The Very Rev. John Marshall Lang, D.D., principal of the University of Aberdeen, will be in the chair. Members desiring to be present should communicate with Dr. R. J. Collie, honorary secretary, 25, Porchester-terrace, W., not later than May 13th.

THE discussion at the Epidemiological Society arising out of Dr. G. S. Buchanan's paper on the Spread of Small-pox occasioned by Small-pox Hospitals during 1900–04, which was read before the society on Friday last, will be continued to-night (Friday) by Dr. Arthur Newsholme at 11, Chandos-street, Cavendish-square, at 8.30 P.M.

THE annual dinner in connexion with the West London Hospital and Post-Graduate College will be held at the Trocadéro Restaurant on Wednesday, June 7th, at 7 o'clock, Dr. Seymour Taylor presiding. All information can be obtained from the Dean of the Post-Graduate College, Hammersmith, W.

THE Lord Mayor will preside at a public meeting at the Mansion House on May 17th, at 3 P.M. The meeting will be in support of an appeal for £10,000, which sum is urgently required by the National Association for the Prevention of Consumption and Other Forms of Tuberculosis.

AT the meeting of the Medical Society of London to be held on Monday, May 8th, there will be a discussion on the Perineal and Suprapubic Methods of Prostatectomy, to be opened by Mr. Reginald Harrison.

Professor Groedel of Nauheim requests us to contradict certain alarming reports which have been circulated as to the state of his health. We are happy to be informed that he is quite well.

THE Lord Mayor is announced to take the chair at a festival dinner to be held at the Trocadéro Restaurant in aid of the funds of the City of London Hospital for Diseases of the Chest, on Friday, May 26th.

THE next session of the General Council of Medical Education and Registration will begin on Tuesday, May 23rd, at 2 o'clock P.M.

when the medical officer of such a burgh dies or resigns the result not infrequently is that the county medical officer is appointed, so that the influence and sphere of work of the professed sanitarian tend to increase.

The duties of a county medical officer are not the same in Scotland as in England. In Scotland he is the executive and administrative officer. He is so not because he is county medical officer, but because every county medical officer is also medical officer for the districts under the charge of the district committees of the county councils. These district *committees themselves are the local authorities under the* Public Health Act, and when a man is appointed county medical officer he is also appointed medical officer for the districts of the county, these districts not including the burghs. Each district committee consists of the members of the county council resident in that district and also of a representative from each parish council in the district. The police burghs have representatives on the county councils, and also therefore on the district committees, but they do not act in public health matters as the burghs are not rated for public health by the county council, each burgh having charge of its own public health. As already stated, however, the county and district medical officer may hold burghal appointments also, but the custom is that the larger burghs have their own medical officers.

It is compulsory on every county to have a medical officer of health and the appointments are permanent in the sense already explained. Nearly all the county medical officers are "whole time" men. In the largest burghs also the medical officers are not in general practice, but several of them hold other appointments more or less related to public health. In the smaller burghs the medical officers are usually engaged in private practice unless it should occur that the county medical officer holds the appointment. This is a position which tends to occur more frequently and is of good omen, as it implies a general improvement in salary, for the range of salaries in Scotland is not so good as it is in England, although it is improving. The Poor-law medical officers, as such, have no sanitary duties in Scotland (excepting vaccination of defaulters), and have no security of tenure, but attempts are being made to obtain this by legislation. Their position at present is in this respect a very unfortunate one. The areas controlled by the district committees of the Scottish county councils are in most cases sufficiently large to prevent local influences having sway, especially as the medical officers are not engaged in private practice and have security of tenure over fixed areas. The smaller burghs are the worst off on the whole because their areas are limited and local influences consequently have more weight. Their medical officers have of necessity only small salaries, so that a mere fraction of their income represents their public work and their private practice is of supreme consequence to them. Everything that has already been said about the undertaking by English medical officers of health in rural districts of both public and private duties can be said concerning the Scottish medical officer of health when doubly employed, but the northerners have the best of the situation. They cannot be dismissed excepting with the approval of the Local Government Board. That Board has control of the distribution of a Government grant towards the salaries of medical officers of health and sanitary inspectors. It has power to refuse the grant if local arrangements are unsatisfactory. At present the grant, which is a fixed sum of £15,000 per annum, contributes about 7*s.* 6*d.* per £ to salaries and travelling expenses. The salaries for whole time medical officers range from about £350 or £400 to about £850, exclusive of travelling expenses and other outlays.

It will be seen that the sanitary services in the three countries have certain points in common. Where the countryside is sparsely populated and the districts are poor no funds for the payment of a medical officer of health are available. It is true that such districts escape risks which have to be taken by more crowded communities but it is none the less dangerous that they should be left without proper sanitary inspection and control. In Ireland this ineffectiveness of the sanitary administration is only part of the deplorable condition of the dispensary medical service and the remedies to be taken for the abuses are the remedies which should be applied to the reform of that service, which will be suggested in dealing with the administration of the Poor-law in the three countries. In England we have a much more crowded country with a much higher general standard of wealth. There is no reason, in theory, why England should not have a capable and fearless sanitary administration, but in practice the law is against it. In which attitude the law is also against much public and official opinion. When Sir Walter Foster was Parliamentary Secretary to the Local Government Board, now nine years ago, he spoke as follows to a deputation that had represented to him the inconvenience of placing the medical officer of health in a position where he is at the mercy of ignorant caprice:—

> The Board has arrived at a rather important decision—viz., that we *consider these appointments for short periods and precarious* tenure injurious to the public health. We are at one with you that men holding appointments for very limited periods cannot be expected to discharge their duties in that fearless and thorough manner which those duties require for the safety of the public, and we are anxious to encourage local authorities to give up the system of short appointments. We recogn [illegible] re very delicate and difficult, as well as exceedi [illegible] hile a man is elected from year to year by a [illegible] may be offended by his zeal for the public health, we feel he cannot discharge his duties in the way they ought to be discharged. We have, therefore, arrived at the decision that we shall encourage local authorities all over the country to make these appointments for longer periods and, if possible, permanent appointments.

These be brave words, but as yet they remain largely words. The Local Government Board has done something towards their fulfilment and is still doing something; but reform comes very slowly. Fixity of tenure is more likely to follow upon the general appointment of county medical officers than upon the recommendation of the Local Government Board to certain authorities that certain individual medical officers of health should not have a term set to their period of office.

(To be continued.)

ERRATUM.—It has been pointed out to me that certain errors of detail have been committed in my description of the conditions under which naval medical officers discharge their duties. I have not given sufficient credit to the department for the reforms effected in the warrant of 1903. The cost of the post-graduate course, which is now required of every medical officer, is in the first instance defrayed by the officer, as I said, but the £25 is repaid to him by the Admiralty immediately he produces the necessary certificates of attendance. The comparison of charge pay in the navy with charge pay in the army cannot be made as I made it, as charge pay is given to deputy-inspector-generals, fleet-surgeons, and staff-surgeons, as well as to inspector-generals. The rate of payment is in correspondence with the rank of the officer, being 10*s.* per diem for an inspector-general, 7*s.* 6*d.* for a deputy-inspector-general, 5*s.* for a fleet-surgeon, and 2*s.* 6*d.* for a staff-surgeon. Charge pay is received in addition to "hospital allowance" by officers in charge of hospitals. All naval medical officers who are in hospitals, dockyards, marine infirmaries, or at the Admiralty receive "hospital allowance," and any officer not in official quarters receives "house allowance" in addition, but the charge pay of those in charge of hospitals is not received *in lieu* of "hospital allowance" but *in addition to* "hospital allowance." I regret that I did not perceive the full extent of the reforms which have recently taken place in the Naval Medical Service, as I desired particularly to bring before the notice of the medical profession what a good career that of a naval medical officer now is. The Admiralty provides a modern and expensive scientific equipment for its medical officers, great pains have been taken to attract young men of promise in their profession, and I am certain that these pains will be rewarded.—THE WRITER OF THE ARTICLE.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 27th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that, in accordance with the resolution passed at the last Comitia, he had nominated the following Fellows to serve on a committee appointed to consider the increasing mortality from plague:—Dr. J. F. Payne, Dr. Norman Moore, Sir Patrick Manson, Dr. John Anderson, Dr. W. J. R. Simpson, and Dr. W. B. Beatson. He also stated that he had nominated Sir Dyce Duckworth to represent the College at the International Congress of Medicine to be held at Lisbon in April, 1906.

The PRESIDENT drew attention to the fact that Sir William S Church, as President of the College, had been a member of, and chairman of, the Cancer Research Committee and in retiring from the position of President thereby was no longer a member of that committee It was therefore resolved to request Sir William Church to continue a member of the Cancer Research Committee

SIR WILLIAM CHURCH thanked the College for the resolution and acceded to the wishes of the Fellows

The report of the Committee on the Care and Control of the Feeble Minded was received and adopted

The following gentlemen having passed the required examination were admitted as Members of the College Arthur John Jex Blake, M A, M B Oxon, Frank Edward Taylor, M A Vict, M B Lond, L R C P, George William Watson M D Lond, L R C P, and William Henry Wynn, M D Lond, L R C P

The following Members were elected as Fellows of the College Duncan Burgess, M B Cantab, Thomas Watts Eden M D Edin, Wilfred John Harris, M D Cantab, Bedford Pierce M D Lond, Leonard Rogers, M D Lond, I M S, James William Russell, M D Cantab, James Harry Sequeira, M D Lond, Harold Batty Shaw, M D Lond, Edmund Ivens Spriggs, M D Lond, William Barnett Warrington M D Lond, Arthur Whitfield, M D Lond, and Robert Arthur Young, M D Lond

The following communications were received 1 From the secretary of the Royal College of Surgeons of England, reporting certain proceedings of the Council on April 13th 2 From the executors of the late Mrs Begley, announcing a bequest of £500 to the College

Dr P H Pye Smith was re elected the representative of the College on the Senate of the University of London

On the recommendation of the Council the Baly medal was awarded to Professor Pavlov of St Petersburg, as having pre eminently distinguished himself in the science of physiology

The quarterly report, dated April 7th, of the College finance committee was received and adopted

A report, dated Feb 6th, was received from the committee of management Amongst other matters it was recommended that the Swansea General and Eye Hospital should be added to the list of general hospitals recognised by the Examining Board in England and that the Willesden District Isolation Hospital should be added to the list of fever hospitals recognised by the Examining Board in England

A report, dated Jan 27th was received from the laboratories committee

A report was received from Dr Pye Smith on the history and the work of the laboratories of the Royal Colleges since their opening in January, 1890 A vote of thanks was accorded to Dr Pye Smith for the report

A report was received from Sir William Church and Sir Lauder Brunton on the conference of the Royal Sanitary Institute on School Hygiene, held from Feb 7th to 10th, 1905

Dr NORMAN MOORE proposed the following motion —

> That a generous offer of the Worshipful Company of Barbers conveyed in a letter to one of the Censors to restore to the College an Inspeximus Charter of Charles II now in possession of the Company be accepted

This was seconded by the SECOND CENSOR (Dr W H ALLCHIN) and carried Dr Norman Moore was requested to receive the charter

A list of books and other publications presented to the library during the past quarter was received and thanks were returned to the donors

The PRESIDENT *then dissolved the Comitia*

EGYPT IN 1904.

THE Earl of Cromer's report on the Finances Administration and the Condition of Egypt and the Soudan in 1904 is a lengthy document covering about 150 pages of fool cap size but the contents, generally speaking, are full of interest and many subjects are dealt with that appeal specially to the sanitarian The Nile flood of 1904 was but little better than that of 1902, which was the lowest but one of those recorded but notwithstanding this serious drawback which a few years ago would have entailed great scarcity, if not actually a famine, Lord Cromer is able in his concluding paragraphs to state that the past year was one of unexampled prosperity in Egypt in spite of the ravages of the cattle plague and the fact that the cotton crop was a partial failure Elsewhere he writes that the situation was saved by the works constructed during recent years and by the zeal and ability of the irrigation staff, and he further expresses the opinion that the whole population of Egypt owe a deep debt of gratitude both to these officials and to their predecessors

The revenue of Egypt in 1904 amounted to £E 13 906,152, being no less than £E 2,406 152 in excess of the estimate As, however, the expenditure was also largely in excess of previsions the actual surplus only amounted to £E 1 205 820 For the current year the estimated revenue is £E 12 255 000 and the estimated expenditure £E 11,755 000 the anticipated surplus consequently amounting to £E 500 000 a sum which we believe to be by far the largest that has ever appeared under this heading Lord Cromer considers it to be highly satisfactory that whilst *maintaining the policy of slow progress and low taxation* it has been found possible to increase the administrative expenditure by no less in round figures, than £E 630,000 Of this sum the lion's share is absorbed by the public works department, less than a tenth of the whole being distributed between the police, the prisons, and the sanitary services "I am prepared to admit," continues Lord Cromer, "that it might have been possible, without serious risk of disturbing financial equilibrium, to go somewhat further in the direction of either reducing taxation or of increasing expenditure But I repeat that, after full consideration it was thought wiser to move tentatively and cautiously in the inauguration of the new system and to contemplate the possibility that either by reason of a heavy fall in the price of cotton or from other causes the rapidly growing prosperity of the country might receive a *check* " Under the "*new system*" of financial control which has become possible since the signature of the Anglo French Agreement in April, 1904, the assets of the General Reserve Fund on Jan 1st last amounted to £E 13 376 146 Of this large sum £E 7,529 074 have been hypothecated in various ways but there still remains a balance of £E 5 847 072 which is available for capital expenditure of various sorts whether in Egypt or the Soudan The fund also, will be replenished by the surplus of 1905 and also by about £E 3 000 000 from the liquidation of the Daira estates

Under these flourishing financial conditions it is to be regretted that the question of town sewerage should have been allowed to fall into abeyance Throughout his long report Lord Cromer makes no mention whatever of drainage, although he admits that only the fringe of the great question of sanitation has yet been touched in Egypt In 1890 he wrote that the only way to remedy this evil was to construct a system of sewers on scientific principles An eminent English engineer, Mr Baldwin Latham, had been specially deputed some little time previously to report fully on this subject The plan which he framed, and which Lord Cromer approved of, would have cost about £700 000 In his book "England in Egypt" Viscount Milner also alluded to this project, saying that the revival of interest in sanitary matters was further proved by the preparation then being made for the thorough drainage of Cairo It is difficult to understand the complete shelving of this important matter, for in 1898, under the heading "Drainage of Cairo," Lord Cromer wrote

"This subject has been under consideration since 1890 but owing to financial and other reasons no solution has so far been found The *Cairo Water Company has now in hand* a scheme which is almost ready to be submitted to the Government The approximate total cost is £E 750 000 It is to be hoped that at no very distant date it will be possible to commence work I may mention that in 1891 the Powers agreed to the administrative expenditure of the Egyptian Government being increased by half the Octroi receipts of Cairo in order to provide for the drainage of the town The financial difficulties of carrying out any scheme are thus materially lessened That sewerage is urgently required not only in Cairo and Alexandria but also in the large towns of Upper Egypt (where the Nile receives most of the filth) as well as in those of the Delta cannot be seriously contested The number of towns which are provided with an abundant water supply is being steadily added to but in no case are there channels for its removal when soiled Closets and sinks discharge causing great embarrassment to those who so generously propose to entertain parties at Vichy and Evian and at the watering-places of Béarn. It is therefore particularly requested that the slip as to the excursions may be filled up and returned at once. Our readers may be reminded that it will be possible to return direct from Vichy to Paris on Monday, May 15th.

Among the demonstrations and lectures to be given will be one in English by Dr. H. Mendel on Intra-tracheal Injections. The demonstration will be given in the St. Charles Salon of the Hôtel Dieu on Friday, May 12th, at 10 A.M. Dr. Mendel will demonstrate his own method of giving intra-tracheal injections, the chief point of which is that he uses non-irritating substances so that no reflex cough is produced. Dr. J. Rivière will be pleased to receive any of his British colleagues and to show them the Establishment of Physicotherapy at 25, Rue des Mathurins (Opéra) during the visit from 10 A.M. to midday and from 2 to 6 P.M., except on the afternoon of Friday, May 12th.

MEDICINE AND THE LAW.

The Scope of Scientific Testimony.

Dr. Solomon Solis Cohen, professor of clinical medicine in the Jefferson Medical College, in an address delivered before the Philadelphia College of Pharmacy and published in the *American Journal of Pharmacy* for January, has recently discussed the scope of so called expert evidence in trials from the ethical point of view. The correct attitude of an expert witness is well summed up by Dr. Cohen in the following passage: "As a witness he is bound by his oath and by his duty to the court and to the State to endeavour to assist judge and jury to reach correct conclusions without reference to the effect of those conclusions upon the verdict to be rendered. He is to distort nothing, magnify nothing, minimise nothing; assert as positive nothing doubtful, throw doubt upon nothing certain; introduce nothing irrelevant, suppress nothing material; give utterance to no statement of fact, advance no theory that he would shrink from defending before a learned society." Dr. Cohen proceeded to enumerate the many difficulties that a scientific witness meets with in the courts and laid stress on the necessity of avoiding the position of partisan, whether from a personal though disinterested desire for the success of one side or from the pertinacity of advocates or from a mistaken notion that the acceptance of a fee by a scientific witness puts him under an obligation to strain the evidence as far as possible in favour of his own side. Any such false position can be avoided by making certain stipulations when called upon to consider the facts in a given case. The suggested stipulations are: (1) that there is no obligation for the expert to testify or to give counsel involved in his acceptance of a fee to examine papers or otherwise look into the facts; (2) that the nature of the testimony to be given, in case the preliminary examination permits an agreement to testify at all, is subject to modification by the subsequent disclosure of new facts at the trial or otherwise and that the attorney must then decide for himself whether or not to call the expert as a witness; (3) that he is to be asked only simple and direct questions permitting the framing of answers that will bring out the whole truth as one sees it and not merely fragments of the truth; (4) that he is not expected to be positive upon uncertain matters or to throw doubt upon those that are not doubtful; and (5) that he is not to be asked questions to which correct answers must be highly technical simply for the purpose of obscuring the issue. By taking such a course of action scientific witnesses would avoid being placed, even apparently, in the position of partisans or scientific advocates. The function of a scientific witness is to enlighten the judge and the jury as to the significance of certain facts and relations beyond the ordinary knowledge but of which he has made a special study. His testimony must be based in part upon his reading and in part upon his observations. Expert witnesses upon pharmacological questions are called upon to give four different orders of testimony not usually discriminated. They are all treated as matters of opinion but in reality three relate to matters of fact and may be distinguished as follows. 1. Personal observations on the part of the witness as to the effect of drugs on the human or the animal body. 2. The methods of chemical analysis and their results. That arsenic has or has not been found is a matter of fact and is to be criticised from that standpoint. If the methods pursued have been faulty, or if the results have been inconclusive, that can properly be shown, but also as matters of fact and not of opinion. It is perfectly proper to point out, for example, that in the attempted identification of poisons a careless observer may mistake antimony for arsenic, but it is misleading to attempt to make a jury believe that discrimination between antimony and arsenic is at all uncertain when the right tests have been made. 3. Matters of general scientific knowledge —e.g., as to the action of drugs or the contamination of foods, drugs, and manufactured articles of various kinds, by poisons, or as to chemical and pharmaceutical incompatibilities—are also matters of fact, whether within or without the personal observation of the witness. Concerning matters, however, which are not only outside the observation of the witness but beyond the range of his usual studies he can only have an opinion. He cannot know them as facts and he should refuse to testify concerning them. Again, in a case of suspected poisoning a medical practitioner who has not seen the living person or the corpse can only be asked to express an opinion on facts described by others as to the nature of symptoms during life and as to the cause of death, for the facts are all beyond his knowledge. These views of Dr. Cohen are of interest to medical men who as a body are so often called upon to give evidence in the courts, evidence on which may hang the life or liberty of a fellow subject. It is impossible to magnify the importance of the difference between an opinion and a statement of fact in giving evidence. There is a certain amount of distrust of expert evidence which is due, no doubt, to a lack of appreciation of this difference by some expert witnesses as well as by the general public. But a professional man should not sink his dignity by accepting a fee to express an opinion in court without having satisfied himself that the facts submitted to him and examined by him warrant such opinion. As Dr. Cohen says: "Evidence should be given with a view to elucidate the truth and not to score points for or against either side."

A Mission Hall as a Common Lodging House.

Miss M. Barclay was fined £2 with £5 5*s.* costs by Mr. Chapman on April 26th for keeping a mission hall in Paradise-street, Rotherhithe, as a common lodging house. The facts had been gone into at a previous hearing but the case had not been decided owing to the appeal from a decision by another magistrate, Mr. Cluer, in a similar case not yet having been decided, and it had been understood that Miss Barclay would endeavour to prevent the circumstances constituting the alleged offence from recurring meanwhile. The defendant, a lady whose benevolent intentions are beyond dispute, urged in her own defence that the men admitted to the hall had nowhere to sleep and were tired; she also added that they were asked not to go to sleep and that there was no law to prevent men from going to sleep in a mission hall and that other gentlemen present in court no doubt sometimes fell asleep in church. This somewhat feminine line of argument did not prevail with Mr. Chapman, who pointed out to the defendant that he had to administer the law as it stood and that, in his opinion, she had brought herself within its provisions. He might have added that the law relating to common lodging houses exists for the benefit of the very class in whose physical welfare Miss Barclay is interested. In providing certain regulations for the sanitation of such places the law not only protects the community but increases the comfort as well as the safety of the individuals whose hard lot compels them to frequent the lodging house.

The Medical Man, the Coroner, and the Pathologist.

At an inquest held recently at Wandsworth, Mr. E. R. Badcock, medical officer to the local Poor-law authorities, gave evidence, the deceased having died after Mr. Badcock had ordered his admission to the infirmary but before he could be conveyed thither. In the course of his evidence Mr. Badcock protested against not having been afforded an opportunity of attending the post-mortem examination, which was made as usual by Dr. L. Freyberger. Mr. Troutbeck's reply to this complaint is thus reported in the *Daily Telegraph*: "It is quite useless of you making these silly protests. Continue your evidence." When the witness had stated his opinion as to the cause of death the coroner addressed him thus: "Why would you not certify as to death? These were respectable people and you had the history of the case I object very much to having these inquests forced upon me" If Mr Troutbeck does not find that he enjoys the coöperation and the goodwill of the medical practitioners in his district he has only himself to thank , in any case, however, the medical man has to certify upon his own responsibility as to the cause of death, whether the deceased s relatives are respectable or not, and is perfectly right not to do so if his attendance upon the deceased has not been such as to enable him to certify with confidence Mr Badcock complained that he was not enabled to be present at the post mortem examination in order that he might observe for himself whether such opinion as he had formed was justified If, however, he had attended the deceased "at his death or during his last illness ' he was the proper person not merely to be present at the post mortem examination but actually to make it himself according to the 21st section of the Coroners Act, 1887 That he had so attended the deceased Mr Troutbeck would, presumably, not dispute, after having expressed the opinion that he should have given a certificate as to the cause of death

The Forensic Position of Deaf mutes

Dr W Wynn Westcott lately had a deaf mute woman before him in his coroner's court who had overlaid her baby The coroner s officer gave most of the evidence and the verdict was eventually returned of ' Accidental death ' The law recognises two varieties of muteness A man upon arraignment may be "mute of malice, ' wilfully refusing to plead at all or he may be mute not of malice but from 'the visitation of God" Should occasion arise this latter condition *et surdus et mutus a nativitate* is a presumption in law of idiocy as coming under the heading *dementia naturalis* Some difficulty arises when a deaf mute witness has to be examined , he cannot hear the terms of the oath under which he is sworn and his testimony must be either written down by himself or transmitted through an interpreter as was decided in a case tried in 1827 Formerly previously to ' the schoolmaster being abroad, illiterate deaf mutes accused of malingering in court were subjected to great hardships , thus in 1734 John Durant was tortured with the thumb screw in order to force him to plead, he was probably deaf and certainly illiterate A legal decision affirmed that a deaf mute might marry (1 K & J 4) In 1876 a deaf mute was found guilty but unable to appreciate the forensic proceedings , he was therefore detained as a non sane person during Her Majesty s pleasure In 1900, at the Salisbury autumn assizes a deaf mute was allowed to plead in writing At the Central Criminal Court in 1897 a man who had cut his own throat after committing a murder was upon arraignment only able to whisper "not, owing to the damaged state of his larynx , he subsequently received a capital sentence In olden times after being thrice warned *prisone* or *peine fort et dure* was the lot of one suspected of inconvenient taciturnity muteness of malice , the reason for the assumption of dumbness was not far to seek, for one who did not plead at all could not be convicted nor could his lands be forfeited , thus did men lose their lives to save their estates for their families

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

In 76 of the largest English towns 8434 births and 4954 deaths were registered during the week ending April 29th The annual rate of mortality in these towns, which had been 15 7, 16 6, and 15 6 per 1000 in the three preceding weeks rose again to 16 5 per 1000 last week In London the death rate was 15 9 per 1000, while it averaged 16 8 per 1000 in the 75 other large towns The lowest death rates in these towns were 8 1 in Hornsey 8 2 in King s Norton, 8 3 in Wallasey, 8 7 in Bournemouth 8 9 in East Ham, and 9 6 in Northampton, while the highest rates were 22 1 in St Helens, 22 8 in Stockport 22 9 in Wigan 24 2 in Sunderland 25 4 in Merthyr Tydfil, 25 8 in Newport (Mon), and 27 0 in Middlesbrough The 4954 deaths in these towns last week included 460 which were referred to the principal infectious diseases, against 430, 553, and 453 in the three preceding weeks , of these 460 deaths, 203 resulted from measles, 122 from whooping cough, 42 from diphtheria, 40 from diarrhœa, 32 from scarlet fever, 20 from "fever" (principally enteric), and one from small pox No death from any of these diseases was registered last week in Hornsey, Leyton, Bournemouth Great Yarmouth, Norwich, Plymouth, Wolverhampton, Grimsby, Wallasey, Bootle, Bury, or Rochdale, while they caused the highest death-rates in West Bromwich, Coventry, St Helens, Oldham, Sheffield and Merthyr Tydfil The greatest proportional mortality from measles occurred in West Bromwich, Coventry, St Helens, Wigan Warrington, Sheffield, Sunderland Newport (Mon), and Merthyr Tydfil, and from whooping cough in Willesden, Tottenham, and West Ham The mortality from each of the other principal infectious diseases showed no marked excess in any of the large towns One fatal case of small pox occurred in London, but none in any other of the 76 towns The Metropolitan Asylums Hospitals contained 16 small pox patients at the end of last week, against 21, 15 and 17 at the end of the three preceding weeks , four new cases were admitted during the week, against four, none and six in the three preceding weeks The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital which had been 2086, 2133 and 2128 at the end of the three preceding weeks, had risen again to 2182 at the end of last week , 255 new cases were admitted during the week, against 292 290 and 253 in the three preceding weeks The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 308 304 and 272 in the three preceding weeks increased to 306 last week, and were 82 in excess of the number in the corresponding period of last year The causes of 72 or 1 5 per cent , of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Portsmouth Bristol, Leeds, Newcastle on Tyne, Cardiff and in 46 other smaller towns , while the largest proportions of uncertified deaths were registered in Reading, Norwich, Birmingham Liverpool, St Helens, Warrington, Sheffield, Sunderland, South Shields, and Gateshead

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in eight of the principal Scotch towns, which had been 16 6, 18 0, and 17 8 per 1000 in the three preceding weeks, rose again to 18 8 per 1000 during the week ending April 29th and was 2 3 per 1000 in excess of the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 12 8 in Leith and 15 9 in Dundee to 20 8 in Greenock and 21 1 in Glasgow The 632 deaths in these towns included 27 which were referred to whooping cough 21 to measles, eight to diarrhœa, and one each to scarlet fever, diphtheria and enteric fever, but none to small pox In all 59 deaths resulted from these principal infectious diseases last week, against 69 in each of the two preceding weeks These 59 deaths were equal to an annual rate of 1 8 per 1000, which was 0 3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns The fatal cases of whooping cough, which had been 28 36, and 23 in the three preceding weeks rose again last week to 27 of which 18 occurred in Glasgow, four in Paisley two in Edinburgh, and two in Dundee The deaths from measles which had been 13, 17, and 23 in the three preceding weeks, declined to 21 last week and included 15 in Glasgow and five in Edinburgh The fatal cases of diarrhœa, which had been 20, nine and 12 in the three preceding weeks, decreased again last week to eight, of which six were recorded in Glasgow The deaths referred to diseases of the respiratory organs in these towns, which had been 119 121, and 126 in the three preceding weeks, declined again to 121 last week and were equal to the number in the corresponding period of last year The causes of 18, or nearly 3 per cent , of the deaths registered in these eight towns last week were not certified

HEALTH OF DUBLIN

The death rate in Dublin, which had been 25 5 21 6, and 23 4 per 1000 in the three preceding weeks, declined again to 21 9 per 1000 during the week ending April 29th During the past four weeks the death rate has averaged 23 1 per 1000, the rates during the same period being 15 7 in London and 16 0 in Edinburgh The 159 deaths of persons belonging to Dublin registered during the week under notice were 11 below the number in the preceding week and included eight which were referred to the principal infectious diseases, against five, eight, and 12 in the three preceding weeks; of these, three resulted from diarrhœa, two from measles, two from "fever," and one from whooping-cough, but not any from small-pox, from scarlet fever, or from diphtheria. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·5 in London and 1·4 in Edinburgh. The fatal cases of diarrhœa, which had been two, none, and three in the three preceding weeks, were again three last week. The deaths from measles, which had been four in each of the two preceding weeks, declined last week to two. The 159 deaths in Dublin last week included 23 of children under one year of age and 48 of persons aged 60 years and upwards; the deaths of infants showed a considerable decline, while those of elderly persons were equal to the number in the preceding week. Four inquest cases and three deaths from violence were recorded; and 63, or nearly two-fifths, of the deaths occurred in public institutions. The causes of ten, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

THE following appointments are notified:—Fleet Surgeons: W. W. Pryn to the *Goliath*, R. H. Nicholson to Portsmouth Dockyard, J. H. Whelan to the *Canopus*, W. Bett to Greenwich Hospital School and R.N. College; and J. H. Acheson to the *Russell*. Staff Surgeons: H. W. Finlayson to the *St. George*; H. N. Stephens to the *Topaze;* and L. Kilroy to the *Wildfire*. Surgeons: S. Roach to the *Cambridge* and H. P. Turnbull to Haslar Hospital.

Army Medical Staff.

Surgeon-General Sir E. Townsend, K.C.B., C.M.G., is placed on retired pay (dated April 22nd, 1905). Colonel R. H. Quill, from the Royal Army Medical Corps, to be Surgeon-General, vice Sir E. Townsend, K.C.B., C.M.G. (dated April 22nd, 1905).

Royal Army Medical Corps.

Lieutenant-Colonel O. E. P. Lloyd, V.C., to be Colonel, vice R. H. Quill, promoted (dated April 22nd, 1905). Captain O. Challis resigns his commission (dated May 3rd, 1905).

Major J. C. Connor joins at Portsmouth. Captain J. M. Sloan, D.S.O., assumes the duties of Recruiting Medical Officer, Glasgow, during the absence on leave of Lieutenant-Colonel W. V. Lane from May 1st to June 30th. Captain A. H. O. Young takes over charge of staff and departments of the Belfast Garrison.

Indian Medical Service.

The King has approved of the following promotions among officers of the Indian Medical Service made by the Government of India:—Captains to be Majors (dated Jan. 30th, 1905): *Bengal Establishment:* Charles Milne, Vivian Godfrey Drake-Brockman, William Young, John Joseph Bourke, Bernard Robert Chatterton, Cedric Barkley Prall, Charles Edward Williams, John Norman MacLeod, Walter Holland Ogilvie, Thomas Alfred Ollivant Langston, Richard Heard, Edgar Rowe Parry, Walter Hood Orr, and Paxton St. Clair More. *Madras Establishment:* George Bidie. Lieutenants to be Captains (dated Jan. 29th, 1905): Alfred Ernest John Lister, Thomas Samuel Beauchamp Williams, Samuel Herbert Lee Abbott, Alexander William Greig, Richard Ernest Lloyd, John Edmund Clements, Hugh Barkley Steen, Ernest Bisset, Richard James Bradley, James Woods, Alexander William Overbeck-Wright, David Munro, Thomas William Harley, John William McCoy, Roger Lionel Hagger, Robert Markham Carter, Roger Durrant Willcocks, Thomas George Ferguson Paterson, Dodington George Richard Shurton Baker, Jasper Robert Joly Tyrell, Dewan Ganpat Rai, Robert Macpherson Barron, William Reith John Scroggie, Lewis Patrick Farrell, Thomas Henry Gloster, Herbert Henry George Knapp, James Henry Horton, D.S.O., and William Adolphus Justice.

Royal Army Medical Corps (Militia).

Dublin District Company: Captain (Honorary Captain in the Army) J. Davies resigns his commission (dated April 1st, 1905).

Volunteer Corps.

Royal Garrison Artillery (Volunteers): The Highland: Surgeon-Lieutenant G. Wilson to be Surgeon-Captain (dated April 22nd, 1905).

Royal Engineers (Volunteers): 1st London: Surgeon-Lieutenant E. O. Roberts to be Surgeon-Captain (dated March 28th, 1905).

Rifle: 4th (Hunts) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Captain W. F. Fisher resigns his commission (dated April 22nd, 1905). 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant-Colonel G. P. Alexander resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform (dated April 22nd, 1905). 2nd Volunteer Battalion the Prince of Wales's (North Staffordshire Regiment): Surgeon-Lieutenant E. O. Stack to be Surgeon-Captain (dated April 22nd, 1905).

Army Medical Reserve of Officers.

Surgeon-Major R. T. C. Robertson to be Surgeon-Lieutenant-Colonel (dated April 11th, 1905).

Army Reform.

From intimations which have appeared in the daily press it would appear that Mr. Arnold-Forster and the military members of the Army Council are not at one in regard to the new army scheme put forward by the War Minister. Notwithstanding the various explanations which have been given in the House of Commons regarding its object and character, but rather in consequence thereof, it cannot be said that anybody knows exactly "where we are" in this matter. It seems clear that Mr. Arnold-Forster has not succeeded in carrying conviction to the minds of all those whom he sought to convince that he has produced a sound, well-balanced, and workable scheme. It is certainly incomplete from a sanitary and medical point of view to meet all the requirements of war and whether the scheme as a whole will prove successful in attracting the requisite number and quality of recruits into the army and in providing a sufficient army reserve are points which have still to be settled by the tests of trial and experience.

The Field Ambulance.

A description of the new unit, "The Field Ambulance" has recently been published by the War Office. It takes the place of the bearer company and the field hospital and is under the command of a lieutenant-colonel. The total *personnel* consists of 252 of all ranks; these are divided into (1) a bearer, (2) a tent, and (3) a transport division. The bearer division consists of a *personnel* of 129, of which 117 are privates; 90 of these may be "specially enlisted men." The tent division has accommodation for 150 patients; three of the officers may be civilian surgeons. In the transport division no less than 60 of the Army Service Corps are employed but without an officer from that corps. Each field ambulance is attached to a brigade. There is also one for the corps troops. In a cavalry brigade there is only accommodation for a field ambulance equipped for 50 patients and the *personnel* is accordingly reduced to 120.

The Volunteer Ambulance School of Instruction.

The annual banquet of the school will be held at the Trocadéro Restaurant, Piccadilly-circus, London, W., on Thursday, May 18th, at 7.45 P.M. The chair will be taken by the senior medical officer, Surgeon-Colonel P. B. Giles, V.D. The string band of the 1st Cadet Battalion of the Royal Fusiliers will perform a selection of music during the evening. Past and present members of the school can obtain tickets by applying to the mess president, Surgeon-Captain E. M. Callender, 47, Connaught-square, W.

The Water at Tregantle Fort, Plymouth.

It is notified in Plymouth Coast Defence orders that "troops are prohibited from drinking water or gathering crabs for eating purposes from the stream running past the firing points on B range at Tregantle, the water being polluted and unfit for use."

The War in the Far East.

The news from the theatre of war as to actual operations is extremely meagre and such being the case the crop of rumours is proportionately heavy. It is necessarily a time of tension and anxiety, for the importance of the result of the coming naval engagement cannot be exaggerated. Everything may be said to depend upon it. But no one can guess, and still less foretell, what are likely to be the nature and the extent of the naval operations nor where they will take place We know but little about the position of the Russian fleet at the present time and cannot safely conjecture where that of the Japanese lies hidden. A little insight into the condition of the Russian land forces may be obtained from an order recently issued by General Linievitch forbidding the destruction of stores without the express permission of superior authority. It appears to have come to the Russian general's knowledge that commissariat stores had been destroyed at a time when the troops were in urgent need of them and when no food rations and forage had been issued for several days

In consequence of the recent decision to accept the services of medical men with degrees from foreign universities for service in the Far East, the Russian local papers say that already applications are coming to the Bessarabia and Kherson district councils from both male and female medical practitioners who have graduated in Switzerland, France, and Germany

A travelling correspondent of THE LANCET, who was present at the retreat from Mukden and who reached Harbin towards the end of March, has written us an interesting letter. He found that in spite of his knowledge of the Russian language and of the scarcity of medical men, which made any medical assistance valuable, his English origin caused him to be always an object of suspicion He says that he had great difficulty in getting to Mukden, though German and French medical men were allowed to visit the hospitals. Of Harbin he says that on March 28th the city contained 70 000 wounded It was one large hospital, no less than 27 Red Cross hospitals were trying to cope with the terrible situation, while their efforts were minimised by the fact that the Russian army officers are at loggerheads with the Red Cross organisation

Correspondence.

"Audi alteram partem."

SECURITY OF TENURE FOR MEDICAL OFFICERS OF HEALTH.

To the Editors of THE LANCET

SIRS,—I was delighted to see in THE LANCET of April 29th a letter from Mr Herbert Jones on this vitally important question In my capacity as secretary for the North Western Branch of the Incorporated Society of Medical Officers of Health my attention was drawn about a month ago to a case of equally great hardship to those quoted in your annotation I do not think I am violating any confidence by giving you the particulars of it The case is that of Mr N Hannah, for no less than 30 years medical officer of health for the Abram urban district council, near Wigan, Lancs Mr Hannah served this council for half a lifetime without any complaint having been made as to the performance of his duties The district council concerned had been in the habit, we were informed, of making this appointment annually, on the re appointment becoming due this year it was made a condition that the officer appointed should reside within a mile radius *of the district council offices* Mr Hannah, who is in private practice and who is also medical officer of health for an adjoining district, found it impossible to comply with this condition and was accordingly passed over when the appointment was made The matter was reported by some member acquainted with the circumstances to the local branch of the Medical Officers of Health Society and a resolution was passed that the attention of the Local Government Board be drawn to this detrimental system of making annual appointments and particularly to the terms of advertisement for the appointment to which I have alluded The meeting at which this resolution was unanimously carried was one attended by medical officers of health for counties, county boroughs, municipal boroughs, and urban and rural districts, and I can assure you that the greatest possible sympathy was felt for Mr Hannah by the branch I have no doubt whatever that if your readers would take the trouble of putting you in possession of information relating to cases similar to this the objects of the Bill now before Parliament would be considerably advanced.

I am, Sirs, yours faithfully,

Stockport, April 29th, 1905 MEREDITH YOUNG, M.D. Edin.

GALL-STONES AND CANCER.

To the Editors of THE LANCET.

SIRS,—The interesting paper by Dr. G. R. Slade in THE LANCET of April 22nd, p 1059, and your annotation thereon are of so remarkable a character as to warrant some discussion In the main one can have no difficulty in agreeing cordially with Dr. Slade's conclusions—conclusions which have already been accepted by most writers upon the subject—to the effect that the association between gall stones and cancer is close and that gall stones are the determining cause of cancer of the gall bladder His final conclusion, that cholecystectomy should be performed whenever possible if any thickening of the gall-bladder be found at the time of operation, is one the value of which I have often urged In two papers published in the *British Medical Journal*, Vol I, 1903, p 186, and in THE LANCET of April 30th, 1904, p 1190, and in my work on ' Gall stones and their Surgical Treatment," I have pressed the claims of cholecystectomy in place of cholecystotomy in many cases Dr Slade indeed repeats some of the arguments used by me in those articles But although I agree with Dr Slade's conclusions, I cannot admit that his figures are anything but exceptional It is perfectly clear that the whole series of cases was of an unusual character 61 operations were performed with 17 deaths, a mortality of 27 8 per cent That alone shows the serious nature of the cases and I venture to assert that the conditions found on post mortem examination are as far from the average as is a mortality of 27 8 per cent from the average mortality of operations performed for gall stones and the complications caused by them

So far as concerns the frequency of cancer in association with gall stones, the evidence afforded by the statistics of the surgeons does not coincide with the experience of Dr Slade *Carcinoma of the gall bladder does not occur in* 18 per cent of operations and it certainly cannot be admitted that "over 50 per cent of all cases of gall stones end in malignant disease ' It is clear, I think, that the earlier stages of gall stone disease in which operation should be practised, so that these grave complications are avoided, is very sparsely represented in this series If malignant [illegible] gall bladders we [illegible] amination of such [illegible] should hear more of troubles subsequent to the performance of cholecystotomy when such conditions were present

I have performed cholecystectomy over 40 times In two of these cases the gall bladder was removed because it was clearly affected with malignant disease In 18 there was gross thickening of the walls of the gall bladder, in only one of these specimens was malignant disease found after careful examination So far as I know only two cases have been recorded of malignant disease of the gall bladder occurring in patients upon whom cholecystotomy had been performed Both these cases are mentioned on p 325 of my book on gall stones, they occurred in the practices of Mr R Lawford Knaggs and Mr A W Mayo Robson. When many surgeons can number their operations for gall stones by hundreds and a few by thousands, it seems reasonable to suppose that if malignant disease occurred after cholecystotomy we should hear of it occasionally I submit, therefore, that the gall bladders, thickened by chronic inflammation, which are removed by operation do not show evidence of malignancy on investigation in anything more than a very small proportion of cases and that such gall-bladders when drained by the operation of cholecystotomy do not suffer from malignancy subsequently except in the rarest circumstances It is, I am fully aware, often difficult to reconcile post mortem experience with the experience of the operation table, especially when the material in each case is liable to considerable variations The number of cases in each class in Dr Slade's series is so small that it is quite possible that a further investigation will alter the results considerably. So far as concerns the remarks under "Surgical Aspects," I do not hesitate to say that the figures given are opposed to the published experience of all surgeons whose cases are numbered in hundreds—Kehr, the Mayos, Mayo Robson, and to my own. Thus in 547 operations recorded by Dr. W. J. Mayo malignant disease was found 25 times, a percentage of rather less than five. In this series are ten cases of "exploration" only, the condition found being inoperable. In Kehr's statistics the malignant cases and the acute infective cases are grouped together; of these, there were 129 cases in a total of 1000. In 500 cases operated upon by Mayo Robson there were 49 cases of malignant disease. In my own experience malignant disease has been present in almost exactly 5 per cent. of the cases submitted to operation. And these statistics include not cases of malignant disease of the gall-bladder only but cases of malignant disease in the liver or the head of the pancreas or any part of the bile passages.

Though I cannot agree that Dr. Slade's experience represents, even approximately, the average, I cannot but feel that his investigation is one of great worth and that his support of the view I have long held of the necessity for the more frequent performance of cholecystectomy is most valuable. I think his figures are exceptional but I am sure his conclusions are sound.

I am, Sirs, yours faithfully,
Park-square, Leeds, April 27th, 1905. B. G. A. MOYNIHAN.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

To the Editors of THE LANCET.

SIRS,—In view of the epidemics of cerebro-spinal meningitis prevailing at present in New York and elsewhere it may be of interest to report three cases which occurred 12 months ago in my practice in the country near Banbridge, co. Down, and which I regarded at the time as cerebro-spinal meningitis. All three patients belonged to the same family and lived in the same house.

1. The patient was a girl, aged nine years. The mother told me that she had been ill for five days with headache and pains in the back, but she had not been in bed before I saw her. She cried frequently, was dull and listless and slow to answer questions. She had marked photophobia. The temperature was 102° F. and the pulse was 100. Examination of the chest and abdomen revealed nothing abnormal except a slight petechial rash over the skin; the spots were small and distinctly hæmorrhagic and quite unlike any of the ordinary exanthemata. The tongue was slightly coated; the throat was inflamed; there was no diarrnœa. She was placed in bed in a darkened room with ice applied to her head. Four hours later I received a telegram saying that she was dying, and so it proved. She had had a series of very severe convulsions, the temperature ran up to 106·4°, and, in fact, she died half an hour after I arrived. I was painfully surprised at this abrupt termination but I did not suspect then that the case was anything but meningitis of one of the usual types.

2. Nine days later in the same house I saw a boy, aged 14 years, a brother of the first patient. He had been ill for two days and his symptoms were almost identical with those of his sister when I first saw her. Continuous pain, mental torpor, photophobia, and petechial rash were all present. He also had an inflamed throat and the temperature was 102° F. The following day he was worse; there was well-marked retraction of the neck and spine and Kernig's sign was present; later there were spasms of the muscles but no convulsions, also hyperæsthesia over the spine, with increasing pain and difficulty in extending the legs. It seemed a typical case of cerebro-spinal meningitis and to confirm this view I proceeded to perform lumbar puncture to have the cerebro-spinal fluid examined for the diplococcus. In this, however, I unfortunately failed, for on inserting the needle, owing to the violent struggles of the boy and the sympathy of his father, I was compelled to desist, to my lasting regret. This was on the fifth day of his illness; about the seventh the symptoms began gradually to subside and he was convalescent in a fortnight. He was placed on no special treatment beyond rest and isolation in a darkened room, ice-cap, bromides, and antipyrin. The rash gradually disappeared during recovery after the other symptoms subsided.

3. During the convalescence of the last patient his sister, a girl aged 18 years, took ill in exactly the same way. She developed all the symptoms enumerated above, including the petechial rash, but they were less severe and convalescence set in about the tenth day. Both these last two cases were quite well within three weeks and no other similar cases occurred in the house or neighbourhood.

Without having bacteriological proof I would like to know whether the above history and symptoms should justify the diagnosis of cerebro-spinal meningitis in the absence of an epidemic and, if so, in what way might such an occurrence be explained. There was, of course, the epidemic in Dublin five years ago which I was fortunate enough to witness but since then I had neither seen nor heard of any cases in Ireland until these three occurred in such a curious, and to me inexplicable, manner.—I am, Sirs, yours faithfully,

J. HOPE REFORD, M.D. R.U.I.
Crossmyloof, Glasgow, April 20th, 1905.

To the Editors of THE LANCET.

SIRS,—The leading article on Epidemic Cerebro-Spinal Meningitis in THE LANCET of April 15th has drawn the attention of the medical profession in England to this disease; at the same time the English-speaking community on the continent has read of it *ad nauseam* in the columns of the *New York Herald*. It would appear that all which has been discovered in connexion with this disease should be matter of common knowledge, at any rate to our profession. Yet, as your article says, "our knowledge of the conditions leading to the epidemic spread of cerebro-spinal fever is of the scantiest." Some four years ago when in Egypt I read an interesting paper by the late Major Hill-Smith, R.A.M.C., of the Egyptian Army Medical Corps. It was published, I believe, in the annual report of the principal medical officer of the Egyptian army in 1899 or 1900. As I have never seen this paper referred to I presume that it did not attract any attention, yet at a time when once more so much is written of epidemic cerebro-spinal meningitis I may be excused for quoting from memory from a paper which contained an observation of possible importance. When after the battle of Omdurman the Egyptian army took possession of the town an epidemic disease soon arose among the troops quartered in the neighbourhood of the Mosque square. This disease was proved to be epidemic cerebro-spinal meningitis clinically and pathologically and, as far as the conditions obtaining at Omdurman allowed, bacteriologically. The disease first broke out among the companies occupying certain buildings which had been used previously by the Khalifa as stables for the horses of his cavalry and quarters for the men in charge of the horses. The case incidence was much the heaviest in this spot and spread in diminishing intensity from it, indicating, as Major Hill-Smith's map clearly showed, this as the original focus of the disease. Following up this clue it was found on inquiry that a fatal form of horse sickness had been endemic in these buildings and that two years previously it had been so severe and so fatal that the stables had been abandoned and not used until their occupation by the troops of the Egyptian army.

These facts seem to warrant at least the suggestion that the horse sickness and the outbreak of cerebro-spinal meningitis had some close connexion, a suggestion to which subsequent observations of Major Hill-Smith further up the country lent additional support, if I remember his paper correctly, but at this distance of time I cannot be sure of these last observations. With regard to the facts about the epidemic at Omdurman my memory is, I think, accurate, as I spent some six months in Omdurman shortly after reading this paper and the impression of it was increased by the local associations. Where, as the writer of your article admits, our knowledge is so scanty any suggestion based on accurate observation is worth attention and so I venture to recall to your notice the late Major Hill-Smith's paper.

I am, Sirs, yours faithfully,
Florence, Italy, April 19th, 1905. EDWARD A. GATES.

PEOPLE'S SANATORIUMS AND PRIVATE SANATORIUMS.

To the Editors of THE LANCET.

SIRS,—I have read with interest the first part of your Commissioner's report written from "Nordrach." There cannot be too much enlightenment on the methods and practice of the different sanatoriums, even of one so familiar to most of us interested in the treatment of tuberculosis as Nordrach Colonie.

May I, with your permission, make one or two remarks? I do not hold a brief for Jones's Homes at Sandgate, nor do I approve of its arrangements if they are carried on in the style described by *Truth* from time to time. It seems to me, however, scarcely consistent with fairness to take the private sanatorium of Dr. Walther at Nordrach Colonie as being the one referred to in the circular as "the open-air cure practised at Nordrach, Leysin, &c.," as evidently (taking into consideration the cost of treatment) the *people's sanatoriums* are the places referred to. One of these existed at Nordrach (village) where the patients (sent by the State insurance societies) occupied the ordinary village houses and when passing through a few years since I saw dozens of these patients walking about through the streets, in and out of the shops, just as they are described as doing at Sandgate. At another village in the Black Forest, Schömberg, where Herr Römpler's and another private sanatorium are situated, there was also a Volk's Sanatorium on the boarding-out system. One or two curiously decorated structures were pointed out to me as galleries or verandahs which looked out on a narrow and shut-in street.

If your Commissioner would describe some of these Volk's
›w the patients spend their
and the character of the
eaders would be extremely
vhen in Germany was that
Falkenstein, Hohenhoneff,
and Nordrach Colonie are comparatively easy to see but that the less known institutions were not always easy to obtain information about. As an instance, I was unblushingly informed at one sanatorium that another (not 20 miles distant) did not exist. Dr. F. Rufenacht Walters gives a list of people's sanatoriums in his "Sanatoria for Consumptives," but several names might be added now to that in the 1901 edition.

Your Commissioner impresses one as taking rather a different view of the infectivity of phthisis from that expressed in your excellent leading article on Public Health in the Transvaal, where you emphasise the fact that in pulmonary phthisis infection is only possible when certain simple precautions are not observed.

It has been repeatedly pointed out that the presence of sanatoriums in the villages had a beneficial educational effect—e.g., Falkenstein and Göbersdorf. About eight years ago in this city (Belfast) the fear of the infectivity of phthisis was so rampant that great difficulty was experienced in obtaining a new site for the Consumption Hospital. Now this dread has so far subsided that applications are constantly being made for permission to build villa residences inside the hospital grounds.

I am, Sirs, yours faithfully,
F. HOWARD SINCLAIR,
Visiting Physician, Forster Green Hospital, Belfast.
Belfast, April 30th, 1905.

SHOCK AND COLLAPSE.

To the Editors of THE LANCET.

SIRS,—I quite agree with Mr. P. Lockhart Mummery that arguments should be based on experimental evidence, but these arguments must satisfy the ordinary laws of reasoning. I based my arguments on the elementary fact which has been overlooked by Mr. Mummery—namely, that fluid transmits pressure equally in all directions. Surely this requires no further experimental proof. Mr. Mummery apparently thinks that increased atmospheric pressure tends to drive the blood from the peripheral to the deeper vessels but that this does not occur in health because the vaso-motor centre compensates for it by altering the calibre of the vessels. (Has Mr. Mummery any experimental proof of these views?) Are we to understand that the vaso-motor centre can keep open vessels which are subjected to an increased pressure of, say, two atmospheres? If so, by what mechanism does it *do so?* I pointed out in my former letter that increased atmospheric pressure could not affect the distribution of blood in the vessels because it was transmitted to all parts of the circulation equally. If it cannot alter the distribution, how can it alter the blood pressure? If the absolute pressure of the blood be x and the atmospheric pressure be y, the blood pressure as determined by instruments is $x-y$. If we increase y we increase x by the same amount according to the ordinary laws of hydrostatics and the blood pressure remains $x-y$. As to Crile's experiments I have not been able to refer to his book and must therefore rely on the short abstract given in the second lecture on p. 782. These experiments consisted in placing dogs in a condition of shock in tubes and then raising the air pressure in the tubes. It is not clear from the description whether the animal was completely inserted in the tube or whether it was only partially so inserted, but from the account given I concluded that part of the animal was outside the tube, because of the fact that the blood pressure was apparently recorded and it is not easy to see how this could be done if the whole animal was in the tube. I am confirmed in this view by the statement that, arguing from these experiments, "Crile attempted to treat human beings *in the same way.*" A description follows of the pneumatic suit in which the head and thorax are left outside. These experiments, then, refer to *localised* pressure only and I do not see how they support the hypothesis that *general* increase of atmospheric pressure will cause a rise of blood pressure.

Mr. Mummery says that in health increased abdominal pressure does not produce any appreciable alteration in the blood pressure because the vaso-motor centre is able to compensate for it. No doubt this is true within limits but is there no increase of blood pressure during forcible abdominal compression such as occurs in straining or during a vigorous muscular effort? It is obvious that when the abdominal vessels are dilated and the blood pressure is low the same amount of pressure will produce a larger effect than under normal conditions.

I am, Sirs, yours faithfully,
CHARLES POWELL WHITE.
St. Thomas's Hospital, S.E., May 2nd, 1905.

"THE KING'S CORONER."

To the Editors of THE LANCET.

SIRS,—*Your reviewer of the above book says:—*

> (1) The mere citation of the names of cases might well have been supplemented by more or less copious extracts from them upon any points likely to occur in practice. There would seem to us to be room, therefore, for a carefully compiled work of this class by a sound lawyer, with (2) perhaps chapters not only on such subjects as the law of evidence but a few practical hints on the actual eliciting of it from witnesses and upon such cross examination as the coroner is justified in administering in order to sift their stories where he has no legal assistance from interested parties.

Concerning (1), I may say that I have been engaged for a considerable time upon the work suggested, so that "Mr. Henslowe Wellington will amplify his work in this direction" as proposed by your reviewer. Concerning (2), "the law of evidence" and "the actual eliciting of it from witnesses and such cross-examination as the coroner is justified in administering" can only be acquired by attending the Central Criminal and other High Courts and carefully studying the judge, counsel, and witnesses, as is the daily routine of, Yours faithfully,
R. HENSLOWE WELLINGTON,
Barrister-at-Law and Deputy Coroner.
Temple, April 29th, 1905.

⁂ We understand Mr. Wellington to mean that he had intended to do what our reviewer recommended him to do—an example of what the American psychologist called "the simultaneous consaltation of higher intelligences."—ED. L.

ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.

To the Editors of THE LANCET.

SIRS,—It is the intention of the above association to present a petition to the Royal College of Surgeons of Edinburgh at the forthcoming fourth centenary praying that the title of "Licentiate" may be altered to "Member." Let me urge upon those holding diplomas of the Scottish corporations to join the association forthwith in order that we may voice the wishes of all the Licentiates. It is very important that this object should be pushed forward as rapidly as possible. Our honorary secretary, Dr. David Walsh, 18A, Hanover-street, W., will be glad to receive the names of those interested in this urgent and far-reaching movement and wishing to become members.

I am, Sirs, yours faithfully,
CLAUDE ST. AUBYN-FARRER, President.
London, W., May 1st, 1905.

THE PETITION OF THE LICENTIATES OF THE SOCIETY OF APOTHECARIES TO THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,– [illegible] ›ly to numerous
inquiries [illegible] *ally* affected by
the non- [illegible] be greater than
is generally [illegible] of the Medical

Directory for 1905 shows that 1571 persons now practising hold the diploma in medicine, surgery, and midwifery of the Society and of these 809 (nearly 51 per cent.) have taken no additional qualification. It has been suggested by some correspondents that the Society should seek the designation of Faculty of Physicians and Surgeons of London. Such persons have not studied the history of the London medical corporations or they would know that the charter of the College of Physicians was granted to "the President and College, or Commonality, of the Faculty of Physic of London." The body of the Licentiates of the Society has no desire to usurp the titles of other corporations, and that which is asked for in the petition (Lic. Med., Surg., and Midwifery of the Society of Apothecaries) was carefully considered so as not to trespass on the rights of other bodies and at the same time to do a simple act of justice to a considerable number of practitioners. May I ask any Licentiates who have not sent their proxies for the signature of the petition to do so at once?

I am, Sirs, yours faithfully,
A. RIVERS-WILLSON,
Oxford, May 1st, 1905. Chairman of Petition Committee.

SCHOOL ATTENDANCE AND PUBLIC HEALTH.

To the Editors of THE LANCET.

SIRS,—I think the attention of your constituency should be drawn to the present irrational and intolerable methods of insuring attendance at elementary schools. In innumerable instances the attendance officer discharges his duties without exercising the slightest discretion, with the result that the poorer classes are often subjected to a petty tyranny of officialdom little better than that of certain notorious continental States, and, in addition, are subjected to real danger and suffering in the matter of health. The regulations seem to allow of only two alternatives: a child must attend school or the parent must provide a medical certificate. It is perfectly obvious that an unreasoning interpretation of this rule will often involve, to parents and children, much unnecessary trouble and pain; but what is more serious will often lead to very great risks to public health. Everyone knows that there are many cases of slight but troublesome illnesses, such as nasal catarrh, toothache, diarrhœa, and biliousness, where the parents are competent to judge that the child is unfit for school. In these cases the strain of school work or the exposure in school grounds may induce a serious illness and yet I can cite cases where the parents are continually being compelled to incur the expense of calling in a medical man on such trifling occasions as these.

I know many cases of delicate children with frequently recurring slight attacks of bronchial catarrh, sore-throat, &c., who need only the warmth and care of home for a day or two to restore them to ordinary health. Many of these parents cannot afford repeated fees for medical attendance. The result is that many children are at school who are *known* to be in an unfit state of health and the public health suffers in consequence. What is worse, I am able to prove that the want of discretion in the attendance officer often contributes to the spread of infectious diseases. Take my own district. By extreme measures we succeeded in eliminating nearly all cases of scarlet fever in this township. A fortnight ago two households were still infected. Hoping to confine the cases within these moderate limits, I felt justified in subjecting the houses to a prolonged isolation and requested the schoolmasters to allow no children to attend school from those houses until declared by me free from from infection. A fortnight ago the attendance officer insisted on the attendance of the children at school from one of the proscribed houses. A few days later a child of the family who had been from home during the actual visitation of the epidemic developed symptoms of scarlet fever, thus proving the house to be still infected. Within a week several scholars in the same school were also seized. This and similar cases are due to a blundering officialism which is far more eager to obtain the Government grant than to secure the best interests and real education of the children. I have even come across absurd cases where the inspector with the medical certificate before his eyes has insisted upon bandages being removed from an injured limb that his own petty officialism may be convinced. Certain inspectors insist that although the child is undoubtedly and seriously ill the medical certificate must be produced. It is scarcely credible but I have given a medical certificate for non-attendance, the certificate has been sent to the schoolmaster but has miscarried, and the parents have actually been summoned and fined in spite of a note from me explaining the circumstances!

What right has any attendance officer to assume that every parent is absolutely indifferent to his children's education? My experience is that parents are usually anxious to secure the best education for their children and are loth to see them surpassed by those of their neighbours. A law that was made for delinquents, I aver, is being employed to tyrannise over the well-disposed. In individual instances there are likely to be mistakes, but when the mistakes become the allowed and encouraged rule, especially when those mistakes result in universal annoyance and danger to the public health, it is indeed high time some determined effort were made to rectify them. To bring this grievance of the poorer classes home to our middle class, a friend spent a holiday in Preston with his daughter, a child of ten. The holiday did not happen to coincide with the stipulated school holiday. During the visit the child's life was made intolerable and her walks were almost entirely put a stop to by the unwarrantable interference with her liberty. Repeatedly she was pounced upon by attendance officers who treated her guardian, whether mother, father, or governess, with scant courtesy. Once she was caught alone when the official entered upon a tirade against "the criminal neglect of her father," who, by the way, is himself a public educationist.

Apart from the complaints I have made above this continual terror and tyranny must have an injurious effect upon the younger generation and is likely, unless remedied, to add one more element to the immense nervous stress that oppresses modern life and helps still further to add to the inmates of our crowded asylums. At least one grievous injustice should be immediately abolished. If school authorities compel the production of a medical certificate they should be also required to pay for it. I am inclined to believe some little condition of this nature will tend considerably to correct this blatant abuse.

I am, Sirs, yours faithfully,
A. E. W.

THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

COMMITTEE MEETING AT BERNE.

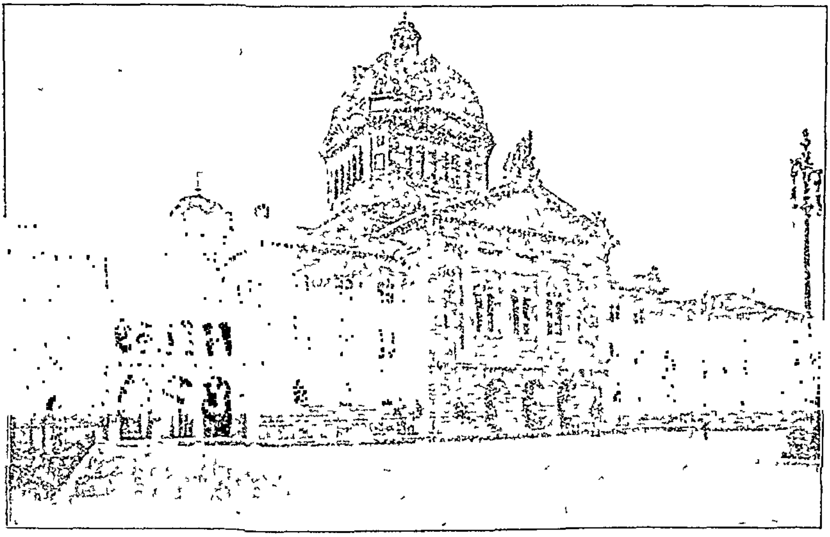
(FROM A SPECIAL CORRESPONDENT.)

Berne, May 1st.

THE committee of the International Association of the Medical Press met at Berne on April 27th and 28th. The Government of the Swiss Republic very graciously placed Committee Room No. 4 of the Houses of Parliament or Federal Palace at the disposal of the association. M. Ringier, the Chancellor of the Swiss Confederation, was present to receive the members of the committee and to welcome them in the name of the Swiss Republic. In a few well-chosen words he declared that he was profoundly touched by the honour conferred on his country when the representatives of the medical press decided to meet in the capital of Switzerland. But the other towns, in fact all Switzerland, would join in welcoming those who rendered great service to the science which did so much for the benefit of humanity at large.

It was at 9.30 A.M. that the committee met, and already on the previous day there had been much informal talk during the dinner and evening spent together at the Hôtel Bellevue. These conversations are almost as useful as, in some cases even more useful than, the formal meetings. It is by such intercourse that much information is obtained and plans are conceived and criticised. Dr. Carlos M. Cortezo, President of the International Association of the Medical Press, sent by telegraph his "affectionate salutations" and explained that, having just been appointed Minister of Public Instruction, he could not spare the time necessary to attend and to preside over the meeting of the committee; he therefore requested the Vice-President, Dr. Posner of Berlin, to occupy the chair in his stead. One of the first acts of the committee was to send a telegram of felicitations to His Excellency Dr. Cortezo. In his absence the Association of the Spanish Medical Press was represented by Dr. Larra y Cerezo who, it will be remembered, was general secretary of the International Congress of the Medical Press held at Madrid in

1903. Dr. Posner represented the Association of the Medical Press in the German language; this comprises the whole of the German Empire and the German-speaking portions of the Austrian Empire. The Association of the French Medical Press deputed the general secretary of the International Association, Dr. R. Blondel, and Dr. T. Amédée Dolčris. The Association of the Belgium Medical Press sent Dr. Victor Pechère, who is treasurer and assistant secretary of the International Association. The Association of the Portuguese Medical Press was represented by the general secretary of the forthcoming Fifteenth International Congress of Medicine, Dr. Miguel Bombarda. The Association of the Italian Medical Press was represented by Dr. L. M. Bossi of Genoa and the Association of the British Medical Press by Mr. Adolphe Smith. There is *as yet no* Association of the Medical Press of Switzerland and only two important medical papers are published in that country; [illegible] man language. [illegible], with the other [illegible] *für Schweizer Aerzte* was present as a Swiss representative. Early in the sitting, the chairman, Dr. POSNER, welcomed the presence of Dr. Jaquet and hoped that he would always attend as the medical press of Switzerland was a credit to the country.



The Federal Palace Berne, where the Committee of the International Association of the Medical Press held its meetings.

The business opened with the report of the general secretary, Dr. BLONDEL, who first explained that the last meeting of the committee was held in September, 1903, at Brussels, immediately after the International Congress of Hygiene On that occasion, Great Britain was represented by two delegates, France by two, and Portugal, Norway, and Belgium each by one delegate. It was then decided that nations could send substitutes for the committee-men elected at the last congress and also that the vote of the committee should not be by nationality, but as the last committee meeting was not well attended that these questions might be again taken into consideration At that time the question of subscriptions could not be discussed because the treasurer was not present. Dr. Blondel explained how the committee had been invited to hold its next meeting at Salsomaggiore in Italy, but that some of the members of the committee meeting at Brussels expressed doubts as to the wisdom of accepting such an invitation Dr. Blondel, after travelling all the way to Milan to ascertain full details, found that the invitation had been made by irresponsible persons who had promised more than they could perform and the project fell through. The question as to how far the committee was justified in accepting invitations and hospitality involved matters of principle which would have to be discussed. Ultimately and on the initiative of Dr. Cortezo and Dr. Posner it was decided to meet at Berne. From Norway and Denmark letters of excuse based on the great length of the journey to Berne had been received and thus these nations could not send delegates. No answer had come from America and an unfortunate misunderstanding had arisen with Russia. The Russian delegate to the Paris Congress had telegraphed from Trouville that he was unable to attend. Thereupon another medical man presenting a document in Russian which no one could read had applied and had been welcomed at the Paris Congress. It appeared, however, that he did not represent the Russian medical press at all but a paper published in the Baltic provinces and in German. Many apologies for the error had been made but the Russian medical journalists seemed very much aggrieved by this mistake. In conclusion, Dr. Blondel pointed out that during the greater part of the last ten years the idea of an international association of the medical press had existed only on paper Now, however, they were in a position to proceed from theory to action. It had been at first agreed that all existing national associations of the medical press could become members of the international association though now it might be necessary to be somewhat more careful But the first necessity was to acquire a decided influence and as a small step in this direction it would be proposed to publish .. [illegible] An attempt had [illegible] of journals to me— [illegible] succeeded, nor had it been possible as yet to obtain special railway privileges for members of the association.

After an expression of thanks to Dr. Blondel for his report the question as to how the committee should vote was taken first.

Mr. ADOLPHE SMITH explained that though he was the author of the proposal for a proportionate vote by nationality at the congresses or general meetings of the entire association he thought that the committee was purely an executive body. It was not its business nor had it the power to alter the constitution or policy of the International Association. Its only purpose was to carry into practice what had been agreed upon at the general meetings. In such purely practical matters only those who knew the facts could decide and only those actually present could assume the responsibility of such decisions. At Madrid and at Brussels the committee had voted by a show of hands.

After some brief observations by Dr. BOSSI, Dr. PECHÈRE, and Dr. BOMBARDA it was unanimously decided to adhere to these precedents. It was also stipulated that this matter having now been discussed at Madrid, Brussels, and Berne, it should not be raised again at the next meeting.

Dr. PECHÈRE (Belgium) inquired if a member of the committee could represent two nationalities. For instance, if his neighbours of the Dutch medical press had asked him to represent them, could he have accepted such a mission? In answer it was pointed out that such a contingency was not provided for by the rules and the committee had no authority to alter the rules.

Dr. BLONDEL explained that in striving to group the medical press it was essential to facilitate the meetings of its representatives. The cost of bringing the members of the committee together from all parts of Europe was very great and the question was whether it would be right to profit by offers made "out of respect for the press." There were wealthy health resorts which would like them to meet there. They had such constant and intimate relations with the railway companies that they could more easily obtain railway passes.

A very lengthy discussion ensued. Dr. PECHÈRE pointed out that in Belgium "journeys of medical study" were organised and the reduction in railway fares and the hospitality offered to the medical students who on these occasions visited health stations had never been subject to any unfavourable interpretation. But it would be necessary to go to different places and countries and not to show any sort of favouritism.

Dr. POSNER stated that German medical associations did not consider themselves in any way compromised because they had accepted hospitality at Carlsbad.

Dr. BOMBARDA considered that they could not be too jealous of their reputation. They were certainly justified in receiving railway passes but he had doubts about accepting *the hospitality of health resorts. It was not what they did* but what others might suspect them of doing.

Dr. BOSSI thought that there was much exaggeration in what had been said, though he fully understood the delicacy of the situation. One thing, however, was perfectly certain. They would never go to any place if expected to write about it and to praise its resources.

Mr. ADOLPHE SMITH said that in principle there could be no doubt that they should be absolutely independent and it would be best to accept nothing whatsoever. As for moral influence the most obvious proof of strength would be the fact that each national association was able to pay the cost of sending its representatives to the meetings of the committee. A few persons meeting together at the expense of their own societies would mean more and be more influential than a larger number whose presence had been facilitated by some outside help. On the other hand, it might be necessary in the beginning and pending such time as the national associations were rich enough to defray the entire cost of their delegates to seek some facilities, such as a reduction in railway fares, so that the cost of meeting might be less burdensome.

An animated discussion then ensued in the course of which it was urged that the hospitality of a State, a municipality, or a railway might be accepted but not that of an industrial society owning mineral waters and such enterprises and that as representation on the committee was limited to three for large nations and two and one for smaller nations, the obtaining of facilities could not do more than secure a full attendance. It was also pointed out that at medical congresses all sorts of invitations were accepted. Finally the following motion was adopted:—

> In view of increasing the importance and authority of the annual meetings of the committee by augmenting the number of delegates present, the meeting held at Berne in 1905 decides to appeal to the activity of the National Associations of the Medical Press so that they may endeavour to defray out of their own budgets the travelling expenses of th[illegible] meetings. Pending the completion of such [illegible] secretary of the International Association is at liberty to negotiate [illegible]h the country where the annual meeting w[illegible] facilities for travelling and for the sojourn [illegible] other countries.

The question of finance was then discussed. The general secretary, Dr. BLONDEL, stated that if everyone had paid their subscriptions there should be 2080 francs in hand. All the expenses so far had been limited to a slight amount of printing and a considerable amount of postage, for which he had not claimed reimbursement. It now appeared that through a misunderstanding the treasurer had not asked for any payments. It was resolved that though it was decided at Monaco in 1902 that the different nationalities should pay annually 20 francs for each member whom they had the right to appoint on the committee, yet as this was not confirmed till the Madrid Congress of 1903, the first financial year of the definitely constituted International Association of the Medical Press commenced on Jan. 1st, 1903. The committee, it will be remembered, consists of four members for the Association of the Medical Press in the German language, of three delegates each for the Medical Press Associations of Great Britain, France, Italy, Russia, and the United States of America, of two for Belgium, and of one each for other nations. All these delegates will now be called upon to pay the arrears due.

The fact that no Russian representative was present was discussed and the following memorandum was drawn up, signed by all present, and will be forwarded to the Russian medical press representatives:—

> The delegates of the medical press of Germany, Great Britain, Belgium, Spain, Italy, France, Portugal, and Switzerland, meeting in accordance with their statutes at Berne on April 27th, 1905, regret that anterior misunderstandings may have retarded the affiliation of the Russian press to the International Association of the Medical Press and cordially invite their colleagues of Russia to manifest their desire to join and to nominate forthwith the three delegates whose mission it will be to represent them on the committee.

The morning sitting then concluded.

(To be continued.)

THE NORDRACH COLONIE SANATORIUM.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from p. 1166.)

Nordrach, April 22nd, 1905.

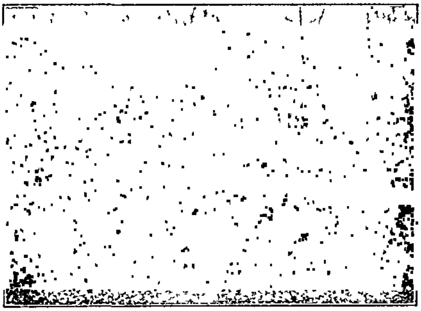
AT Nordrach Colonie exercise plays as important a part in the treatment as the mere fact of being out of doors or of keeping the windows open. It is the morning walk especially, the walk that will create the appetite for the principal meal of the day, that is considered the most important. At 8 o'clock breakfast is served, consisting of pure milk or "coffee" containing more milk than coffee, various sorts of bread, delicious butter, honey, jams, and as much tender cold meat as the patients can eat. But at half past eight everything is swept away and the patients are hurried off each to his allotted task of walking. What is, however, still more surprising is the fact that after dinner, without rest or respite, the walks have to be resumed again. Whatever the weather, rain or snow, the patients must set off for the mountains and the forest. On one occasion an English patient caused much amusement by pathetically pleading for release from this task on the ground that it was Bank Holiday. The plea, however, was not admitted as there was no evidence to show that the habits and customs of the Koch bacillus had in any way been affected by the enactment of the British Bank Holiday Act. In any case it is generally thought that rest should be accorded after meals and that it is essential to eat slowly. There is also an opinion prevalent that it is best to eat little but often. Of course, there are exceptions at Nordrach Colonie as elsewhere, but as a rule these principles are not accepted here. There are only three meals per day. These are devoured at express speed and, with the exception of the evening meal or supper, the patient begins immediately after eating the hardest exercise of which he is capable. Not only are the meals eaten quickly but the food given is that which contains the maximum nutriment in the minimum quantity. There are roast meats, lentils, potatoes, and some, but not much, of the lighter vegetables such as greens and salads. It certainly is a northern diet, there are no "playing with food," no fancy dishes to stimulate flagging appetites, and no loitering over numerous courses. The meals are suited to people of robust health rendered hungry by a bracing climate and unceasing outdoor muscular exertion.

For the ideal sanatorium it is necessary to be surrounded with ideal scenery and a great variety of walks. This and the climate are the chief attractions of Nordrach Colonie. Wood, dale, valley, mountain torrent, babbling brook, majestic mountains, panoramic scenery,—all this abounds and must invigorate and divert especially those who have experienced for long the depressing influence of town life. But the good effects that are thus derived from nature must not be marred by bad sanitation, bad ventilation, or bad food. The sanitation has already been partially described. The drainage is by water carriage into watertight cesspools situated at a considerable distance from the dwelling. These are emptied by an odourless pneumatic system and their contents are carried on to the land. The ventilation, as previously stated, is very thorough and might be described as of hurricane force; but the best measure of all is the complete separation of the various dwellings, each containing but a small number of patients. The Anstalt or largest building, with 20 patients, is about 250 feet from the road and much above it. It is some 400 feet from the Herrn House, with its 16 patients and 150 feet of mountainous ascent from the Swiss cottage, which, however, only holds two patients. In the opposite direction, some 600 to 700 feet away, there is the Roskulla House with nine rooms and no buildings stand between these, the homes of the patients. The Ebler House with five patients and the Finkenzeller with ten convalescents are very much further away. It is this inexhaustible supply of open space and of fresh air that is the most effective measure of hygiene.

Having by all these advantages created an appetite and stimulated the powers of digestion it is all important that the food given should be of the best quality, that is to say, as nutritive as possible. The meat must therefore be tender and succulent. For this it does not suffice to procure the best meat, it is also necessary that it should be hung long enough to become tender. There is an engine-house worked by water power and here ice is made and the meat is kept in a cold storage room. The temperature is just a little above freezing and the meat is hung for about ten days, so that it has not time to lose its flavour and become insipid, like most cold-storage meat, but it does become thoroughly tender. The final point is that the meat should be sufficiently cooked without being overdone. Quality, time of hanging, skill in cooking—these are the three necessary conditions and it must be said that their importance is fully appreciated at Nordrach Colonie. Of as much, if not of greater, importance is the question of milk. Undoubtedly a sanatorium should keep its own cows. It would not be safe to depend on a milk dealer who supplies milk only under such conditions as will yield as large a profit as possible. Milk in the Black Forest is sold at 18 pfennigs the litre. At Nordrach Colonie 10 cows are kept and it would hardly pay to sell their milk at 24 or 25 pfennigs the litre. The barley on which they are fed costs a large sum per annum. If cream is required for cooking purposes, for tea, for cakes, it is purchased in the neighbourhood and not taken from the milk of the cows that are specially fed. Besides barley they are given the best hay and are not often allowed to graze on fresh grass. If the milk-supply should fall short the attendants are given ordinary milk which is bought outside; but the patients always get the milk from the cows especially kept on the estate for them. The difference between this and ordinary milk is very noticeable; and it is the care and the money spent on all these details that constitute the real secret of the Nordrach treatment. It must also be borne in mind that this treatment is subject to modification from hour to hour. The patient's temperature is taken at least three times a day. Three times a day his medical attendant sees him and notes the effects produced by the treatment, the food, and the exercise. Further, the patient sits three times a day at table with his medical attendant who helps him to his food, watches him eat, and hears at the moment itself any complaint that the patient may make in regard to his meals. This process I watched carefully and with interest. Each of the medical attendants sits near to his own patients. The meat is cut in moderately small slices and brought ready cut on a large plate. The medical attendant places on each dish one, two, or three slices and in giving this to the servant indicates for whom it is intended. Thus every detail of the patient's life is carefully watched and controlled from hour to hour. As previously stated, there are no shops, cafés, restaurants, or public-houses accessible where he can get what has not been prescribed. There is but a small kiosk, useful mainly to amateur photographers, a picture of which I, as an amateur photographer, now send to you (see Fig. 3).

Of course, it sometimes happens that a patient is too ill to leave his room, for it must be borne in mind that patients in all stages of pulmonary tuberculosis are accepted. In that case there is a special pan warmed by electricity in each bedroom on which food may be placed and kept warm. Throughout electricity, generated on the estate by the use of water power, is employed. Everything is done to avoid fires that produce smoke, for this does not improve the atmosphere. One or two furnaces for the machinery, the steam laundry, &c., exist and these furnaces are also of use as destructors. The method of dealing with the sputum is simple and effective. An ordinary metallic pail is employed. A newspaper is opened out and placed so as to line the sides of the pail. A certain quantity of sawdust is put into the paper and on this sawdust the spittoons are emptied. The newspaper is closed over the sawdust, lifted and dropped bodily into the furnace, where it is instantly consumed.

FIG. 3.



Kiosk at Nordrach containing the only shop.

Such are some of the main and characteristic features of this sanatorium. From this description it will be easy to see that there is no sort of resemblance between the treatment received by the unfortunate patients at Sandgate and that which is given at Nordrach Colonie.[1]

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Proposed Labour Colony.

A PUBLIC meeting was held a few days ago under the auspices of the Citizens Committee to consider the question of a labour colony for Birmingham and district. The subject has been prominently before the public ever since Mr. Fels offered the guardians land for the purpose. The establishment of such a centre is recommended on the ground that it will enable the Poor-law authorities to provide that employment for the men which, by leading to their physical and moral improvement, will most probably result in their eventually becoming self-supporting. Other advantages claimed for the scheme are that derelict land might be reclaimed by derelict labour and that it would render easy the distinction between those who are and those who are not willing to work. It is admitted that in all probability the colony will be run at a loss [illegible] passed at the meeting urging [illegible] soon as possible a labour col[illegible] similar to those at the Popla[illegible] of the Birmingham, Aston, and King's Norton boards of guardians who were deputed to pay a visit of inspection to the latter colony have issued their report. Without committing themselves to the adoption or the rejection of the scheme they have agreed to gather information as to the number and the class of men suitable for such a colony that the three boards have to deal with and to hold a conference to consider such information.

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[1] A correspondent points out in another column that possibly the [illegible] benefit of the [illegible] not villages but constitute a popular and populous seaside resort.—ED. L.

Medical Men and School Certificates.

At the last meeting of the Dudley education committee Mr. M. A. Messiter attended as a deputation from the Dudley division of the Birmingham branch of the British Medical Association in reference to the payment by the committee for medical certificates. He remarked that as the law now stood parents were compelled to produce medical certificates in cases of non-attendance of children through illness. Medical men were constantly asked by poor parents to supply these certificates and received no remuneration for the work. Most boroughs in the county were paying for these certificates and he asked that the Dudley authorities should follow their example. The matter was referred to a committee.

The New Dietary Tables at the Solihull Workhouse.

An interesting statement made by the workhouse master at the last meeting of the Solihull board of guardians was that under the new dietary tables, by which each inmate was allowed as much bread as he required instead of a certain fixed weight, there had been a saving of 2033 pounds of bread during the last six months. At the same meeting it was decided to call the children's cottage home which has lately been built "The Woodlands," in order that no pauper taint should be borne by the children living there. The annual return for the board showed that there had been a decrease in the number of paupers from one for every 58 of the population in 1895 to one for every 61 in 1904. The number of pauper lunatics had, however, doubled in the ten years.

The Teaching of Sanitation.

At the last meeting of the Birmingham education committee the report of the technical education and evening schools subcommittee was presented, which recommended the establishment at the municipal technical school of a course of instruction in practical sanitation, together with the formation of a sanitary body to supervise such teaching. Dr. A. D. Heath, in presenting the report, remarked that in Birmingham and the district there were 120 sanitary authorities. There was a great demand for instruction in sanitary science and no machinery at all in the Midlands for meeting the demand.

The Feeding of School Children.

The Order issued by the Local Government Board to the boards of guardians concerning underfed children has been received in Birmingham. It is estimated that there are no less than 6000 such children in the city. The only views I have so far heard expressed are that police-court summonses would be more expeditious than county-court summonses and that the carrying out of the Order will prove an expensive matter unless the teachers are utilised for obtaining the necessary information.

May 2nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Death of Dr. J. E. Dutton.

THE sad intelligence of the death of Dr. J. E. Dutton at Kosongo in the Congo reached Liverpool on April 27th. The deceased gentleman was actively engaged in the investigation of trypanosomiasis and tick fever at the time of his death.

Liverpool Port Sanitary Authority: Last Year's Work.

The report for 1904 of Dr. E. W. Hope, medical officer of health to the port sanitary authority of Liverpool, speaks of the careful inspection made of ships which arrived during the 12 months from ports in the East infected with plague, cholera, and small-pox, and of the directions given for cleansing and disinfecting the vessels. Rats play an important part in the dissemination of plague, and during the year 4632 were caught on board 139 ships and examined bacteriologically. Experience in recent years shows that if ordinary precautions are taken the risk of the spread of plague in European ports is very small, probably no greater than in the case of small-pox. Plague is still prevalent in many parts of the world. In Europe no extensive outbreak had occurred during the year. Comparatively few cases of small-pox arrived in the port during the year. The infectious cases landed during the year numbered 99, being exactly the same number as in the previous year. 3522 vessels were inspected, an increase of 520 over the previous year. On board these vessels 4821 nuisances were discovered, 64 per cent. of which were due to inattention to cleanliness. The number of emigrants who sailed from the port was 274,584, of various nationalities. Only 36 out of that large number were found to be suffering from infectious disease, such as children affected with measles, scarlet fever, and chicken-pox. The number rejected on account of non-infectious sickness was also small and the temporary ailments from which emigrants suffered and which resulted in postponement of their journey do not call for special comment. 15 cases of beri-beri which were discovered were treated in the tropical ward of the Royal Southern Hospital.

Death from Cerebro-spinal Meningitis.

An inquest was held on April 22nd on the body of a tailor's cutter who died at the Royal Infirmary on April 18th. According to the evidence of the widow of the deceased it appeared that on March 16th he had had a dispute with his employer's son who dragged him round the shop and shook him. On the way home he had felt too weak to walk and had to be assisted by a friend. The following morning he complained of weakness and pains in the head. Corroborative evidence was given by the tailor's manager as to the struggle. Mr. J. D. McFeely gave a brief history of the symptoms of the case up to the date of the deceased's removal to the Royal Infirmary. He had complained frequently of pains in the left ear and there was a slight tendency to inflammation of the brain. When he recommended his removal to hospital he considered that an abscess was at the root of the trouble. Dr. Hick, house surgeon at the Royal Infirmary, said that when the deceased was admitted to hospital it was agreed by his senior colleagues that he was suffering from meningitis of the brain and spinal cord. A post-mortem examination revealed the fact that death was due to cerebro-spinal meningitis. There were no signs of injury. Cases of this sort had usually no relation to injury and arose from infection admitted through the nose. In reply to the coroner, Dr. Hick said that it was similar to the disease imported from America and that the post-mortem examination did not reveal an abscess at the left side of the brain. A verdict in accordance with the evidence of Dr. Hick, ascribing death to cerebro-spinal meningitis, was agreed upon, the jury adding that there was no evidence to show whether it was due to an injury or to an abscess set up by an injury. At the meeting of the health committee on April 27th Alderman Grant asked Dr. Hope, the medical officer of health, whether he had any information regarding the case of supposed "spotted fever" which occurred at the Royal Infirmary. Dr. Hope pointed out to the committee that the name "spotted fever" was rather a loose term and was applied to a variety of diseases, including typhus fever, which, of course, was highly infectious and one from which Liverpool was, unfortunately, seldom, if ever, entirely free. With regard to the disease which had been prevalent in New York they had no experience of it at all. The term cerebro-spinal meningitis was applied to the disease which the name implied—inflammation of the membranes of the brain and spinal cord. Cases occurred year by year; he had no recollection of a year passing without a death from it. It had no connexion, so far as he knew, with the disease which had been prevalent in New York.

Leigh Infirmary: Laying the Foundation Stone.

The foundation stone of the Leigh Infirmary was laid on April 29th by Alderman Greenough in the presence of a large gathering. The site of the hospital is situated on the Atherton and Tyldesley side of Leigh within a few minutes' walk of the centre of the town. The site is three and a quarter acres in extent, about two and a quarter acres having been generously given by Lord Lilford and the remainder was leased from his lordship. There would thus be space for 40 beds in wards of one storey or 120 beds in wards of two storeys. The present scheme provided for a two-storeyed ward to contain 15 beds for men and 15 beds for women and children. In the administrative block the out-patient department would be temporarily housed. Alderman Greenough announced that he had that day received promises of about £250 in subscriptions, &c., and as an earnest of his sympathy with the movement he would give a further £500 to the endowment fund. The donations to the infirmary at present reach the sum of £11,000. In the evening 35 guests were entertained at dinner by Alderman Greenough. It was stated that in order to provide for the maintenance of the infirmary an effort would be made to get the 14,000 Leigh workpeople to subscribe 1*d.* a week each, as was done at Wigan, where £800 were received annually in this way. The £750 now subscribed from the Leigh collieries to the Wigan Infirmary will probably be diverted to the Leigh Infirmary..

May 2nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

West Wales Sanatorium.

AT the meeting which was held at Cardiff in 1901 for the purpose of establishing a branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis for South Wales one of the most enthusiastic supporters of the scheme was Dr. Douglas A. Reid, the medical officer of health of Tenby, and he was so successful in inspiring his neighbours with a similar enthusiasm that very shortly afterwards a branch of the association was formed for the three western counties of Carmarthen, Pembroke, and Cardigan, where at the census of 1901 there was a population of 284,311 persons. The necessity for taking steps to combat the disease in these counties is forcibly demonstrated in the last annual report of the Registrar-General. In this report Dr. J. F. W. Tatham, in his letter to the Registrar-General on the causes of death, says: "In the report for 1902 allusion was made to the high phthisis mortality prevailing in parts of Wales...... The present report shows that in the succeeding year phthisis was much more fatal among both sexes in Carmarthenshire, Pembrokeshire, and Cardiganshire than it was in the remaining counties of the South Wales group. After correction for age and sex the death-rate in these three counties together was equal to 1855 per million among [illegible] both of these rates be[illegible] corresponding rates for [illegible] and still more in excess [illegible] counties of this group." [illegible] more striking when the records of each county are dealt with separately. Taking both sexes together the rate in Carmarthenshire was equal to 1487 per 1,000,000, in Pembrokeshire to 1536 per 1,000,000, and in Cardiganshire to 2121 per 1,000,000, this last being a higher rate than that which prevailed in any of the other English or Welsh counties. Very soon after the formation of the West Wales branch of the National Association it was decided to erect a sanatorium and a scheme was drawn up to provide accommodation for 28 patients, of whom 20 should pay 10*s.* weekly and the remainder a larger sum. The lords lieutenant of the three counties and of Haverfordwest, which is a separate lieutenancy, took an active part in securing funds and have been appointed trustees of any moneys collected. Several sites more or less suitable were offered by various landowners, some of whom placed any portion of their estates at the disposal of the selecting committee, and eventually one of 14 acres was chosen and has been leased for 999 years from Colonel Davies-Evans, the lord lieutenant of Cardiganshire, at a yearly rental of £11. It is situated in Carmarthenshire overlooking the vale of the Teivy and is about three miles from Llanybyther railway station. It has a sandy soil on shale and rock and is at a height of 848 feet above sea level. There are an abundant supply of water and a large number of trees. On April 26th H.R.H. Princess [illegible]sed buildings [illegible] be expended. [illegible]vards this sum [illegible] to make contributions from the county funds. On April 25th the Cardigan council decided to contribute £500 and to make an annual grant of £150 on condition that the council should have two members on the board of management and the right to nominate two patients to free beds. The other councils have not yet come to any decision in the matter.

Carmarthen Asylum.

The rate to be charged during the current six months for the maintenance of pauper lunatics in the three counties asylum at Carmarthen has been fixed at 9*s.* 0½*d.* per head weekly.

The Medical Officer of Health of Gloucester.

When Dr. John Campbell a few months ago resigned his position as medical officer of health of the city of Gloucester the corporation decided that his successor should devote his whole time to his official duties and proposed to pay a salary of £400 per annum for the combined posts of city medical officer of health, superintendent of the infectious diseases hospital, and medical officer of health to the port sanitary authority. The Local Government Board, however, refused to sanction a less salary than £500, with the result that the council resolved to permit private practice and to give a salary of £250. There were 26 applicants for the appointments and two appeared before the council on April 26th, when Mr. William M. Hope, who has practised in the city for 15 years, was elected by 26 votes to 9.

Health Report for Bath.

The medical officer of health of the city of Bath (Dr. W. H. Symons) states in his annual report that the corrected death-rate during 1904 was 13·3 per 1000 and the infantile mortality rate 111 per 1000 births. Although the deaths among young children are fewer than in many parts of England Dr. Symons thinks that a still greater reduction might be made and refers to the good work which is being done elsewhere by female inspectors one of whom might be usefully employed in Bath. There were 45 deaths from pulmonary tuberculosis, a disease which is voluntarily notifiable in Bath, 76 cases thus coming to the notice of the medical officer of health during the year,

Plymouth Lunatic Asylum.

At a special meeting of the visiting committee of the Plymouth Lunatic Asylum, held on April 28th, it was reported that the two new wings, which will provide accommodation for 140 patients, are now practically complete. The cost of the building has been about £26,000. The committee decided to proceed at once with the erection of a new storey (to contain 60 beds) over the existing building. The cost of this is estimated at £6000. When the entire scheme is completed the asylum will have accommodation for 400 patients.

May 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Graduation Ceremony at Glasgow.

THE graduation ceremony at the University of Glasgow took place on April 18th in the Bute Hall before a crowded audience. As is usual at this time there were no candidates for the degrees of M.B., Ch.B., as the great bulk of the medical students come up for degrees at the summer graduation ceremony, but the degree of M.D. was conferred upon four graduates. The honorary degree of LL.D. was conferred, among others, upon Professor A. Crum Brown of Edinburgh and Sir William Whitla of Belfast.

Kilmun Seaside Homes.

These homes, conducted by the Glasgow Abstainers' Union, after renovation and extension at a cost of £2500, have recently been reopened by Sir John Ure Primrose, Lord Provost of Glasgow.

The Glasgow Hospital Sunday Fund.

This fund has recently been divided amongst the hospitals. The total amount collected during the past year was £4801 8*s.* 9*d.* and the average amount per church was £10 19*s.* 4*d* The sum was allocated as follows: Royal Infirmary, £2174 9*s.* 11*d.*; Western Infirmary, £1713 17*s.* 3*d.*; and Victoria Infirmary, £651 13*s.* 3*d.* The chairman, in moving the adoption of the report, referred to the possibility of infirmaries taking in paying patients at a more moderate scale than could be obtained in private homes and pointed out the difficulties which would arise if this were done. At the same time he acknowledged how largely and munificently the working people contributed to the funds of the infirmaries.

The Glasgow Maternity Hospital.

This charity is making an appeal for subscriptions in order to enable the board to proceed with the scheme for enlarging the hospital. The directors have already got £30,000, but £80,000 are needed to complete the alterations. This appeal will no doubt commend itself to all who have any knowledge of the work done in the Maternity Hospital. Quite apart from its value as a charitable institution its position as a hospital for the teaching of practical obstetrics demands that adequate accommodation should be found for the cases and for teaching purposes. In a city which is unfortunately notorious for the prevalence of rickets one would expect that complicated cases of labour among the lower classes would be very frequent, and the statistics of the hospital bear this out. This fact, together with the number of patients who are admitted each year, renders the hospital of great value in the training of students and nurses. When the requisite money is forthcoming and the new buildings are erected the hospital should take its position as a teaching school second to none of its kind in the United Kingdom.

The Diagnosis of Insanity.

That there is sometimes considerable difficulty in certifying as insane a patient whose morbid characteristics are not present in any very marked degree will be denied by few practitioners of any experience. It is interesting to note that this difficulty is shared, at least in some cases, even by experts in psychological medicine. A petition which recently came before the sheriff court at Glasgow illustrates the divergence of opinion which may arise in such a case. The case in point was that of a young married woman who had been convicted of theft. The procurator-fiscal petitioned the sheriff to declare that she was of unsound mind and a danger to the lieges and that she be handed over to Govan parish council to be detained in an asylum. On behalf of the petition he brought forward three expert witnesses to certify that she was a dangerous lunatic. The parish council, on the other hand, took up the position that the case was an attempt on the part of the Crown to get rid of its liability. The woman was arrested on the charge of theft and if she was merely insane the Crown would require to keep her. The Crown, however, tried to make out that she was a dangerous lunatic and to saddle the monetary responsibility on the parish council. On behalf of the parish council the superintendent of Hawkhead Asylum stated that the woman had been a patient in the asylum but was dismissed cured in November, 1904. While under treatment she had showed no signs of violence and, in his opinion, although weak-minded, she was not at present insane. After a lengthy debate the sheriff dismissed the petition reserving the question of expenses.

Nairn Hospital.

A meeting of the directors of the Nairn Town and County Hospital was held on April 27th, Mr. J. S. Robertson, the chairman, presiding. A discussion took place on the question of a sewage connexion to the town sewer from the new hospital buildings. Some time ago the directors applied to the town council for a connexion, an application which was granted on condition that the directors would pay for the laying of a storm overflow pipe at Church-street and that the town council would have the right to make connexions on the pipe proposed to be laid between the hospital and the town sewer. The directors afterwards withdrew this application and submitted another, asking for a private connexion and also asking the council to withdraw its condition as to a storm overflow pipe. The council agreed to withdraw the condition as to the overflow pipe but adhered to the previous condition that it should have the right of connexion with the hospital sewer. The chairman moved that they should again approach the town council asking it to withdraw this condition also. He thought it was rather hard on a charitable institution such as the hospital that the town council should impose such a condition when the hospital committee would have to spend about £400 in laying this sewer. Mr. Donaldson, solicitor, seconded the proposal. Provost Dallas moved that the offer be accepted. He thought it would be absurd to expect the town council to grant such a connexion to its main without attaching any conditions to it. What interest, he asked, could the directors possibly have in a pipe which was laid seven or eight feet below the ground? On the other hand, if the town council took it over the directors would be relieved of all responsibility. The provost's proposal did not find a seconder and the chairman's motion consequently became the finding of the meeting.

May 2nd.

IRELAND.

(From our own Correspondents.)

The General Medical Council.

Although the election of the Direct Representative for Ireland on the General Medical Council will not take place until next year, the question is exciting the greatest interest in medical circles and is being discussed all over the country at the various medical gatherings. Sir William Thomson, the present Direct Representative, will seek re-election and the only other candidate, up to the present, is Dr. L. Kidd of Enniskillen. The question mainly at issue is whether or not Dublin is to continue, as in the past, to supply the whole seven Irish representatives or are the provinces to be enfranchised (that is, to have a member to represent their interests). Already it is evident that Dr. Kidd will have an immense amount of provincial support and it is believed that a very large body of the profession in Dublin (both teachers in the schools and those unconnected with any of the colleges or licensing bodies), recognising the fairness of the claims of the provincial general practitioners, will support Dr. Kidd's candidature. There is also an important body in the electorate who, while not at this early period in the canvass committing themselves to any candidate, are agreed that they will support only a provincial member of the medical profession.

The Infectious Diseases Hospital, Belfast.

Several inhabitants of Windsor district, in Belfast, have presented a memorial to the Local Government Board asking it to direct the Belfast corporation to stop the construction of the sewage works for conveying the sewage of the infectious diseases hospital into the main drains of Belfast and to comply with the provisions of the Public Health Act by giving the statutory three months' notice in the public papers to allow objections to be lodged. It is also desired that the Board will direct the corporation before proceeding any further with the work to have the condemned ventilating traps in Balmoral-avenue (into which the sewage is proposed to be emptied) closed and ventilating shafts connected with the sewer erected at convenient places and at proper heights, or some other approved method of sewer ventilation, such as the Reeves system, which, it is said, works satisfactorily in Edinburgh and other large cities.

Queen's College, Belfast.

Professor J. W. Byers has been appointed to represent Queen's College, Belfast, at the International Congress of Obstetrics and Gynæcology to be held in St. Petersburg next September.

The Irish Medical Association.

At the coming general meeting of the Irish Medical Association, to be held in Killarney on June 7th, it has been decided that a scientific paper on a selected subject of interest to the great body of the profession be read, followed by a discussion. This is a great step in advance on the business of former meetings.

May 2nd.

PARIS.

(From our own Correspondent.)

Nitrite of Amyl in Tuberculous Hæmoptysis.

At the meeting of the Hospitals Medical Society which was held on April 14th M. Rouget read a paper dealing with the good effects to be obtained from the inhalation of nitrite of amyl in the hæmoptysis which occurs in the course of pulmonary tuberculosis, whether in the stage of consolidation or in that of softening. M. Rouget gave an account of the results obtained by this method in ten patients and they were remarkable. In one case the hæmorrhage could not be checked by any other remedy. The nitrite acts indirectly on the pulmonary circulation by lowering the blood pressure owing to its causing peripheral arterial dilatation. M. Rouget has employed this physiological action not merely to stop hæmorrhage but as a preventive, by administering it as soon as the warnings of an approaching hæmorrhage—namely, a disagreeable taste in the mouth and a feeling of oppression in the chest—are noticed.

Treatment of Gonorrhœal Arthritis of the Knee.

At the same meeting of the above society M. Queyrat discussed the treatment of gonorrhœal arthritis of the knee. In his opinion it is to aspiration and to the application of the actual cautery that we must look for the best method of obviating future ankylosis of the joint. He cited as an example the case of a man, aged 31 years, whom he had treated by aspiration followed immediately by the actual cautery. The joint was then enveloped in cotton-wool and the limb immobilised on a back-splint. Ten days later the cautery was again applied and within a very short time afterward the joint was passively moved Within 33 days from the commencement of the treatment the patient was well and could mount a bicycle

Public Gardens

The administrative committee of the Alliance d Hygiène Sociale has just devoted a sitting, M Casimir Perrier being in the chair, to the consideration of a report by Dr Letulle relative to public gardens and in particular to the use for this purpose of the dismantled fortifications of Paris and of other towns in the department of the Nord The committee passed resolutions to the effect that every town should reserve within its boundary, or immediately outside it large open spaces which should be used as playgrounds for both children and adults, that Parliament should not authorise the dismantling of the fortifications of a town unless a guarantee were given that the town would undertake to preserve the land thus set free as an open space which would benefit the hygiene of the town, and that at Paris in particular the city and the riverside parishes (*communes*) should profit by the dismantling of the fortifications and by the suppression of the *one militaire,* to reserve large open spaces for laying out as public gardens These resolutions also have been adopted by the Society of Public Medicine and of Sanitary Engineering

Semi resection of the Elbow joint for Ankylosis

At the meeting of the Society of Surgery which was held on April 12th M Kirmisson gave an account of the case of a young girl on whom he had performed the above operation She had complete ankylosis of the elbow joint at a right angle As she was a musician and was anxious to continue her piano and violin exercises M Kirmisson proposed to resect the joint Eventually however, he only removed the olecranon and a portion of the articular surface of the lower end of the humerus (*apophyse humerale*) The result was excellent, the movements of the joint being almost as free as if it were normal

Grafts from the Lining Membrane of Egg shell

At a recent meeting of the Therapeutical Society M Amat read a paper upon the Use of the Lining Membrane of Egg shell as a Skin Graft M Amat has for a long time past advocated the employment of this membrane and he brought two new cases to the notice of the meeting The one was that of a young girl suffering from a wound of the foot consecutive to a burn and the other that of a man aged aricose ulcer of the leg There e wounds were covered with eight different grafts of egg to the two ulcers respectively, the grafts being about one square centimetre in size These were covered with tinfoil both to fix them and to act as guide to their position The whole was kept in position by a dry aseptic dressing Four days later when the dressing and the tinfoil were removed there were seen two small opalescent points on the foot of the girl and three on the leg of the man On the following day these points had sent out processes which reached to the epithelial borders of the ulcer Five more grafts were placed on the foot of the girl but only one "took M Amat considered that the cicatricial process was much stimulated by the grafts As egg shell membrane is so easy to obtain it is a pity that its use is not more widely spread more especially as the cicatrix obtained by its use is supple

The Students and the Faculty of Medicine

In consequence of the closing of the Paris Faculty of Medicine and of the events leading up to it which I have already described the committee of the general association of students has held a meeting M Liard, the vice rector has been approached by the president of this committee as well as by a deputation from the Association Corporative des Étudiants en Médecine the object being to obtain the vice rector s support to a petition which they were about to present to the Minister of Public Instruction praying that the reception of theses and the final examinations for graduation might be proceeded with On the advice of M Liard the petition was submitted to the Minister of Public Instruction who immediately authorised the holding of two examinations for students whose cases were exceptional The deputation having then presented to the dean of the faculty a list of ten candidates for whom it was of material consequence that their theses should receive consideration as soon as possible, M Debove, the dean, immediately forwarded these requests, with his approval of them, to the vice rector The students moreover, ask for certain modifications in the curriculum *(programme d études)* and in the examinations—namely, that more importance should be given to medicine and less to accessory subjects, that the two chairs of physics and chemistry should be converted into two chairs of clinical medicine, that the system of paying fees for instruction in therapeutics should be abolished, and that the professors should be required to conduct their practical courses The classes, which are arranged specially for students and for which fees are paid (*cours de perfectionnement*) have been resumed

Reduction of Oxyhæmoglobin

At a meeting of the Academy of Sciences held on April 10th M Lépine and M Boulud said that in consequence of the statements which had been made as to the length of time required for the reduction of oxyhæmoglobin in a fatal case of surgical shock after prolonged anæsthesia they had undertaken a systematic research on the subject They endeavoured to ascertain if the oxyhæmoglobin in different samples of abnormal blood was reduced in the same time by the same reducing agent (ferrous sulphate being used in each case) employed in an amount exactly proportional to that of the hæmoglobin After numerous trials made with a view to the selection of a method they were able to establish the following facts The time required for the reduction of the oxyhæmoglobin under the conditions of their experiments was about 20 minutes In anæmia the time required for reduction (with a quantity of the reagent strictly proportional to the small amount of hæmoglobin in the blood) was greatly increased M Lépine and M Boulud have known it to exceed an hour Prolonged inhalation of chloroform or ether also increased the time required for reduction Infection of the blood with various microbes including a very virulent staphylococcus, appeared to be without sensible influence

May 1st

NEW YORK

(FROM OUR OWN CORRESPONDENT)

Medical Progress in the Philippines

AT the recent meeting of the Philippine Islands Medical Association many interesting facts appeared in regard to the progress of medical education and practice in that country The first event of the meeting was the inspection of the new Government laboratory which was just completed The building cost the insular Government $108 000 and is the most completely equipped building of the kind in any oriental country The Secretary of the Interior, the Hon Dean C Worcester under whose direction the building was erected, stated that from a practical standpoint it was of the greatest economical value, because experience proved that until science had come to the rescue the white race had never been able to inhabit the tropics successfully and that much more work was required in this direction so that the danger might be still further reduced He added that a great deal had been accomplished especially with regard to health conditions which made it possible for the white man to live in the tropics with almost the same security as he inhabited the temperate zone particularly was this true if excesses were avoided and a clean moral life was followed The statistics of Manila showed that the death rate among the white race was 9 75 per 1000 while that of the natives was 53 per 1000 The Secretary was often distressed to see persons dying from diseases which would have yielded readily to medical or surgical aid had it been at hand, and even in Manila 50 per cent of the deaths recorded occurred without medical attendance Dr John R McDill delivered the president's address in which he said that, with the exception of some intestinal disorders which were being prevented, the treatment of the diseases met with was as successful as elsewhere when hospital care was available Pride in the achievements of the insular board of health was shared in by the public and the profession alike He regretted that while every effort had been made to get the cooperation and the participation of the native physicians in the meetings of the Medical Society thus far the effort had met with very limited success The Filipino medical students had two striking characteristics, viz (1) the astonishing capacity to absorb and to expound theory, and (2) the fact that the ablest members of the profession have always been among the foremost political leaders of their country. The time when they could expect their coöperation would, perhaps, come only when the generation which is now being educated came to the front. There are only about 360 duly licensed physicians in the islands and 217 of these are in Manila. These figures mean that while Manila has one physician for every 1013 inhabitants, in the provinces there is only one physician for every 51,786 persons, or, in other words, one medical man for each 430 square miles. The hope of the profession lies, in his opinion, in the establishment of a first-class medical school where the Filipinos may be properly educated.

Castration as a Preventive of the Propagation of Idiocy.

The legislature of the State of Pennsylvania has passed a Bill directed towards the prevention, by castration, of procreation on the part of idiots and imbeciles in public institutions. The governor of that State, however, has vetoed the measure, thus preventing the legalisation of this much-debated method of limiting the number of idiots. The Governor contends that the nature of the intended operation is not sufficiently described in the Bill, its only qualification being that it shall be the "safest and most effective" in the judgment of a neurologist, a surgeon and a physician. While he thinks the most effective method would be decapitation he doubts the popularity of that preventive measure. His real objection to the Bill appears when he states that men of science, like all other men whose experiences have been limited to one pursuit and whose minds have been developed in a particular direction, sometimes need to be restrained. The defect of such a law would, in his opinion, lie in the fact that a surgeon might possibly be so eager to advance in skill as to be forgetful of the danger to his patient.

Conference of American Anatomists.

The Wistar Institute of Anatomy of Philadelphia recently invited the leading anatomists of the United States to meet in conference with the managers of that institution. The *objects of the conference were to discuss the advisability* and means of organising central institutes for the promotion of research in the different subdivisions of anatomy, such as physical anthropology, comparative anatomy, topographical anatomy, embryology, histology, and neurology, and also to establish relations with similar institutes abroad. The Wistar Institute is splendidly equipped, has a broad plan of foundation, and is devoted to advanced work only, with no undergraduate teaching; hence it is proposed by anatomists to utilise this institution as an anatomical centre where committees may meet from time to time, the work be collated, and research material collected and prepared for investigation and sent about the country to qualified investigators. If the plan is carried out the institute will do for all the great universities of this country certain important lines of work which no other institution can attempt and carry to a successful conclusion.

Changes in the Teaching Staff of Johns Hopkins University.

The withdrawal of Professor Osler from the Johns Hopkins University has necessitated the reorganisation of its teaching staff. The Professorship of Clinical Medicine has been one of the most important chairs in the medical department and has been rendered famous by the teachings of Professor Osler. This position has been filled by the elevation of Dr. Thayer, a graduate of the university and an assistant of Professor Osler. Professor Thayer has been a successful worker in the field of clinical medicine and gives promise of maintaining the reputation of his department. The selection of Professor Lewellys Barker, the head of the department of anatomy in the University of Chicago, for the chair of General Medicine, is a surprise. Professor Barker has long had an enviable reputation as a worker in the field of anatomy and allied branches of science but is quite unknown in the department of general medicine. He has, however, all of the elements necessary to success in this new field of work and there is no doubt in the minds of his friends that he will not disappoint those who were instrumental in his selection. Previously to his appointment to the professorship of anatomy in the University of Chicago he was associate professor of anatomy in the Johns Hopkins University and assistant resident pathologist to the Johns Hopkins Hospital.

Eddyite Treatment is Adjudged to be the Practice of Medicine.

The Supreme Court of Ohio holds that the giving of "Christian Science" treatment for a fee for the cure of disease is practising medicine within the meaning of the statute regulating such practice in that State. The court says that the right to practise medicine has been so long and so universally subject to State regulation that it might almost be said to be not an absolute right but a privilege or franchise. Assuming that it is an absolute right it must be conceded to be subject to such reasonable regulations and conditions as the State in the exercise of the police power may prescribe. The court fails to find anything in the present Act that discriminates against Eddyism. It does not provide for a special examination and limited certificate for the Eddyite practitioner but he may obtain a certificate to practise medicine upon the same conditions as any other person and there is nothing in the Act requiring him to use the knowledge after he has acquired it. The statute provides that—

> Any person shall be regarded as practising medicine or surgery or midwifery within the meaning of this Act who shall ...... prescribe or who shall recommend for a fee for like use any drug or medicine, appliance, application, operation, or treatment, of whatever nature, for the cure or relief of any wound, fracture, or bodily injury, infirmity, or disease.

The court quotes from Dr. O. W. Holmes, the poet-physician, "Disease is to be treated by anything that is proved to cure it." The court concludes: "So that the use of the words 'of whatever nature' ...... are quite significant and this court has no doubt the legislative intent was to bring within this definition every person who for a fee prescribed or recommended a cure for disease, even though the cure was to come not from himself but, through his intercedence, from God."

April 24th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A New Scheme for the Supply of Water to Calcutta.

THE city of Calcutta during the last two years has been *suffering from a deficiency of filtered water* partly due to the installation of a constant in place of an intermittent supply, partly to wastage, and partly to increased requirements. It is estimated that about 20 gallons per head per day have been brought into the city. This supply is taken from the river Hooghly about 20 miles above Calcutta, is filtered at the works close by the intake, and is then brought into the city by iron mains. In consequence of the level ground a great deal of pumping has to be done to distribute it throughout the city and the pressure is so low that filtered water will barely reach the first floor of houses. To overcome these inconveniences it is proposed to have a huge raised storage reservoir to which a set of engines will be constantly pumping the water as it arrives from the mains and from this reservoir to distribute the water by the power of gravitation, thus doing away with three district pumping stations, obtaining greater pressure, and avoiding the dangers of the present district underground storage tanks. By the Municipal Act the constant supply must be established so that this change will be completed gradually. Meantime a larger quantity of water is being brought into the city by increasing the pressure in the mains from the waterworks. This increase, however, will not be sufficient for the new scheme, a further modification of which has just been proposed—viz., to do away with the subsidiary supply of unfiltered water and to substitute filtered water throughout the town. The latest scheme proposed by the chief engineer contemplates the erection of a 10,000,000 gallon reservoir and to supply 50 gallons per head per day instead of at present about 20 gallons. The supply of unfiltered water is considered a danger to the town. It probably is; but the danger from this source is infinitesimal compared with that from the thousands of filthy tanks (it is estimated that there are over 5000 tanks in the area of the city) which are used not only for washing clothes but for drainage of the privies from surrounding huts. Moreover, the natives go down in thousands to the river to bathe and to fetch the holy water and comparatively few have access to the unfiltered supply brought into the city for road watering and flushing purposes. The new scheme for more pure water is a grand one, not only from a sanitary point of view but in its engineering features. The expense, however, will be enormous and 50 lakhs of rupees will not cover it.

A Higher Record in Plague Mortality.

A further and still more terrible record in plague mortality throughout India is returned for the week ending

April 1st. There were 57,702 deaths and 65,789 cases were reported. Even this probably does not represent the whole truth. Last week 53,895 deaths were recorded. In the United Provinces 23,387 deaths occurred, in the Bombay districts 3056, in Madras districts 81, in Bengal 9703, in the Punjab 19,015, in Burma 72, in the Central Provinces 338, in the Mysore State 104, in the Hyderabad State 470, in Rajputana 1269, and in Kashmir 101. The latest weekly returns for Calcutta give 712 deaths.

The Instruction of Natives in First Aid to the Injured.

The recent demonstration in first aid to the injured held in Calcutta under the auspices of the local centre has shown that the natives of India can be usefully instructed in this work. There were competitions amongst native students who had been through the regular course of training and other competitions among the native constables who had been instructed in the junior course. All these competitions were keenly contested and were very creditably performed, but the general impression is that where real assistance is required native help would not be forthcoming. Perhaps the knowledge of what to do will give these competitors at any rate the necessary courage.

The Earthquake.

The terrible earthquake in Dhamsala and adjoining places has called for medical aid on a large scale. Some curious injuries are reported and, as usual, some miraculous escapes. The exhumation of buried bodies has been a great undertaking and the military have been called in to assist. The stench of the dead is described as having been very great as some time elapsed before removal could be effected. At Landour a house was moved bodily down the hillside and anchored safely on a ledge a short distance below, the inmates being quite unconscious of the sudden change. *Many of the tea estates have been destroyed.* Most of the injured have been more or less bruised by falling stones. People were in bed at the time and got crushed under falling roofs and walls. A succession of slight shocks followed the disastrous one.

April 14th.

Obituary.

JOSEPH EVERETT DUTTON, M.B., CH.B. VICT.

It is with great regret that we announce the sudden death of Dr. Joseph Everett Dutton, Walter Myers Fellow of the Liverpool School of Tropical Medicine, at Kosongo in the Congo, on Feb. 27th, while actively engaged in the investigation of trypanosomiasis and tick fever. In 1903, Dr. Dutton, accompanied by Dr. J. L. Todd, proceeded to the Congo to investigate trypanosomiasis and other tropical diseases. Towards the end of 1904 they had reached Stanley Falls and independently they were able to demonstrate the cause of tick fever in man, a discovery made a few weeks previously by Ross and Milne in the Uganda Protectorate. Further, they were able to show the transference of the disease from man to monkeys by means of a particular species of tick. During these investigations both observers contracted the disease. A letter received from them in Liverpool was dated Kosongo, Feb. 9th, when they both appeared to be in excellent spirits and were on the return journey but since then the news of the sudden death of Dr. Dutton has reached this country through the Belgian Government, and later Baron Liebricht sent sincere condolences from the Congo Free State Government by telegram.

In the death of Dr. Dutton the Liverpool School of Tropical Medicine and the University of Liverpool have suffered the loss of a most brilliant graduate. Although quite young in years Dr. Dutton had already won a recognised position throughout the scientific world and as recently as last October Professor Koch, in an address before the anniversary meeting of the Berlin Medical Society, exhorted all nations to lend assistance to the work of combating trypanosomiasis in man so successfully conducted by the expeditions under Bruce, Dutton, and others. Educated at the King's School, Chester, he proceeded to the University of Liverpool, w [illegible]
and in 1897 he was appointed [illegible]
in Pathology which gave hi [illegible]
for research. This fellowship, the first of its kind which was established at Liverpool, has proved of the greatest service in encouraging original study, for Dutton succeeded as Fellow Lieutenant S. R. Christophers, I.M.S., now Director of the King Institute of Hygiene, Madras, who held the fellowship in 1896; Dr. H. E. Annett, the present lecturer in comparative pathology in the University and superintendent of the Farm Station of the Liverpool Institute of Comparative Pathology, who held it in 1895; and Dr. E. E. Glynn, the present lecturer in clinical pathology, who held it in 1899.

After qualifying as M.B., Ch.B. Vict., Dr. Dutton acted as house surgeon to Professor Rushton Parker and house physician to Dr. R. Caton at the Liverpool Royal Infirmary and in 1901 he was elected to the Walter Myers Fellowship in the Tropical School. His first expedition to West Africa took place in 1900, when with Dr. Annett and Dr. Elliott of Toronto he visited Nigeria in order to study the bionomic of the anopheles and measures generally for the prevention of malaria. Two reports were issued as the result of this expedition, one dealing with anti-malaria sanitation and the other consisting of one of the most complete monographs upon filariasis hitherto published. In 1901 he proceeded alone to the Gambia and drew up a most comprehensive and useful report with regard to the prevention of
[illegible] the colony he won to a remark-
[illegible] regard of all whom he met and
[illegible] to the success of his expedition.
It was during this expedition that he identified in the blood of a patient of Mr. R. M. Forde, the medical officer of Bathurst, a trypanosome belonging to a group of animal parasites which had hitherto been only found in animals. He accurately described and named it. Subsequently he found the same organism in numerous other cases in the Gambia and elsewhere. It can hardly be doubted that this discovery of the first trypanosome in man by Dr. Dutton was an important factor in leading to the discovery of the cause of sleeping sickness, which was subsequently shown by other observers to be due to the same parasite. In addition to his discovery of trypanosoma Gambiense he also described several other trypanosomes new to science. In 1902 he proceeded with Dr. Todd to the Senegambia and drew up a report on sanitation which was presented to the French Government and further papers on trypanosomiasis were published. The present expedition to the Congo was sent out in 1903. Dr. Dutton was accompanied by Dr. Todd and Dr. C. Christy, the latter returning to England in June, 1904. It was evident by the last letter which they sent to the committee of the Liverpool School of Tropical Medicine that they had made many valuable observations whilst tracing sleeping sickness along the river banks and in their investigations upon the nature of tick fever and filariasis and no doubt the publication of these will soon follow.

It will be seen from this brief account of Dutton's career that although under 30 years of age he had accomplished much good and strenuous work and had advanced in a most striking manner our knowledge of certain departments of medicine. Medical science is deprived of one of its most promising younger men, the city of Liverpool of a most gifted student, and his colleagues in the University and the Royal Infirmary have lost one who combined with a great intellect a charming personality which made him beloved by all.

A special meeting of the Liverpool School of Tropical Medicine was held on [illegible]
being in the chair. [illegible]
pathetic terms, expres [illegible]
the premature death of so distinguished a man of science, and on his motion, which was carried unanimously, the following resolution was recorded :—

"T [illegible] Medicine desire to place on
[illegible] he relatives of the late Dr.
[illegible] of that promising scientist
[illegible] f the school. The school will
[illegible] go with which Dr. Dutton
[illegible] althy regions in West Africa
[illegible] Dr. Dutton served on the
[illegible] sited Southern and Northern
[illegible] n, which visited the Gambia
[illegible] visited Senegambia in 1902;
[illegible] the twelfth expedition, which
[illegible] rypanosomiasis, sleeping sick-
ness, &c., in the course of which his lamentable death has now occurred. The valuable discoveries made by Dr. Dutton, especially that of identifying the trypanosome in man will in the course of time prove of the greatest benefit to humanity and will be a lasting memorial to his skill and his self sacrificing devotion in the cause of scientific research in the tropics. The school, together with the whole

of the scientific world, were confidently looking forward to a long period of usefulness, of which Dr. Dutton's short but brilliant career held out every promise. Apart from the loss to science they feel deeply the loss to themselves by the removal from their midst of his bright and enthusiastic personality.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination of the Board at the April quarterly meeting of the examiners in the subjects indicated:—

Anatomy and Physiology.—William Arthur Alexander, B.A. Camb., Cambridge University; Charles Henry Fairbank Atkinson, Charing Cross Hospital; Charles James Aveling, London Hospital; Bertram Freud Bartlett, University College, London; Alfred William Bevis, St. Mary's Hospital; Robert Stanley Capon, Liverpool University; Howard Bernard Carter and Thomas Evans, Guy's Hospital; James Aitken Clark, William Deane, [illegible] s's Hospital; Mohan Nath [illegible] ay, Grant Medical College, [illegible] King's College, London; [illegible] John Maximilian Hammond, [illegible] St. Bartholomew's Hospital; [illegible] .S., St. Bartholomew's Hospital; Arthur Toase Jackson, Robert Henry Hatten Jolly, and Thomas William Jones, Charing Cross Hospital; Arthur Reginald Hardy, Manchester University; John Edward Lionel Johnston, St. Mary's Hospital; Robert John Jones, St. Mungo's College, Glasgow; George Frederick Jotham, Birmingham University; Percy Lang and Alfred Miles, St. Bartholomew's Hospital; Arthur Norman Leeming, Guy's Hospital; Oswald William McSheehy and Max Herschel Edward Richard Montesole, St. Thomas's Hospital; Malcomson Knox Nelson, Queen's College, Belfast, and Guy's Hospital; Donald North, Leeds University; Herbert Edward Perkins and Cyril Macdonald Plumptree, Guy's Hospital; William Joseph Petty, William Edgar Roberts, and Alfred Samuel, University College, Cardiff; Edward John Joseph Quirk, Charing Cross Hospital; Percy Charles Raiment, and James Stanley Robertson, London Hospital; Rowland Waters Rix and Hubert Alan Hirst Robson, St. Thomas's Hospital; Arthur Frederick Sanderson, St. Thomas's Hospital; Francis Charles Searle, St. Bartholomew's Hospital; Reuben Shacksnovis, B.Sc. Vict., Leeds University; Edward Philip Stibbe, and Washington Everitt Wilks, Charing Cross Hospital; Charles Henry Shorney Webb, Middlesex Hospital; and Henry Adrian Fitzroy Wilson, St. Thomas's Hospital.

UNIVERSITY OF OXFORD.—The degree days for the ensuing terms are as follows:—In Easter term: Thursday, May 4th, and Thursday, May 25th. In Trinity term: Thursday, June 22nd, Thursday, June 29th, and Saturday, July 8th. The following have received the degree of Doctor of Medicine:—

Owen William Richards, New College; and Oscar Hildesheim, Magdalen College.

Examinations for scholarships and exhibitions in natural science are announced as follows: May 2nd, Merton College and New College; and July 4th, Brasenose College.

UNIVERSITY OF CAMBRIDGE.—The following candidates who have passed both parts of the examination in sanitary science have received the University Diploma in Public Health:—

D. G. Advani, R. Ahern, C. A. Bentley, I. D. Cameron, C. J. Coleman, J. W. Cornwall, T. S. Elliot, H. B. Fawcus, C. Fisher, T. B. Heggs, A. E. Jones, H. G. Jones, E. W. Routley, A. M. Simpson, J. B. Thackwell, and D. B. Waters.

At a Congregation held on April 27th the following degrees were conferred:—

Doctor of Medicine.—S. P. Pollard, Caius; and W. L. H. Duckworth, Jesus.
Bachelor of Medicine.—F. W. M. Palmer, Jesus.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Convocation held on April 29th the following degrees and diplomas were conferred:—

Doctor in Medicine.—Anthony Bourchier Bradford, M.B., B.S. Durh.; Annie Tombleson Brunyate, M.B., B.S. Durh.; John Wilfrid Caton, M.B., B.S. Durh.; Thomas Morrison Clayton, M.B., B.S., B.Hy., D.P.H. Durh.; Flora Murray, M.B., B.S. Durh.; Alfred Henry Proctor, M.B., M.S. Durh.; Oswin Shields, M.B. Durh.; and Thomas Christoffel Visser, M.B., B.S. Durh. (*in absentia*).

Doctor in Medicine for Practitioners of 15 years' standing.—James Kynaston Couch, M.R.C.S., L.R.C.P.; Louis Demetriadi, F.R.C.S.E., L.K.Q.C.P. Irel., L.F.P.S. Glasg., D.P.H.; Herbert Edward Deane, M.R.C.S., L.S.A.; Frederick William Lewitt, M.R.C.S., L.R.C.P.; John Alfred Ward, M.R.C.S., L.R.C.P., L.S.A.; and Francis Henry Weekes, M.R.C.S., L.S.A.

Bachelor in Medicine (M.B.).—Dudley Thomas Birt and James Alexander Bennett, College of Medicine, Newcastle-upon-Tyne; John Frederick Bridge, Birmingham University; William Henry Hugh Croudace and Lillie Johnson, B.Sc., College of Medicine, Newcastle-upon-Tyne; Frederick William Kemp, St. Bartholomew's Hospital; Bernard Warner Lacey, Guy's Hospital; Thomas William Maddison, College of Medicine, Newcastle-upon-Tyne; Aurelius Victor Maybury, M.R.C.S., L.R.C.P., Guy's Hospital; Andrew Banks Raffle and Charles Duncan Relton, College of Medicine, Newcastle-upon-Tyne; Leslie Martin Rosten, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Olga Alberta Schiele, London School of Medicine for Women and College of Medicine, Newcastle-upon-Tyne; Alan Ayre Smith, M.R.C.S., L.R.C.P., Guy's Hospital; and Ernest Charles Young, St. Mary's Hospital.

Bachelor in Surgery (B.S.).—Dudley Thomas Birt, James Alexander Bennett, William Henry Hugh Croudace, and Lillie Johnson, B.Sc., College of Medicine, Newcastle-upon-Tyne; Frederick William [illegible] Hospital; Bernard Warner Lacey, Guy's [illegible] m Maddison, College of Medicine, New- [illegible] ius Victor Maybury, M.R.C.S., L.R.C.P., [illegible] Banks Raffle and Charles Duncan Relton, College of Medicine, Newcastle-upon-Tyne; Leslie Martin Rosten, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Olga Alberta Schiele, London School of Medicine for Women and College of Medicine, Newcastle-upon-Tyne; Alan Ayre Smith, M.R.C.S., L.R.C.P., Guy's Hospital; and Frederick Spicer, M.D. Durh., M.R.C.S.

Bachelor of Hygiene (B.Hy.). [illegible] & S. Madras, D.P.H. Cantab [illegible]

Diploma in Public Health [illegible] M.R.C.S., L.R.C.P., John Cha[illegible] James Maclanachan Ferguson, L.R.C.P. & S. Edin.

MEDICAL MAGISTRATE.—Mr. William Jackson, M.D. Brux., D.P.H. Cantab., L.R.C.P. Edin., barrister-at-law, has been placed upon the commission of the peace for the borough of Nelson, Lancashire.

VITAL STATISTICS OF ST. VINCENT.—Mr. E. J. Cameron, Administrator of the Island of St. Vincent, in his report on the colony for the year 1904 quotes the following figures. The population at the 1891 census was 41,054. By the estimate of the Registrar-General the population at March 31st, 1904, was 48,424. The births registered in 1903–04 were 1518—760 male and 758 female—as against 1551 in 1902. Of these 836, or 55·07 per cent., were illegitimate. Stillbirths were 119, 42 legitimate and 77 illegitimate, the figures being, curiously enough, all precisely the same as for the year 1902. Marriages appear to be appreciably on the increase, there having been 66 in the first quarter of 1903, against 30 in the similar period of 1902, and 241 in the year 1903-04, as against 226 in the calendar year 1902. The total registered deaths were 875, being 18·07 per 1000 of the estimated population. The infant mortality (infants under one year exclusive of stillbirths) was 222, being about 25 per cent. of the whole. If the death-rate may be taken as an index of the public health then 1903–04 was an exceptionally healthy year, the number of deaths registered being 52 below the average of the preceding years, which was 927. Ankylostoma, syphilis, and intestinal parasites are the three great evils with which the medical staff have to contend. Malaria was severe in certain localities and there was also an epidemic of whooping-cough. The peculiar form of small-pox, to which the hybrid designation of "varioloid varicella" was given, was introduced from Trinidad, but fortunately was prevented from spreading. After an experience of 23 years, which embraces every single one of the British insular colonies in the West Indies and several foreign ones, Mr. Cameron is inclined to set down St. Vincent as the healthiest and pleasantest in climate of all for the European dweller who has to spend two or three years at a stretch in one place without a break. There is nothing special under the head of sanitation to call attention to. In the villages of the peasantry the ideas and methods in sanitary matters are elementary in the extreme. In the towns things are passable but could be much improved if there were money to lay out. On the whole, however, there are no glaring evils. The number of patients treated at the Colonial Hospital during the year 1903–04 was 1014, of whom 897 were discharged cured or relieved, 15 were discharged not improved, 50 died, and 52 remained in hospital. The daily average was 61·38. The admission figure for 1903–04 was 967, the highest yet recorded. It included 239 cases of ankylostoma. There were also 266 operations performed, exclusive of teeth extractions, catheterisations, &c. A portion of the old military barracks at Fort Charlotte is set aside for temporary detention of lunatics prior to their removal to the asylum at Grenada. There were 17 cases under treatment during the year (nine being new admissions), of whom two were discharged cured, two died, and six were transferred to the asylum at Grenada. The total number of St. Vincent lunatics under care there was 32. The number of inmates of the leper asylum on March 31st, 1903, was 13; three fresh cases were admitted during the year 1903–04. The medical officer who has this institution under his care writes: "The inmates are steadily decreasing in number. Two who were merely syphilitic and had recovered were discharged. One case of anæsthetic leprosy who had recovered was allowed to go home and one case of doubtful diagnosis was also allowed to go. There is no compulsory segregation nor is any attempt made to collect all the lepers of the colony in an asylum. It will shortly be a matter for consideration whether it be worth while continuing this institution. It will be cheaper to afford outdoor help to the few lepers now there and close the building."

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

A Small-pox Return.

SIR JOHN BATTY TUKE intends to ask next week for a return showing each port or other sanitary district in England and Wales exclusive of any district wholly or partly in London) in respect of which during the year ended March 25th, 1905, cases of small-pox have been reported to the Local Government Board; the number of such cases; and also, where the number reported has exceeded 100, the estimated amount of the expenditure incurred by the sanitary authority in consequence of the occurrence of such cases.

HOUSE OF COMMONS.

TUESDAY, MAY 2ND.

Homes for Inebriates.

MR. PURVIS asked the
the *number of homes*
1898 and 1899; what was
and the total number of
DOUGLAS replied: Under t
inebriate reformatories a
had been *established* prio
contained 1112 available be

rmatories, which are for
19 retreats licensed under
rovide accommodation for

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, London.

From Tok panese. By Louis
Livingst Surgeon, U.S.V.,
in the ars, *and with the*
Allied A *Price 6s. net.*

BLAKELEY, E. H., 11, Adam street, Strand, W.C.

The Diagnosis and Treatment of Some of the Common Diseases of the Rectum and Anus. By Cecil H. Leaf, M A., M.B. Cantab, F.R.C.S. Eng, Surgeon to the Cancer Hospital and the Gordon Hospital for Rectal Diseases. Price 3*s*, 6*d*.

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dall Reid, M.B, F.R.S.E, Aut
of Man," "Alcoholism: a Study
net.

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and Early Life. By Jam
Physician for Out-patients
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Psychological Medicine. A Ma
tioners and Students By A
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Ueber die parasitäre Theorie in der Aetiologie der Krebse. V
E. v. Leyden. Vortrag gehalten in der Berliner medizinisch
Gesellschaft am 8 März, 1905. Price M.1.50.

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vention and Treatment of Disease. By F. Marsden Burne
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the University of

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taire thermal de Vichy Price Fr 2.

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duction by Mrs Cobden Unwin. Price 6*d*.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutio
and others possessing information suitable for this column, a
invited to forward to THE LANCET *Office, directed to the Su*
Editor, not later than 9 o'clock on the Thursday morning of ea
week, such information for gratuitous publication.

BATLEY, A. BROOK, L R.C.P. Lond., M.R.C.S., has been appoint
Medical Officer to the Christchurch (Hants) Union Workhou
and Cottage Homes

BOND, FRANCIS T., M.D. Lond, M.R.C.S., F.R.S. Edin, has be
appointed Medical Officer of Health of the Chippenham Urb

t., M.R.C.S., L.R.C.P. Lon
ical Superintendent to t
W.
n appointed Surgeon to t
Bolingbroke Hospital, Wan

was necessary. I was much surprised that my request was not granted. I attended the subsequent inquiry on April 18th and beg to append the evidence taken in court.

"The mother: The child was vomiting like water and phlegm. I put him to bed; he became light-headed. On Friday morning I called in Dr. Kennard who gave no hope; he died at 1 P.M. He has not met with any injury as far as I know, but has suffered from cough. [No evidence of duration of cough was given in the coroner's court or elsewhere.—D. F. K.] During night deceased groaned as if in pain. He was at school on Thursday and was playing in the court until 8.30 P.M.

Douglas Fredk. Kennard, L.R.C.P., L.R.C.S. Edin., 139, Hanbury-street, N.E., deposed to . deceased child dying and he died an hour later. as unconscious when I saw him, one pupil being contracted, the other dilated.

The Coroner: And what do you say is the probable cause of death?—Witness: *I have no idea of the cause of death, it might be due to a* blow or anything.

The Coroner: You have come here at the expense of £1 1s. to the county to assist me and you say that it may be a blow. Did you see any mark?—Witness: No.

The Coroner: *Do you generally find wheezing arise from a blow?*—Witness: No.

The Coroner: Then it is simply a reckless statement on your part; very well, you cannot assist me, so I must do without your assistance.

The Coroner (to Jury): I suggest that the child was subject to bronchitis, then got a cold on the lungs, and congestion of lungs was *set up; if you think deceased was poisoned or met with an injury* we will have a pathologist from the London Hospital to make a fuller examination; but if you are satisfied and say that you don't think it necessary you may return a verdict. I don't think it necessary to have the poor child cut up for idle curiosity. I suggest to you that the child died of pneumonia.

The jury adopted the coroner's suggestion and a verdict to that effect was recorded."

I wish to add, Sirs, that I have obtained the opinion of several of my local *confrères*, who are unanimous in condemning the coroner's action, and I have had the pleasure of having a conference *re* the above case with Mr. A. J. Pepper, who is of opinion that a post mortem examination should have been granted to ascertain the cause of death, which, I may further add, in my opinion was certainly, at least there was no evidence whatever to prove so, not pneumonia.

I *cannot reconcile* the *fact of* a schoolboy regularly attending his school and in his usual health up to the eve of the day of his death dying from pneumonia in the manner Mr. Wynne E. Baxter suggests.

I am, Sirs, yours faithfully,
April 29th, 1905. DOUGLAS F. KENNARD.

THE TREATMENT OF CHRONIC ALCOHOLISM.

To the Editors of THE LANCET.

SIRS,—I should be very glad if any of your readers could give me specific information as to the efficacy, as well as particulars, of a treatment of chronic alcoholism by means of hypodermic injection of atropine. I am, Sirs, yours faithfully,

C. F. TUCKER, M.B., Ch.B. Melb.
Beeac, Victoria, March 27th, 1905.

BREAKING UP THE STREETS.

THE following paragraph, which appeared in a recent issue of our contemporary, the *Westminster Gazette*, shows that the Paris police have evidently grasped the inner meaning of breaking up a street in a manner which is as yet unknown to our slower Anglo-Saxon mental working:—

> A QUAINT DELUSION IN PARIS.
>
> About 5 o'clock yesterday afternoon four men might have been seen taking up the paving-stones and making "soundings" around the Panthéon. The gendarmes were communicated with, and on arrival inquired what the workers were doing. They replied that they were endeavouring to find a spring to furnish water for the transformation of the dome of the Panthéon into a fountain. The officers tactfully offered to send helpers and promptly four policemen in disguise came to help the amateur engineers who were taken by the gendarmes to the infirmary at the depôt; they had recently escaped from a lunatic asylum.

THE RULE OF THE ROAD.

To the Editors of THE LANCET.

SIRS,—Your correspondent "Observer" in his letter upon Manners in the London Streets advocates the adoption of a uniform rule of the road—i.e., that both foot passengers and vehicles should keep to the same side, which for some unknown reason he declares should be the left, although he has mentioned that in France the right is chosen. May I point out that whatever may be the origin of the British custom of walking on the right and riding or driving on the left, it has this consideration to recommend it. The pedestrian, if the rule is observed where there is no footpath, is always on the other side of the road to that occupied by vehicles and horses (including motor-cars and bicycles) coming upon him from behind. He can keep an eye on those which will pass near him and avoid them if necessary *without* turning his head in order to see how closely they intend to "shave" him. I am, Sirs, yours faithfully,

CONSERVATIVE.

A WARNING POISON BOTTLE.

Messrs. Kenneth Brown and Co., a firm of solicitors, have submi to us a specially shaped bottle invented by one of their clients wit view to minimise the danger of poisonous liniments and the being mistaken for internal medicines. The bottle is longitudin constricted on both sides, with the result that it closely resem the well-known pinched-in "Black Forest" bottles which commonly used for whisky and its shape will certainly rende impossible for anybody picking it up in the dark to mistake it an ordinary medicine bottle. The idea seems to be a good one no device of this kind can be an absolutely certain guard aga occasional gross carelessness.

AN OCTOGENARIAN MEDICAL STUDENT.

IT is announced in the *Novosti* that the Russian Minister of Educat has authorised the admission to examination before the med examination committee of the Kieff University of St. Vladimir the degree of doctor, of Phedor Maratzevitch, who is over years of age. According to the *Kieff Gazette*, at the end of "fifties," Maratzevitch attended the lectures at the University Kharkoff and then he entered the University of St. Vladimir in year 1863, being then over 40 years of age, but he did not obtai degree.

◆

J. H.—1. A circular of the nature described can be sent round by A his own patients. He must be careful to send it only to patie whose names appear on his books, and as far as possible it is advisa to substitute a personal introduction. 2. This is a purely *leg* question. The conditions of partnership are decided by the gener law of the land as modified by the special conditions of t agreement.

Geologist.—Without knowing the exact purpose for which our corre spondent requires a text-book on elementary hygiene it is difficult t recommend any particular work. Is the book required for consult tion or for examination purposes, and if the latter what examinati has the student in his mind?

F.R.C.S.Edin.—It is not easy to answer the questions categorically b we will give them further consideration. It seems to us that t medical men both acted quite properly in every respect.

Medical Diary for the ensuing Week

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M. Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-squar (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Fre (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University Colleg (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throa (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University Colleg (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cro (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's Colleg (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden squar (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden squar (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-squar (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ea (10 A.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), *Throat, Golden-square (9.30 A.M.), Guy's* (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalm (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

[illegible] LONDON (11, Chandos street, [illegible] neral Meeting. Election of [illegible] 05-06. 8 30 P.M. Ordinary [illegible] l and Supra pubic Methods of [illegible] rison).

[illegible]

[illegible] DAY [illegible]

FRIDAY [illegible]

[illegible] Obstruction.

[illegible]).—8.30 P.M. [illegible] Pneumonia [illegible] microscopic [illegible] H. Lett: (1) The Operative Treatment of Certain Cases of Fracture of the Astragalus; (2) A Series of Cases of Fracture of the Astragalus and Os Calcis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.) 5 15 P.M. Dr. W. Ll. Andriezen: The Nature of Mental Derangement.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Practical Surgery.

TUESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. E. Squire: Clinique. (Medical.) 5.15 P.M. Dr. L. Smith: Some Clinical Aspects of Nephritis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.) —5 P.M. Mr. Armour: Head Injuries.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3 30 P.M. Dr. Batten: Family and [illegible]

[illegible] GRADUATES' COLLEGE AND POLY- [illegible] W.C.).—4 P.M. Mr J. Cantlie· [illegible] M Dr. W. S. A. Griffith. The Pre [illegible] t-partum Hæmorrhage.

[illegible] est London Hospital, Hammersmith-road, W.).- 5 P M. Mr. Armour: Head Injuries.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration: Dr. Wylie: Naso-Pharynx.

THURSDAY (11th).—MEDICAL [illegible] (22, Chenies-street, W.C.).- [illegible] (Surgical.) 5.15 P.M. Mr. R [illegible]

POST-GRADUATE COLLEGE (London County Asylum, Hanwell).—3 P.M. Dr. R. H. Cole: General Paralysis.

[illegible] pital, N.).—4 30 [illegible] High Arterial T [illegible]

FRIDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.). 5 P.M. Dr. Reece: Cerebro Spinal Meningitis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3 30 P.M. Dr. Batten: Family and Hereditary Disease.

CHILDHOOD SOCIETY AND THE BRITISH CHILD STUDY ASSOCIATION (Parkes Museum, Margaret-street, W.).—8 P.M. Prof. Ll. Morgan: Imitation. (Arranged by the British Child Study Association.)

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private informa- [illegible] *d addresses of* [illegible]

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 4th, 1905.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8 30 A.M.
April 28	29 67	S.W.	..	96	58	51	51	55	Cloudy
" 29	29 51	S.W.	0 03	95	60	49	50	54	Cloudy
" 30	29 42	S	0 17	97	59	48	49	51	Cloudy
May 1	29 42	S.W.	0 10	105	60	49	50	54	Cloudy
" 2	29 37	S W.	0·09	97	58	47	48	50	Cloudy
" 3	29 94	W	0·03	110	59	45	46	50	Fine
" 4	30 21	N.E.	...	98	56	42	45	49	Fine

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A Lecture

ON

A CASE OF CONCEALED MENSTRUATION; WITH REMARKS ON TREATMENT.

Delivered at the Medical Graduates' College and Polyclinic on Feb. 22nd, 1905,

BY PETER HORROCKS, M.D. LOND., F.R.C.P. LOND.,
SENIOR OBSTETRIC PHYSICIAN TO, AND LECTURER ON MIDWIFERY AND DISEASES OF WOMEN AT, GUY'S HOSPITAL.

GENTLEMEN,—The subject of to-day's lecture was selected in order to bring before your notice in as prominent a manner as possible a method of treatment which very nearly cost the life of a patient, which has, indeed, in the past proved fatal in many cases, and which if persisted in will result in other deaths. Before reading to you the notes of the case it may be as well to remind you briefly of the various conditions that obtain in different cases, or in successive stages of the same case, in concealed menstruation.

A so-called imperforate hymen consists in most cases of a hymen in which the opening is filled in by a membrane. In such a case when the menses first appear they flow into the vagina and not being able to escape a portion gets absorbed before the next monthly flow and a portion remains. As time goes on this remainder grows until the vagina is distended with a dark treacly fluid which generally remains aseptic. This is the condition known as hæmatocolpos, and is practically free from danger no matter how it is relieved. But if the imperforate hymen is strong enough not to yield and the concealed menstruation continues then the uterus gradually gets distended and so a condition of hæmatometra is superadded, and in this state the uterine and vaginal cavities form one large common cavity concave above and below and more or less cylindrical in between. If unrelieved the Fallopian tubes become distended and so a hæmatosalpinx results. Some believe that the Fallopian tubes may become distended independently of regurgitation from the uterine cavity, the blood in that case coming from the lining of the tubes themselves, but whether that is so or not it is quite certain that if the blood in the uterus becomes septic it, as a rule, contaminates that in the tube or tubes. Finally the blood may escape into the peritoneal cavity, causing a hæmatocele, or burst into the broad ligament, causing a hæmatoma.

Concealed menstruation must be looked upon as a rare condition. Probably imperforate hymen is the commonest cause of it but it may result from congenital or acquired atresia of any part of the parturient canal, from the os internum of the uterus, downwards. For example, congenital atresia of the vagina in its lower third is, perhaps, the next most common condition met with and complete closure, from cicatricial contraction, has followed sloughing of the parts about the cervix uteri, after severe labours. So long as a patient with concealed menstruation remains unrelieved she is in danger of, firstly, septic infection and secondly, of rupture of some portion of the distended parts—namely, tubes, uterus, or vagina. Such rupture might cause serious, possibly fatal, hæmorrhage or it migh[illegible] without, which would cause [illegible] of the retained fluid. Again, [illegible] concealed menstruation, the very same two risks are run—septic infection and rupture. But the former is a far greater and commoner risk than the latter. Indeed, rupture is almost unknown following upon treatment, whereas sepsis and death have resulted in many cases.

Having thus sketched out briefly the various conditions that may be met with, allow me to read you the notes of a case which occurred during the last few months.

The patient, a girl, 15 years of age, began to have pains about the loins and lower parts of the abdomen which suggested the onset of menstrual life. No sign of blood made its appearance but as the pains recurred about once a month the mother of the girl adopted various measures of treatment, such as sitting the child over hot water, hoping to assist the flow. The girl felt quite well in between these attacks, but after nine or ten months, as there was still no flow, the mother called in Dr. X. and subsequently his partner, Dr. Y. They examined the girl, discovered a bulging imperforate hymen, and correctly diagnosed concealed menstruation. They consulted a modern text-book with regard to the treatment of so rare a case, where they read that the retained menses should be let out gradually by making a tiny puncture through the imperforate hymen. The book spoke of the danger of letting out the fluid suddenly—namely, contraction of the uterus with regurgitation along the tubes of retained menses, into the peritoneal cavity. So on Nov. 22nd, 1904, they applied some cocaine and with antiseptic precautions made a tiny puncture through the [illegible] treacly, but non-[illegible] to escape until, [illegible] came away during the following few days. Before the puncture was made the girl had been quite healthy and well. But in two or three days she began to get ill and feverish and the still flowing menses became offensive. Obviously they had become septic and were decomposed and the girl was in a sapræmic condition. So a week after the first puncture—namely, on Nov. 29th—cocaine was again applied to the hymen and with antiseptic precautions a free incision was made and the uterus and vagina were washed out with sterilised water, the contents being very foul. During the introduction of the nozzle of the syringe it was discovered that the uterus and vagina formed practically one cavity, so that it was not easy to find any part of the wall where one could say the vagina ended and the uterus began. In other words, it was quite clear that it was at least a case of hæmatocolpos and hæmatometra. For a short time the patient seemed to be a little better but she rapidly grew worse after that, with signs of septic peritonitis.

Receivin[illegible] Dr. Y., I [illegible] was quite [illegible], although there was then no offensive discharge because douches of tinctura iodi, one drachm to the pint, had been given frequently. The pulse was over 120, the temperature was 101° F., the face was pinched and anxious-looking, the tongue was dry and brown, and the abdomen was distended and tender all over, but more especially in the lower half. Nothing but an abdominal section offered any hope of recovery and one could not promise that even this would assuredly save the patient's life. Fortunately, her parents were sensible people, and whilst consenting to have the operation done they, more especially the mother, wished to have it done at home. The objection to this was that the surroundings were not favourable to an abdominal section of that kind. The advantages of having it done in a surgical home where we could have a brilliant light right over the table to illuminate the area of operation, a table arranged so as to put the patient in the Trendelenburg position if need be, together with all modern devices for the attainment of as perfect an asepsis as possible and with skilled nurses accustomed to abdominal section cases, quite outweighed the slight inconvenience of the removal. It was said that the patient herself would object but on placing it before her she consented on one condition—namely, that she should retain the services of her nurse, to whom she had become greatly attached—a thoroughly trained nurse who proved to be most efficient and trustworthy.

The patient arrived at the nursing home about three hours after I first saw her and in the meantime everything had been prepared for immediate operation. She was first placed in the lithotomy position and the vulva was shaved and made aseptic as far as possible. The opening which had been made in the hymen was found to be rather small and so it was enlarged by incising the hymen on each side to its base. On vaginal examination it was found that it was possible to pass the finger through the patent cervical canal and that the cervix uteri had become differentiated from the vagina. But the lips of the os uteri were flush with the vagina all round; in other words, there were no fornices. One could feel, also, that there was something in the region of the pou[illegible] but only a [illegible] of the uter[illegible] lotion, 1 in 500, and finally they were both packed with iodoform gauze wrung out in the same lotion. She was next placed in the dorsal position for laparotomy.

As soon as the abdomen was opened by a median incision an exceedingly foul, watery fluid escaped and on dipping the fingers into the pelvic cavity stinking pus welled forth through the opening. A mass as large as a man's fist was felt lying behind and to the right of the uterus and on lifting it out, which was easily done as there were no adhesions, it proved to be the right Fallopian tube greatly distended, which will now be passed round for your inspection. This was removed after transfixing and ligaturing the broad ligament in the usual way. Before proceeding further the pelvic cavity was washed out with saline solution (two drachms to the pint), many quarts being used. The stench was almost overpowering and as several sloughy-looking pieces, probably of decomposing clot, escaped, some large jugsful of the saline fluid were poured into the pelvic cavity so as to create a sudden and powerful flush of water. Lying on the back of the uterus, the bottom of the pelvis, and here and there on the intestines, there were large flakes of wash-leather-like lymph and the peritoneum generally was red and inflamed. Finding that more stinking fluid kept flowing down from amongst the intestines above it was determined to try the almost impossible task of cleaning the peritoneum generally, for it was a case of life or death and it seemed that the only chance for the poor girl was to get rid of as much as possible of this stinking stuff. With a Tait's metal tube fixed at the end of thick rubber tubing attached to the douche can, the whole of the contents of the abdomen, diaphragm, liver, spleen, kidneys, stomach, and bowels, were all thoroughly douched with saline fluid, many gallons of which were used at a temperature of 105° to 110° F. When at last the fluid came out sweet the left Fallopian tube was carefully inspected, and although it was swollen and inflamed on its peritoneal aspect and the fimbriæ were swollen, yet as no pus could be squeezed out by rubbing from the uterus towards the abdominal ostium it was determined to give the girl a chance of keeping this important organ. It was quite obvious that we must have drainage, the only question being whether to make an opening through Douglas's pouch and to drain per vaginam or to put in a Keith's glass tube and to drain through the abdominal wound. Not being quite sure as to the aseptic condition of the vaginal walls and Keith's glass tube being a quicker and simpler means I used one and sewed up the wound and got the patient back to bed as quickly as possible. The operation lasted over an hour altogether and the pulse was 140 at the finish. Coffee and brandy were administered in the form of enemata every four hours at first and afterwards every six hours. A morphine injection, one-third of a grain, was given subcutaneously the same night. Fluid was sucked out of the tube every half hour. On the next day the fluid drawn off by the syringe was foul again and also purulent. So a solution of sulphurous acid (50 per cent.) was used to syringe into the pelvic cavity through the glass tube, the fluid being at once sucked out again. As this caused so much burning the strength was reduced to one part of sulphurous acid to two of water. A glass syringe containing about two ounces was used and it was refilled two or three times at each syringing which was repeated about every half hour at first and then every hour. The patient's condition was extremely critical for a few days, but as she took and kept down a fair amount of milk and barley-water, besides retaining coffee and nutrient enemata, there was a little hope that she might possibly pull through.

On the sixth day the glass tube got pushed out a little and the lower end became blocked. Hence it was impossible to suck anything out and inasmuch as before the disturbance of the tube the fluid last drawn had been extremely foul and purulent one could not feel happy about the absence of fluid being a good omen. That the lower end of the tube was blocked became rapidly apparent by a rise of temperature and other evidences of septic absorption, such as quick pulse and dry tongue. The glass tube was turned round on its vertical axis and a probe was passed down to the bottom, very gently of course, but it was quite 24 hours before we succeeded in again reaching the stinking pus. At all events, when it was found and the syringing in of the sulphurous acid got at the septic parts the temperature again fell and the patient improved in every way. The abdomen was somewhat distended, especially at the lower part, and also hard all over, before the operation; and afterwards it became more distended still. But by means of repeatedly passing a rectal tube and by getting the bowels to act by various measures, such as cascara, soap-and-water enemata, turpentine enemata, and the like, we managed to keep it within bounds. On the ninth day she began to take a little solid food and this was gradually increased until she was able to eat well. On the fourteenth day the sulphurous acid lotion was given up and boric acid lotion was used instead. On the seventeenth day the glass tube was removed and an indiarubber tube was put in its place. This was itself replaced by a very narrow one on the twentieth day, and finally a little gauze drainage was employed. The cavity filled up with healthy granulations and the patient got up on the couch on the forty-fourth day. She went home on the fifty-ninth day practically well.

It seemed to me that considering how nearly this girl lost her life through a method of treatment which is known to be dangerous and which ought never nowadays to be adopted, and considering also that her life was saved when in an apparently hopeless condition, that it ought to be brought prominently before the profession in order that no similar mistakes may be made in the future. Concealed menstruation is not a condition often met with. A busy practitioner in a long professional life might not have in his practice more than one or two such cases. This was the very first case Dr. X. and Dr. Y. had ever had to treat and naturally they consulted a text-book on diseases of women which recommended the treatment by puncture. They were thus entirely misled and must be exonerated from all blame. Indeed, many text-books contain the same advice, some giving both methods of treatment—namely, a tiny puncture and a free incision. Scarcely any condemn utterly the plan of letting off a little at a time, although they point out the dangers of it.

But you must remember that some cases appear to do perfectly well when a small puncture is made. Why is that? My reply is that the cases which do well are probably cases of hæmatocolpos only. The danger of letting out the fluid slowly is practically *nil* when the vagina alone is distended. For even if the contents become septic, there is not so large a quantity and the vagina is not so powerful in its contractions as the uterus and it would burst the fragile hymen or its own walls more readily than drive its contents into the uterine cavity. Where, however, there is hæmatometra in addition to hæmatocolpos the danger of making a tiny puncture is very great and it ought never to be done. You all know that the surest means we possess for bringing on uterine contractions in pregnancy is to rupture the membranes. No other method known is to be compared with this for rapidity and certainty. The puncture of the membranes lets out some of the liquor amnii and thus removes the hydrostatic pressure exerted on to the uterine walls. There is an immediate shrinkage of the uterus, followed by more active contraction, resulting in the majority of cases in definite expulsive pains which end in miscarriage or labour according to the time of gestation. The exact physiology of this provocation of uterine contractions has not been settled but precisely the same condition obtains in a combined hæmatocolpos and hæmatometra. Hence, to puncture the imperforate hymen is the very surest way to provoke uterine contractions. These follow one another in ever-increasing volume and force and frequency until, as there is no sufficient outlet through the tiny puncture, the retained menses get driven into the generally patent Fallopian tubes and through them into the peritoneal cavity. If, as in this case, the menses have become septic, which is almost sure to happen after a few days no matter how antiseptically and aseptically the puncture be made, peritonitis ensues and, so far as I am aware, this is the first instance on record where when this has happened the patient's life has been saved by abdominal section.

It is nearly 20 years ago that I lost a case myself through sepsis following puncture of a distended hymen. A post-mortem examination revealed a peritonitis set up by septic menses driven into the peritoneal cavity along the Fallopian tubes. There and then I determined never to adopt that treatment again but to make a free incision and to wash out the whole of the contents from above downwards and so give them no time to decompose. I have operated on a fair number of cases since but have never lost one. The essential factor has been the free incision and the rapid washing out, but during the 20 years, of course, various improvements have been made in regard to asepsis. The fully developed method may be described as follows. The patient may be anæsthetised or not, as the case may be, but in all the cases I have treated an anæsthetic has been given. The vulva is rendered aseptic as far as possible, especially the generally bulging imperforate hymen. After shaving and washing with soap and water and then by a 2 per cent. solution of lysol it is a good plan to apply a piece of sterilised gauze or other material soaked in 1 in 1000 perchloride of mercury or an equivalent germicide to the bulging hymen, leaving it to soak for not less than two minutes. A two-quart douche can is filled with either a mild antiseptic lotion or with boiled water, to which may be added one or two teaspoonsfuls of common salt to the pint. It should [illegible] feet above the [illegible] delivery pipe by [illegible] inch in diameter. The delivery tube should be from 12 to 14 inches in length and should have a good wide bore opening at the end. The old-fashioned gum-elastic tubes which were formerly used for the intra-uterine injection of perchloride of iron in cases of post-partum hæmorrhage are first rate. They are preferable to nozzles having small openings at the sides. What you want here is a good stream to flush out the cavity quickly and there is no risk of air getting into the veins, for there are no open veins for it to get into. Moreover, you practically avoid air getting in by turning the tap and allowing the fluid to run out a little before introduction. The temperature of the fluid should be about 105° F. As soon as everything is ready a good incision is made right across the bulging hymen. This can be done by a knife or cautery or scissors. It is a good plan to seize the lower cut margins with catch forceps and to let these hang down; they stop bleeding and keep the vaginal orifice open. The nozzle of the douche apparatus is then rapidly passed through the incision to the top of the uterus and the two quarts of solution are allowed to flow rapidly and with force so as to wash the whole contents from above downwards, out through the opening made. If the returning fluid be still red, as it probably will, when the two quarts are nearly exhausted the douche should be filled again with more saline solution, a plentiful supply of which should be ready. This washing out should be carried on until the returning fluid is clear. The uterine and vaginal cavities can now be packed with gauze, aseptic or antiseptic, but of recent years I have contented myself with passing into the vagina only a little iodoform gauze wrung out in formalin 1 in 750. This can be left in for 48 hours and then removed and a douche of saline fluid or boric acid lotion can be given and a little fresh gauze tucked into the vagina. This gauze acts as an antiseptic and aseptic cork preventing ingress of germs from without as well as acting as a drain. Since adopting this method I have never had a death and indeed never any trouble; the patient has usually made an excellent recovery without rise of temperature though generally with some pains due to uterine contractions.

Of course, when the bulging hymen is incised there is an immediate flow of the viscid dark fluid and doubtless there is an immediate shrinkage of the distended cavity; but the incision is so large that the pressure brought to bear by this shrinkage drives the menses through this opening easily, thus preventing any danger of its being driven along the Fallopian tubes where resistance is much greater. It might be argued by some, "Why not make a free incision simply without washing out?" My own opinion is that such a method might succeed every time. Certainly it would be far superior to merely puncturing. But obviously it would take some time for the uterus and vagina to expel *all* their contents and as these contents are liable to easy infection and decomposition it is better to get rid of them as rapidly as possible so that the uterine and vaginal cavities contain practically nothing that is capable of decomposition. Some prefer to wash out more gradually and more gently on the supposition that a too rapid emptying of the uterine [illegible] ouble through uterine contractic [illegible] aused by past perimetritis; such [illegible] and if trouble is going to arise on account of uterine contractions it will not be prevented by a slow, in preference to a rapid, washing out. The advantage of the rapid method is that all the retained menses are got rid of before there is time for infection and decomposition and before there is time for the strong uterine contractions to commence.

If, however, it should ever come before you to have to deal with a case of acute peritonitis set up by regurgitation of septic fluid along the Fallopian tubes into the peritoneal cavity, the only chance for the patient is abdominal section, removal of the offending blood and, if need be, one or both tubes, and a thorough washing out of the peritoneal cavity. Anyone who has tried to wash out the abdominal cavity thoroughly knows what an extremely difficult thing it is. Pools of stinking pus seem to exist here and there amongst the small intestines after one has apparently got the whole cavity clean. In this particular case, knowing that the more thoroughly the purulent and most offensive fluid was got rid of the more likely the patient would be able to pull through, I set deliberately to work to accomplish the task of cleaning the peritoneum. With this purpose the nozzle of the tube was guided up between the liver and the diaphragm, between the spleen and the diaphragm, round and about both kidneys, and over the stomach and intestines, separating the coils of small intestine here, there, and as far as possible everywhere, in order to direct a rapidly flowing stream of saline solution upon every part of the abdominal cavity. Of course the pelvic contents received the greatest amount of douching and by the time this had been finished there was no pus in, and no offensive odour from, the out-flowing water.

During the operation I was in doubt whether it would be best to remove the left tube as well as the right but as it was only swollen and contained no pus apparently it was decided to leave it. Another point was whether it would be better to make an opening through Douglas's pouch and so to drain into the vagina. Possibly that would have been the best plan but drainage through the abdominal wound by means of a Keith's glass tube was decided upon partly because it could be done much more rapidly and the patient's condition was serious, rendering every minute of value, and partly because the vaginal walls were themselves probably far from aseptic. When the glass tube became blocked and signs of sepsis arose it was felt that perhaps it would have been better to have had a drain through the vaginal roof. And, indeed, had we been unable to get the [illegible] been made [illegible] Happily, [illegible] so drainage was re-established. The patient's life was saved and that must be remembered in any future case where the question of abdominal or vaginal drainage is discussed. All who were present at the operation thought that it was impossible for the girl to recover. The whole peritoneal cavity was affected by peritonitis and the stinking purulent fluid bathed the entire abdominal contents. But it must be admitted that an infection accompanied by fœtor is less virulent as a rule than some infections which are quite free from bad odour. Take for example puerperal septic infections. That form in which the lochia are offensive is nearly always recovered from, whereas the fatal cases have as a striking clinical feature scanty sweet lochia.

Again, in suppurative fatal peritonitis there is practically, as a rule at all events, no fœtor present when the abdomen is opened. Hence one felt in this case that if the whole or at all events the bulk of the septic stinking fluid could be washed away the vital forces of the patient might be able to battle successfully with the remainder. And happily this proved to be the case. All text-books tell you of the dangers of letting out retained menses—namely, rupture of the Fallopian tubes and sepsis. Some recommend a preliminary abdominal section to find out the condition of the tubes, a method of procedure with which I disagree. But since adopting the method of free incision followed by free washing out of the whole uterine and vaginal cavities I have had no bad result, so that one may say that practically the element of danger from sepsis can be eliminated. Certainly I know of no method for preventing sepsis if a tiny opening only be made in the atresic portion.

As regards the danger of rupture of an already distended tube it seems to me greatly to be exaggerated. Personally I have never come across such a case, and even if it did rupture the contents are nearly always aseptic and would lead therefore to no dangerous peritonitis. And as to hæmorrhage from the ruptured walls of the tube it would be slight and not enormous as in the case of ruptured tubal gestation because, of course, there would be no chorionic villi or placenta. So far as I have been able to refer to text-books on diseases of women not one tells you what to do in case a septic peritonitis supervenes upon the treatment of a case of concealed menstruation by puncture or incision of the atresic hymen or other part. It almost appears as if it were considered a hopeless and an irremediable state for which there was no remedy. I trust that the publication of this case may lead in the first place to an abandonment of the treatment by puncture, and in the second place to the adoption of the treatment by free incision and washing out, and finally in cases where peritonitis supervenes to an immediate laparotomy with thorough cleansing and drainage.

The following report has been drawn up for me by Mr. H. T. Hicks, obstetric registrar and tutor at Guy's Hospital. "The specimen consists of the right Fallopian tube and its corresponding ovary, covered and bound together with firm but recent adhesion. The uterine end of the tube is free and from this point the tube curves outwards and downwards and embraces the enlarged ovary in the concavity of its curve. The ovary is uneven on the surface and covered with a thick layer of lymph and in its interior is a small abscess cavity which contained thick pus. The walls of the tube are much thickened and in a condition of interstitial salpingitis while the lumen of the tube is dilated and tortuous. The mucous membrane is œdematous and in the recent state the tube contained a dark chocolate-coloured material mixed with pus resembling breaking-down blood clot. The dilated tube has been infected by an acute septic organism which, passing quickly along to the fimbriated end, has secondarily infected the ovary, forming a small abscess in its interior and peritonitis around. It is interesting to note the great thickening of the muscular coat of the tube as well as the peritoneal coat. The sections show that both the muscle and the mucous membrane are in a condition of acute inflammation with much small-cell infiltration."

The Lumleian Lectures

ON

NUTRITION AND MALNUTRITION.

Delivered before the Royal College of Physicians of London on March 28th and 30th and April 4th, 1905,

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FELLOW AND CENSOR OF THE COLLEGE; SENIOR PHYSICIAN TO THE WESTMINSTER HOSPITAL.

LECTURE II. *(concluded).*[1]

Delivered on March 28th.

THE RÔLE OF OXYGEN IN TISSUE METABOLISM.

IN the course of these complicated changes, both anabolic and katabolic, the part played by oxygen is necessarily of considerable importance. The problem was the subject of an interesting discussion introduced by Sir John Burdon Sanderson at the last meeting of the British Association for the Advancement of Science. That it is a potent factor in those changes which constitute the disintegration of such tissues as muscle and nerve-centre in connexion with the manifestation of their specific energies has long been a commonplace of physiology and the resulting products of oxidation, such as carbonic acid and water, were known to be proportionate to the work done. More recently it has come to be realised that oxygen plays an important part in the constructive phases of living matter, though precise information on the point is still to seek. So far, however, it appears that for the restitution of the living molecule after the disintegration attendant on its transition from an inactive to an active state oxygen is essential, "not as an oxidiser, but as a restorer of functional capacity." It is requisite that the element should become a part of the bioplasm—intramolecular—whereby the excitability of the tissue—muscle or nerve-centre—is increased, and the response to a suitable stimulus, as expressed by the disintegration of the living substance with liberation of energy, is induced. It is in this latter phase that the oxidising function of the oxygen comes into play, contrasting with its integrating function that renders possible the explosion. For this anabolic capability Sir John Burdon Sanderson suggests the term "oxygenation." Both in muscle and nerve-centre oxygen "acts as a predisposing, not as an exciting, cause of functional activity," though playing an active part in the katabolism of these tissues. In the case of excretory glands the rôle of oxygen appears to be different, for during the activity of these organs, so far as it has been observed in the salivary glands, the pancreas, and the kidney, there is a large increase in the intake of oxygen without the subsequent liberation of a corresponding amount of carbonic acid. It is then the anabolic action of the element which predominates in glands, as the katabolic does in muscle and nerve-centre. This difference in the part played by oxygen in the muscular and nerve tissues (grey matter) and in the secreting glands is further shown by the far greater production of heat which takes place in muscles and the greater the excretion of carbonic acid and water the greater the amount of muscular work. Although oxidation is so important a factor of katabolism it is not to be maintained that all the disintegration stages of the tissues (body-stuffs) are of this nature. The most complex—viz., the proteids—would seem to undergo certain preliminary decompositions in which oxygen plays no part; the splitting of these substances into a nitrogenous and a non-nitrogenous portion which may or may not be converted into sugar is an illustration. Some of the first products of proteid (muscle) metabolism are doubtless oxidised at a later stage, but, as already said, the katabolism of proteids is not one of complete combustion, as it is in the case of fats which are entirely converted into carbonic acid and water, and as is also the case with much of the carbohydrates unless the greater part of these substances are converted into fat before oxidation, a fraction only being involved in the proteid synthesis.

The tissues differ among themselves very much in the extent to which they are possessed of oxidative power, and Loeb has shown that the solubility of certain substances in the tissues is affected by the presence or absence of oxygen. How important this is in respect to the chemical interchanges between the cell and the materials presented to it will be obvious. There is much to show that the oxidations mostly take place in the nucleus of the living cell, which consequently becomes the chief seat of the syntheses that depend on these oxidations.[2]

THE PART PLAYED BY FERMENTS IN NUTRITION.

On looking over the whole series of changes, which I have merely indicated in outline, undergone by the ingesta from their first contact with the digestive secretions and their subsequent absorption to their final presentation to the living protoplasm and their assimilation and breaking down, we are led to recognise that these changes are, so far as they are known, exactly of the nature of well-known chemical processes. By hydrolysis or decomposition with previous hydration, by condensation, by oxidation, and by reduction, the various alterations in the food-stuffs are effected. Now these processes are precisely such as take place in our laboratories under experimental conditions and, indeed, many of the changes which I have described as occurring in the carbohydrates and fats and to some extent even in the proteids can be imitated at will in our flasks and test-tubes. But there is this great difference: that in our laboratory procedures to bring about these results strong acids or alkalies are required, a prolonged application of high temperatures or electric currents of great potentiality—conditions which obviously do not exist in the living animal or plant and that, indeed, would be destructive of it. On the other hand, in the simplest living cell, alike as in the highest form of existence, these same changes are effected rapidly and surely without any such powerful agencies. It is this marvellous accomplishment of chemical change, both synthetic and analytic, that characterises the living organism and that permits us to use with becoming understanding the expression "vital" as applied to them, though it may well be that such a term is provisional only and may not be taken to affirm an essential difference from those conditions which govern non-living matter. At the same time, it must be admitted that altogether fresh methods of chemico-physical action are disclosed by the investigation of the syntheses effected by the living organism and are not identical with those which take place in our laboratories.[3]

If now we seek for some explanation of the means by which the living thing effects these series of ascending and descending changes—the anabolic or constructive as well as the katabolic or destructive phases of metabolism—we find some clue in the conclusions drawn by numerous workers who have approached the problem from various points of view, starting not infrequently from previous knowledge that gave but little indication of the comprehensive and far-reaching results to which it has led. For many years it has been known that the activity of the several digestive secretions depends on the presence of bodies known as soluble ferments or enzymes, ptyalin, pepsin, trypsin, lipase, and the like, though but little had been ascertained as to the actual nature of these bodies, far less of their mode of action. Extended observation has demonstrated a widespread existence of these agents throughout the tissues, both animal and vegetable, and has shown not only that they are secreted from the cells in which they are formed and so enter into the specific secretions of the various secreting glands, but that they also may occur within the cells themselves and exert their peculiar activities in that situation—intracellular ferments. Among other consequences of this [illegible] which the yeast plant may be taken as a type, since from this organism a substance has been expressed that brings about all the changes in the carbohydrates which the living cells themselves produce. Great difficulty has been experienced in obtaining these bodies in even approximate purity and so far their real nature and mode of action are largely hypothetical. There seems, however, good reason to believe that in many cases they are of the nature of nucleo-proteids and are derived from the chromatin of the cell nuclei[4] but that between this substance and the enzyme are intermediate stages which are successively formed in the cell substance or cytoplasm, the immediate precursor of the ferment being known as zymogen. Their activity is largely conditioned by their environment; they are destroyed beyond certain limits of temperature and according to the degree of concentration of the medium in which they are will be in great measure the character of their results. The dependence of the formation of trypsin by the pancreas upon the circulation in the gland of a specific substance secretin and the further formation of trypsin from the zymogen by the action of another ferment (enterokinase) already referred to, seem to indicate some of the conditions of the origin and mode of action of these bodies concerning a knowledge of which we are but on the threshold. Their action is inhibited by the accumulation of the products of their activity, a removal of which permits a renewal of their effectiveness. Moreover, it appears to be pretty clear that for the due production of the specific changes which these enzymes induce the cells must be adequately supplied with suitable pabulum and what is of great importance the actual variety of ferment action depends very considerably upon the character of this pabulum, so that the same cell may give rise to different ferment actions. The adaptation of the gastric and pancreatic secretions to the particular requirements of different articles of diet previously alluded to serves to illustrate this statement. It was an investigation of this point in particular that led Croft Hill to the discovery of the reversibility of ferment action. The hydrolysis of starch into glucose by diastase has long been familiar to us and it was also known that long before the whole of the starch was converted the action came to an end if the resulting sugar were not removed; if now glucose be added to the mixture a reconstruction of starch takes place, the enzyme rebuilding the molecule it had previously split up. It is difficult to over-estimate the importance of this discovery, [illegible] and anabolic changes. Immersed in the several bioplastic constituents of the cell which are simultaneously undergoing both destructive and constructive changes, they bring about these decompositions and compositions determined in the direction of their activity by the relative proportion of the products to which they have given rise. Only when the breaking-up products (conveniently designated by Croft Hill kata-products) balance those of construction, or ana-products, is the activity of the cell in abeyance. "If either the ana-products or kata-products are removed from the sphere of action as fast as produced the other products will be entirely transformed. In this way the reversibility of ferment action is sufficient to explain the synthetic processes of life which may, and probably do, occur in stages, so that the ana products of one ferment are the kata-products of another, the final ana-products usually having a very low solubility."[5] The reversible action of lipase in the disintegration and integration of fats in the course of digestion and absorption which has been previously mentioned is an illustration of this point. From this it would be clear that the older notions that ferment action was solely in the direction of decomposition, of katabolism, must be amended and their efficiency as synthetic agents be recognised. And not only is this apparent in the manifestation of their reversible action but it is to be observed between different ferments which thus become, as it were, complementary to each other. Thus the glucoside amygdalin which is extracted from almonds may be broken up by one ferment into sugar, hydrocyanic acid, and the essence of bitter almonds, whilst another ferment obtained from yeast extract can reconstruct these substances into the original compound.

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[1] Lecture I. and the first part of Lecture II. were published in THE LANCET of April 29th (p. 1111) and May 6th (p. 1180) 1905, respectively.

[2] [illegible] in Journal of Physiology, 1902, vol vii.

[3] [illegible] chemistry cannot, *as it at present stands*, be [illegible] into a direct negative of vitalism in any form [illegible] may, and probably will, be made possible in the future when our chemical *methods* have been made to approximate more closely to the vital *methods*" (The Chemical Synthesis of Vital Products, by Professor Meldola, F.R.S., 1904.)

Much has been said as to a constructive and destructive power of the living protoplasm as distinct from that of the enzymes which are formed from certain constituents of the protoplasm. The nature of these metabolic processes is in both cases the same and it seems probable, though it cannot be affirmed, that it is by these specialised portions of the living matter, these extremely complex bodies the enzymes, that the synthesis of the pabulum into the bioplasm is effected, and that so soon as this takes place by similar ferment action a decomposition is brought about "giving rise to many residues of various kinds, some of which are re-incorporated with new material into the molecules of the bioplasm, while others are broken down still further and ultimately eliminated." "Not only," continues Professor Reynolds Green,[6] "does the substance of the protoplasm itself undergo these decompositions, but different materials in the cells are involved in them and the residues of these are absorbed into, and incorporated with, the living substance in the same way as those which spring from its self-decomposition. We find that in many cells there is stored a reserve of nutritive material, not quite in a suitable state for immediate assimilation, but ready to form a nutritive pabulum when split up. Nor are such materials of use only as supplying nutritive material; by their decomposition a supply of energy is afforded to the protoplasm, of which it avails itself in carrying out constructive processes."

Many are the theories that have been advanced to explain the mode of action of these ferment bodies, but no one can be said to be completely satisfactory. The resemblance in their effects of setting up or accelerating chemical changes in substances, apparently without undergoing any material change or loss themselves, at once suggested a strong resemblance to similar activities long known to be possessed [illegible] atinum, gold, and silver when [illegible] Such power was [illegible] afforded by the term. A point of exceeding interest in reference to this is that many of the fermentations which we recognise as dependent on the action of enzymes, such as the oxidation of alcohol into acetic acid by the vinegar plant, may be effected by finely divided platinum, by which also cane sugar may be inverted, and, as lately shown by Neilson,[7] the hydrolysis and synthesis of fats, which in the body take place by the action of a ferment lipase, may also be brought about by mere contact with platinum black. So also such toxic agents as prussic acid will equally arrest the action of the cell-formed enzyme and of the metal. So wide is this ferment action, by which the various synthetic and analytic processes are performed, that within recent years a group of ferments has been recognised which are concerned in the transference of oxygen to the substance undergoing "fermentation." To these oxidising enzymes the name "oxidases" has been given and their presence has been detected in both animals and plants. Here, again, is seen a familiar chemical process which in our laboratories is effected by means of considerable heat or of such reagents as would be destructive of living tissues, carried out rapidly and quickly through the agency of these highly complex bodies which are present only in infinitesimal quantities. The first of these bodies to be detected now more than 20 years ago is one known as laccase, by which the lacquer varnish is produced; others appear to be concerned in causing the bouquet of wines; another takes part in the formation of indigo; and yet another, found in ripe olives, in the oxidation of the oil into oleic, acetic, and other acids. Recent observations by the committee of the British Association for the Advancement of Science previously referred to upon the localisation of these oxidases within the cells have shown that they are not components of the living framework of the cells but are dissolved in the fluids that bathe that framework and circulate in the cell spaces and cavities. And in view of the relation which these fluids have to the surrounding media it may be more correct to regard these bodies not as enzymes but rather as oxygen carriers very much as hæmoglobin is. The observation that certain animal tissues have reducing properties, such as being able to convert alkaline nitrates into nitrites, has suggested the possible existence of enzymes which could obtain the oxygen from somewhat stable compounds instead of from the atmosphere—in fact, reducing ferments.

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[4] "This hypothesis," says Professor Reynolds Green, "is considerably strengthened by the observations of Macallum (Contributions to [illegible] till the time when the granules are fully formed."

[5] Crofts Hill: Thesis for M.D. degree, University of Cambridge.

[6] The Soluble Ferments and Fermentation, by Professor Reynolds Green, D.Sc., F.R.S., 1901, p. 363.

[7] American Handbook of Physiology, 1904.

Until quite recent years the function of a number of organs in the body known as the ductless glands, thyroid, parathyroids, thymus, adrenals, and pituitary body, was a subject of profound mystery. Chiefly as the result of clinical observation alterations in their structure were found to be associated with very widespread tissue change and general functional deterioration in various directions. Without wholly excluding the idea that these organs may be partly concerned in the withdrawal of some toxic products of tissue waste their influence on metabolism is attributed to the formation by them of internal secretions which are thrown into the blood or lymph circulation and so distributed to the body. The next step was to ascertain that this function of internal secretion is also possessed by some of the glands that furnish external secretions and possibly also by other structures with which glandular functions, as ordinarily understood, are not usually associated. That these organs, or some of them, exert a very important influence on the nutrition of the body is well known. The close association of the development of the reproductive glands with the growth of the body and the consequences of the removal of the thyroid and of the pancreas are familiar to us. In the case of the thyroid it has been demonstrated that when removed or when its function is arrested by disease the nitrogen elimination is much diminished and protoplasmic activity decreased, whilst the reverse condition obtains when the gland or extracts of it are administered. In contrast to this may be mentioned the effects of removal of three-quarters or more of the total renal tissue which is followed, as Dr. J. R. Bradford has shown, by an elimination on the part of the remaining portion of the organ of even more nitrogen than had taken place when both kidneys were untouched. This means an increased nitrogenous metabolism of the tissues apparently excited by the removal of the influence of the kidney, suggesting that this organ produces a something which inhibits, as the thyroid produces something which stimulates, the metabolism. Consistent with our general state of knowledge we are led to suppose this something is of ferment nature and that the internal secretions owe their activities to bodies of this class. Inasmuch as the normal influence of these organs is to promote oxidation and perhaps oxygenation in the sense just now defined it may be that a specific use of these organs is to furnish oxidising ferments to the economy. Important as is the integrity of these organs for the general well-being of the individual the range of their influence is far from being fully known and it is very uncertain how far the results of experiments in connexion with them conducted on the lower animals are applicable to man. There appears also to be some mutual relation in action among these organs, of which at present we have but only suggestions. Thus, for instance, the thymus ordinarily begins to atrophy when the sexual glands are becoming mature and castration in young animals (cattle, guinea-pigs, and rabbits) arrests the wasting of the thymus which continues to grow.[8] Dr. D. Noel Paton,[9] reversing the experiments and removing the thymus, was led to conclude that "there is a reciprocal action between thymus and testes, each checking the growth of the other." Similar relationships have been observed in respect to other organs. If, as is supposed, the effects on nutrition of these organs is an expression of ferment action it would seem that these ferments require for the manifestation of their activity the presence or absence of other like bodies, some being helpful as others are antagonistic.

THE RELATION OF LYMPHOCYTES TO NUTRITION.

In the consideration of the various factors engaged in maintaining the nutrition of the tissues mention must be made of one, the mode of action of which is not understood in anything like completeness, even if the suggestions which have been made so far are correct. It is well known that among the normal white corpuscles found in the blood are some characterised by a non-granular hyaline appearance, with a single large round nucleus, which are known as lymphocytes. Of these, there appear to be two varieties which differ chiefly in size. Ordinarily the proportion of these cells is about 25 per cent. of the leucocytes, but during the process of digestion it is found that this proportion is very much increased, subsequently to fall again to the before-mentioned number. So constant is this digestive lymphocytosis that it is impossible to avoid the conclusion that it is in some way connected with the digestive process itself or with the materials that result therefrom. It is in playing some part in the absorption of fats that the activity of the lymphocytes is assumed to lie, conveying it when digested from the columnar epithelial cells to the radicles of the lacteals. As in a measure confirming the nutritive importance of these cells is the undoubted fact of their greater number normally in the blood of children—at a time of life, that is, when the nutritive demands are greatest. And further, the greater activity of the adenoid tissue whence these cells are derived during infancy and childhood becomes even still greater in circumstances of impaired nutrition, as if by the increase in lymphocytes an effort was made to meet the deteriorating influences. It has been noticed that the diminution in the proportion of these cells to that which is characteristic of the adult occurs at about the time that the function of the thymus begins to subside. Neither the thymus nor the spleen, which together comprise the largest amount of lymphoid tissue in the bodies of young animals, however, appears to be essential to nutrition, for either or both have been removed without interfering "with nutrition, blood formation, growth, and development of the animal."[10] The subject is one of which we really know but little.

THE INFLUENCE OF THE NERVOUS SYSTEM ON NUTRITION.

There is yet another factor which requires to be taken into account when endeavouring to form anything like a complete conception of the processes of nutrition. In the progress of organic development, as the tissues and organs become differentiated and the functions specialised, there arises a demand, which grows with the increasing complexity of the organism, for some regulating, coördinating, and harmonising mechanism whereby the activities of the separate parts shall be combined most advantageously for the common good, to effect that union of action among the different organs as shall manifest most economically the life of the individual and most completely bring the organism into relation with its surroundings. This complex of functions is performed by the nervous system. I scarcely need stay to furnish you with examples showing the influence that the nervous system has over the nutrition of the separate tissues and organs or of the body as a whole. In health the existence of this function is assumed, but that some such influence really is present is apparent from certain morbid phenomena which are associated with its perversion, and in many cases also with an obvious structural lesion of the nervous apparatus. The well-known distribution of certain cutaneous eruptions in special nerve areas and the frequent morbid change found in the associated nervous tissue, such as herpes zoster, morphœa, "glossy skin," sclerodermia and others, atrophy of muscles and bones, bedsores and perforating ulcers, are but a few of the local results that we connect with a removal or perversion of this trophic influence due to disease of nerves or of nerve centres. There are other states of malnutrition in which there is a more general wasting but with which no special nervous change hitherto has been detected. Such an one is the condition known as *anorexia nervosa*, in which a universal and profound disturbance of the general nutrition is brought about, coupled with an almost complete abstinence from food. The degree of emaciation, however, far exceeds what occurs in professional fasters but is nevertheless compatible with an often remarkable degree of muscular vigour. It does not follow, however, that there are special neurons concerned with the discharge and conveyance of trophic impulses only but rather that these are involved in those nervous influences which govern the functions of the various organs and tissues and that "the function and nutrition of these [illegible] together an inseparable unity" [illegible] necessary to remark that by reg[illegible] nervous system also influences nutrition. It may be conceived that this trophic control may be exerted directly in stimulating the functional activity of the tissues, or, so to say, indirectly, as, for instance, by coördinating the mutual relationship of the tissues, one aspect of which we recognise as the effect of internal secretions, or by controlling that power of adjustment to the environment which is a fundamental property of living matter.

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[8] J. Henderson, M.R.C.V.S., Journal of Physiology, 1904.

[9] Ibid.

[10] Paton and Goodall: Proceedings of the Royal Society of Edinburgh, 1904.

If we attempt to form any conception of how the nervous system affects the processes of nutrition we should consistently with the nature of the function which I have set forth regard it as influencing the chemical processes within the cells. Direct structural continuity between the nerve fibrils and the protoplasm of many glands and muscles has long been known to exist, which shows at least the possibility of the nervous impulses immediately affecting the equilibrium of the cell. And, further, having regard to what we know of the nervous influence over the secretion of certain glands, we should not probably be far wrong in assuming that the anabolic and katabolic phases of nutrition are capable of being separately excited, though not necessarily by separate nerves. The increased and diminished action of the heart induced by stimulation of the sympathetic and vagus nerves respectively have been regarded by Gaskell as the result of the setting up of katabolic and anabolic processes in the cardiac muscle by these nerves, which, if a correct explanation—and there seems no reason to doubt it—illustrates the conveyance of synthetic and analytic stimuli by separate nerve paths. The mutual relation of the up-grade to the down-grade changes in the living cell and their continuous activity would presuppose an equally continuous emanation of nervous impulses from the cells of the centres governing nutrition, and that there is such a constantly passing influence has been maintained by Sir William R. Gowers[11] and others.[12]

THE RELATION OF IONS TO VITAL ACTIVITY AND NUTRITION.

So far I have traversed ground that is in the main well assured, indeed that in great part is familiar; and though there are many missing links in the chain of progressive changes which I have indicated to you there seems good reason to believe that those links will be discovered and that without any considerable upsetting of our present-day conceptions. The ascription to ferment action of the essential phenomena of nutrition does but give clear expression to many vague surmises that have long been held and the fact that the intimate nature of these substances is but most imperfectly known, or indeed their actual isolation but scarcely attained, does not warrant our refusing to regard them as the important factors that they are generally assumed to be. Nor should the simplicity of the idea lead us to reject it. To ascribe the wonderful series of changes that build up that marvellous material bioplasm with all its potentialities out of materials whose composition is for the most part well known, to these ferment bodies, to realise that these agents are capable of a reversible action largely due to the character of their environment, in short, to regard life as a series of fermentations brought about by the progressive and harmonious interaction of these enzymes, though it may not be the ultimate explanation of vitality, helps us one step further towards its realisation and does so in accordance with well-established data. But having gone so far, having acquired, so to say, another foothold from which to make further advance, speculation seeks for some means of explaining how it may be that the living matter liberates its activities which are thus regarded as dependent on ferment action.

Many years ago a Fellow of this College, Dr. S. Ringer, working with portions of contractile tissues, cilia and muscle, immersed in solutions of various substances, showed that the tissues continue to exhibit their contractility in certain solutions and not in others, the most suitable being a solution of salts similar to those found in the blood plasma. The real significance of these observations was not apparent and for a time they appear to have been lost sight of until the subject was a few years ago further investigated by Professor Loeb, formerly of Chicago and now of San Francisco. He found that the contraction is not manifested when the tissue is surrounded by solutions of such substances as urea, sugar, and albumin which are not electrolytes and that different contractile tissues differ in their degree of contractility according to the solution of electrolytes to which they are exposed. By varying the character of the medium he was able to start or arrest, quicken or slow, the action of a heart placed therein and could even make the limb muscle of a frog contract rhythmically like cardiac muscle. He went even further, and investigating that specific form of contractility which is represented by cell fission and that results in growth he found that he could initiate in the unfertilised ova of certain lower organisms by a suitable application of solutions of salts of certain strengths the cell division that characterises fertilisation and that is ordinarily regarded as the response peculiar to contact with the sperm cell. Similarly the irritability of nerve fibres has been shown by Dr. A. B. Mathews, a former colleague of Professor Loeb, to be controlled by the nature of the solutions with which it is bathed. The explanation for these remarkable phenomena, which refer more closely than before the manifestations of life "to their physical and chemical counterparts or analogies" (Burdon Sanderson), is to be found in the ionic theory of solution. In accordance with this hypothesis certain substances when dissolved undergo in the process of solution a more or less complete dissociation into their [illegible] of atoms, each of which becomes [illegible] with positive or negative elec[illegible] charged atoms are termed *ions*. It has been known since the time of Faraday that certain substances in solution through which an electric current is passed between two electrodes immersed in the solution also undergo a similar dissociation and some of the ions are set free at the positive electrode and are therefore regarded as carrying a negative electric change and hence called anions or negative ions; others are liberated at the negative electrode and are, therefore, called positive ions or cations. And those substances which behave thus under the passage of an electric current when in solution also undergo dissociation when entering into solution apart from the presence of a current. It is further found that the weaker the solution the greater is the percentage of dissociation into its constituent ions of the dissolved substance.[13] In solutions, particularly dilute solutions, these ions move freely about among the other parts of the liquid and diffuse through them, just as in a gas the individual molecules diffuse through the mass of the gas. And just as the moving molecules of a gas inclosed in a space tend to set up in that [illegible] tional to the number [illegible] a liquid tend to set up [illegible] pressure throughout the liquid and against the containing walls. If the containing walls be of porous membrane this pressure tends to drive the ions through the pores. This process of passage through the pores is known as osmosis and the osmotic pressure exercised by the ions of any given kind in a dilute solution is proportional to the quantity of the ions present in the solution.

Now, as a rule, the mass of living protoplasm is separated from the surrounding medium as the substance of the nucleus is separated from the cytoplasm by a membrane—cell wall. Whilst this structure may well serve to retain within the cell the cell contents, including zymogens, ferments, and other colloidal bodies, it will readily permit the passage outwards and also inwards of those diffusible substances in solution, which we have just seen in virtue of their solution have undergone ionic dissociation. It is also obvious that the degree of concentration of the fluid with which the cells are bathed and, adopting the terminology of Croft Hill, of the ana- and kata- products of metabolism will very considerably affect the nature and extent of the intracellular changes—that is to say, of the ferment action—that is to say, of the cell activity. The amount of water taken up or lost by a cell will thus influence very materially the direction of its action determining a synthetic or an analytic result.

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[11] THE LANCET, May 10th, 1890, p. 1006.

[12] See also papers by Wesley Mills, New York Medical Record, Oct. 22nd, 1887, and New York Medical Journal, Dec. 22nd, 1888.

[13] [illegible] and chemical [illegible] free in [illegible] Thus [illegible] ons and [illegible] would if separately added to water; no decomposition of the water by Na occurs nor is any free Cl detectable by its smell or its bleaching action.

I just now said that Professor Loeb has demonstrated that muscle varied in its contractility according to the electrolyte with which it is surrounded; thus sodium salts favour contraction as potassium and calcium salts inhibit it, but although this is the action of calcium it is nevertheless found that its *presence in very minute quantities along with the sodium* salt considerably prolongs the contractility of the muscle; with this circumstance it may be remembered, as suggesting the direction in which these salts act, that though the "influence of calcium is of doubtful value in the production of muscle-clotting or rigor mortis, its presence is most important in blood-clotting and milk-curdling" (Halliburton), all which changes are the result of ferment action upon which it may be supposed the influence of the calcium ions is brought to bear. In these cases the salt solutions are dilute; a concentrated solution of sodium chloride would kill a muscle immersed in it.

As giving some support to this theory of ionic action, Mr. S. W. Cole, as the result of experimental work on the *influence of electrolytes on the action of amylolytic* ferments,[14] found "that the action is favoured by anions and depressed by cations." This conclusion was justified by finding "that the salts of the strong acids accelerate the action of ptyalin on starch; the accelerating influence being the greater, the greater is the strength (avidity) of the acid. With salts of weak acids there may be a *retardation*; the more pronounced the weaker the acid is, and especially prominent in salts of dibasic and tribasic acids." Dr. Mathews, also, finding that some salts stimulate as others depress nerve action, attributes the stimulant effects to the action of anions and the depressing effects to positive ions.[15] In confirmation of this it is known that the electrical stimulation of a nerve always proceeds from the negative pole (cathode) on making the current.

Much work has been recently done on the intimate nature of colloids, of which the proteids that form the bulk of protoplasm consist. Constituted of small granules held in solution they are found to be capable of bearing an electrical charge, positive or negative, to be, that is to say, electrolytes, and among these bodies the ferments are to be included. "The salts or electrolytes in general," says Professor Loeb,[16] "do not exist in living tissues as such exclusively but are partly in combination with proteids. The salt or electrolyte molecules do not enter into this combination as a whole but through their ions. The great importance of these ion-proteid compounds lies in the fact that by the substitution of one ion for another the physical properties of the proteids change (for instance, their power to absorb water and their state of matter)." "It is more than probable that one or both of these qualities may account for muscular contractility and protoplasmic motion. The agencies which affect these two variable qualities of the protoplasm are, first of all, certain enzymes. Almost equally powerful are ions in certain concentrations."

Thus, then, the vital activities of the living cells would seem to consist essentially in the formation of ferment bodies which alone or in combination effect those integrations and disintegrations which liberate chemical energy and that this by transformation produces muscular work, nerve force, and secretory function, the fundamental manifestations of life. That these enzymes do bring about these changes in such conditions of temperature and alkalinity or acidity as obtain in the body appears to be certain; and as an explanation of the activity of the bioplasm which elaborates these bodies there is postulated an ionic action on the part of the cell contents and their surrounding medium whereby charges of electricity of variable strength and character are brought into conflict and that from the play of ions the manifestations of vitality result. Such a conception of bioplastic activity leads more clearly to the realisation of the inseparable unity of function and nutrition, and that nutrition in its fullest sense is life itself.

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[14] Journal of Physiology, November and December, 1903.

[15] Science, 1903, vol. xvii., p. 729.

[16] Studies in General Physiology, Collected Papers, 1905, Part II., pp. 544 and 622.

A CASE OF "SPLENOMEGALIC" OR "MYELOPATHIC" POLYCYTHÆMIA WITH TRUE PLETHORA AND ARTERIAL HYPERTONIA, WITHOUT CYANOSIS.[1]

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IN the absence of cyanosis the following case differs from the cases of chronic cyanosis with polycythæmia and splenomegaly recorded by Vaquez, Saundby and Russell, Rosengart, Osler, and others. I have had the advantage of being able to study a typical example of such cases[2] and believe that the present case is really of the same nature but at an earlier stage and occurring in a fairly robust subject whose circulatory system is acting efficiently. I would temporarily include all these cases, with or without cyanosis, under one heading—namely, "splenomegalic polycythæmia," although I think it possible that the spleen need not be obviously enlarged to clinical examination in all cases. In many respects cases of this group, *like* the present one—*that* is to say, cases without cyanosis—resemble the case of "hypertonia polycythæmica" (Geisböck) recently recorded by Hess[3] but apparently differ from it in the absence of albuminuria and in the presence of splenomegaly.

The present patient, a Jewish woman, aged 37 years, of medium height and weight, first came under my care in July, 1903, for acute erythromelalgia of the left foot.[4] This condition under rest in bed and other treatment became less acute and finally gradually disappeared. The existence of the polycythæmia was first detected when the blood was examined in March, 1904, but was probably present earlier. From April, 1904, to February, 1905, the patient was constantly under observation in the German Hospital and on April 22nd, 1904, was shown at a clinical meeting of the Clinical Society of London. Owing to the disappearance of the erythromelalgia she is no longer confined to her bed. In fact, the condition for which she originally came under treatment is practically cured, though her other symptoms, objective and subjective, persist, and it is with these that the present paper deals.

There is no distinct cyanosis of the face, though the cutaneous blood-vessels are somewhat overfilled and the tongue is generally of a bright red colour with a bluish tinge resembling the colour of raw butcher's meat. The toes, especially those of the left foot, sometimes appear rather livid, but this is possibly connected with the past erythromelalgia, which, it should be remembered, was not entirely confined to the left foot. No evidence of disease has been discovered in the heart or the lungs. There is no dyspnœa. By examination of the abdomen nothing abnormal can be detected excepting moderate enlargement of the spleen, which can be felt one or two fingers' breadth below the ribs. For diagnostic purposes, owing to a question of the possibility of splenic tuberculosis, Koch's old tuberculin was employed in December, 1904, but the injection of five milligrammes failed to produce a reaction. Menstruation is regular. The bowels are sometimes confined. The urine is usually

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[1] A paper read before the Royal Medical and Chirurgical Society of London on May 9th, 1905.

[2] F. Parkes Weber and J. H. Watson: Chronic Polycythæmia with Enlarged Spleen, Transactions of the Clinical Society of London, 1904, vol. xxxvii., p. 115, and International Clinics, 1905, vol. iv., p. 47.

[3] Abstract by Pappenheim in the Folia Hæmatologica, 1905, vol. ii., p. 47. Cf. Geisböck: Verhandlungen der XXI. Kongresses fur Innere Medicin, 1904, p. 97.

[4] I described this part of the case in the British Journal of Dermatology, February, 1904, p. 70.

TABLE I.—SHOWING BLOOD COUNTS IN RELATION TO TREATMENT, ETC.

Date.	Hæmoglobin per cent. of normal standard	Red cells per cubic millimetre	White cells per cubic millimetre	Polymorphonuclears per cent.	Small lymphocytes per cent.	Large lymphocytes, large mononuclears, and "transitionals" per cent.	Coarsely granular eosinophiles per cent.	Mast cells per cent.	Erythroblasts (all normoblasts).	Average diameter of erythrocytes	Diet and treatment.
1904.											
April 13th (*a*)	120	8,240,000	6000	73 75	17 25	8 5	0 5	Only one seen.	—	—	—
,, 17th	125	9,440,000	8100	—	—	—	—	—	—	—	—
,, 19th (*b*)	—	8,660,000	9000	77 6	18 5	3 5	0 3	—	—	—	At the end of April, 1904, a milk diet was The arsenic was discontinued on May 30th.
May 30th (*c*)	165	10,600,000	7200	68 8	26 5	4 0	0 7	—	—	Not greater than the normal	—
June 12th	170	—	—	—	—	—	—	—	—	Great variety in size noted	—
,, 20th (*d*)	148	10,960,000	8800	—	—	—	—	—	—	—	A February, 1905, she took the juice of one lemon daily.
July 8th	175	9,440,000	8400	—	—	—	—	—	—	—	—
August 3rd (*e*)	148	8,016,000	8000	—	—	—	—	—	—	—	—
,, 15th (*f*)	177	9,840,000	—	77·0	13 0	8·0	0 4	1 6	Present.	7 48 μ	—
,, 26th (*g*)	177	9,680,000	6000	—	—	—	—	—	—	—	—
Sept. 9th (*h*)	175	9,850,000	6000	—	—	—	—	—	—	—	—
,, 29th	185	9,800,000	—	—	—	—	—	—	—	—	In September the diet was changed so as to include fish or meat every day at the mid day meal From Sept. 15th to Oct. 8th Roentgen ray treatment was carried out, 21 sittings of from five to ten minutes' exposure of the splenic region. At several sittings the lower parts of the legs were likewise exposed for five minutes
Oct. 14th	184	9,968,000	7320	—	—	—	—	—	—	—	—
Nov 16th	177	9,976 000	8320	—	—	—	—	—	—	—	From Oct. 31st to Dec 5th, 1904, three grains of iodide of potassium were given three times daily
,, 30th (*i*)	156	8,480,000	8200	81 0	12 6	5 6	0 6	0 2	Several.	7 74 μ	—
Dec. 9th (*j*)	—	—	—	73·0	15 0	8 4	3 0	0·6	,,	—	—
,, 16th (*k*)	158	—	—	72 6	14 0	7 0	1 0	0 4	,,	—	—
,, 23rd (*l*)	161	9,260,000	4800	—	—	—	—	—	—	—	Venesection, 100 cubic centimetres.
1905											
Jan. 3rd	156	8,625,000	7500	75 4	18 6	5 4	0 6	Present	Present.	—	—
,, 12th (*m*)	145	9,568,000	6000	66·0	25 4	6 6	2 0	,,	,,	—	During the last days of December to Jan. 12th the patient was taking 15 grains of bromide rains of 12th to of sali-
1st	148	8,568,000	4000	75·0	11 0	11 6	2 0	0 4	,,	7 6 μ	—
Feb 6th	164	8,680,000	4800	80 4	14 0	4·0	1 0	0 6	,,	—	—

Remarks—(*a*) The differential count was of 400 white cells by Dr. Eastes. During the count one mast cell was found. There were no myelocytes or erythroblasts. Three or four of the white cells counted were "intermediate forms" and Dr. Eastes enumerated these with the type which they most resembled (*b*) This blood count was made by Dr. Drys

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hospital. (*e*) This count was taken after unusually copious menstruation. (*f*) The differential count was of 500 white cells by Dr. Boycott. He found the average diameter of 50 red cells to be 7 48 μ; the maximum diameter 8 57 μ, and the minimum diameter 5 95 μ. (*g*) In August it was noted that the patient could walk about without the left foot becoming hot or different in colour from the right foot (*h*) The specimen of blood from which this count was

m a superficial vein in the right

(*i*) The blood examination is by Dr.

count of 500 white cells he found

olychromatic cytoplasm and about

d cells. The red cells varied from 4 μ to 10 μ

ere were too many oval and irregular shapes

estimation was by Dr Haldane. (*l*) The blood examination was of blood obtained by venesection containing 1 per cent. of a 50 per cent. aqueous solution of citrate of potassium. (*m*) The differential counts in 1905 were all of 500 white cells by Dr. Boycott as were all the others from Nov. 30th. Dr. Haldane estimated the hæmoglobin on Jan. 21st. In the blood films of Feb. 6th Dr. Boycott thought the changes in the red cells were much less marked than before and could only discover one normoblast with great difficulty.

the viscosity of the blood was excessive, higher than that of blood in all ordinary diseases and conditions.

Cryoscopy of the blood.—Some blood obtained at the venesection on Dec. 23rd, 1904 (mixed with 1 per cent. of a 50 per cent. aqueous solution of potassium citrate), was employed by Dr. W. d'Este Emery, clinical pathologist at King's College Hospital, to determine the freezing point, which he very kindly did on the day on which the blood was obtained. After the slight correction necessary for the presence of potassium citrate the freezing point was found to be minus 0·53° C., and therefore not very different from that of normal blood, which is about minus 0·56° C. The urine passed by the patient immediately after the venesection was of specific gravity 1008, faintly acid, and free from albumin and sugar. Dr. Emery found its freezing point was minus 0·79° C. Dr. Emery added that the blood plasma could not be collected in amount sufficient for the estimation of the freezing point, as after thorough centrifugalisation of a specimen of the citrated blood the plasma layer was only about two millimetres thick or, roughly speaking, only about 3 per cent. of the blood column.

The salts in the blood and urine.—On June 20th, 1904, Dr. Wright[17] estimated the salts in the blood as equivalent to 0·58 per cent. of sodium chloride (in lieu of the normal about 0·78 per cent.), the salts of the urine[18] coming out as equivalent to 0·46 per cent. of sodium chloride. This, Dr. Wright says, gives an excretory quotient of about 0·8 instead of the normal of over 2·0. However, on June 26th, 1904, he estimated the salts in the blood serum as equivalent to 1·14 per cent. of sodium chloride, whilst the salts in the fluid from a blister were equivalent to 0·95 per cent. of sodium chloride.

The alkalinity of the blood.—Dr. Wright estimated this on June 26th, 1904, as equivalent to that of a normal alkaline solution diluted 35 times. He expresses it as $\frac{N}{35}$.

The amount of albuminous substance in the blood plasma.—Dr. Wright found the amount in the citrated blood obtained on Dec. 23rd, 1904 (at the venesection), to be normal. His method of measuring the albuminous substances is by the resistance of the clot obtained by heating a graduated series of dilutions of the plasma.[19]

The coagulation of the blood.—Dr. Wright thought its occurrence was very much delayed on June 20th, 1904. Afterwards it appeared to occur fairly readily, but the exact coagulation time was not estimated.

The resistance of the red cells to hæmolytic agents.—Dr. Wright examined the citrated blood taken Dec. 23rd, 1904, by a method of his own and found the resistant power of the red cells to be about normal. One volume of centrifugalised sediment of red cells (the red cells were by repeated centrifugalisation washed fairly clean of blood-plasma) was suspended in sufficient $\frac{N}{10}$ salt solution to bring the total volume of the suspension up to three volumes. Complete hæmolysis was then obtained by adding one volume of the suspension in a capillary tube to one volume of a $\frac{N}{30}$ salt solution.

EFFECT OF TREATMENT AND PROGRESS OF THE CASE.

As already stated, it is exceedingly difficult to estimate how much the patient's condition has really altered apart from the improvement in the erythromelalgic extremity. She can now walk about quite well and has gained in weight, the erythromelalgia has disappeared, but the polycythæmia, high arterial tension, and the other phenomena in the blood and circulatory system persist, as do likewise the subjective symptoms (headache, &c.), although they vary in degree from time to time. Arsenic, which was employed by W. Türk[20] in his cases, was soon discontinued in the present case on account of a considerable apparent increase in the number of red corpuscles which followed its use. On the whole the patient has seemed to be better when on a diet containing relatively little meat and when taking lemon juice daily. It is possible that small doses of iodide of potassium or salicylates have a favourable influence. I have little doubt that absolute rest in bed, which was at one time required owing to the erythromelalgia, has an injurious influence on the general condition and some of the slight apparent improvement in the general condition may be due to the patient having been able to take a little exercise (favouring metabolic processes). Opium and its derivatives have not been given a trial. In regard to drugs, such as phenacetin and antifebrin (acetanilide), it must not be forgotten that the chronic use of antifebrin seems to give rise to cyanosis and blood changes.[21]

The venesection in the present case seemed to make no difference in the subjective or objective condition and it was not repeated, but perhaps the amount of blood (100 cubic centimetres) withdrawn was too little to produce any decided change. It may be noted also that the diminution in the number of red blood corpuscles observed on August 3rd, 1904, followed unusually copious menstruation.

The employment of Roentgen rays, which has lately been found to have such a decided effect in many cases of leukæmia, seems to have made no change in the number of red blood corpuscles in the present case. This is not to be wondered at since the action of these rays on the spleen and hæmopoietic tissues in leukæmia seems to be chiefly on the lymphocytes ("lymphocytolysis") and lymphadenoid tissues and on the leucocytes generally ("leucolysis").[22] It is, however, to be noted that after a good many Roentgen-ray sittings the patient complained more of headache or feeling of congestion in the head and this decided us to discontinue the treatment. The number of white cells in the cubic millimetre has been particularly low at recent counts (see Table I.) and the spleen has not been so easy to feel. It is possible, therefore, that the Roentgen rays, though they had no influence on the number of red blood cells, may have had a slight tardy effect on the spleen and on the formation of white cells analogous to that recorded in cases of leukæmia. The Roentgen-ray treatment was carried out by Dr. Mülberger, senior house surgeon at the German Hospital, who employed apparatus of Siemens and Halske of London, with direct street main supply; spark gap 25 centimetres; mercury dip break; 220 volts; 10 ampères; frequent breaks; hard tube (C. H. Müller, of Hamburg, No. 13, with vacuum-regulating apparatus); distance of the patient's skin from anticathode 50 centimetres; diaphragm compressor according to Dr. Faulhaber of Würzburg. The splenic region was subjected to the treatment for five minutes at every sitting and for one minute in addition every subsequent sitting till ten minutes were reached, after which the time of exposure was not changed. The treatment was carried out regularly, one sitting every day (Sundays excepted), from Sept. 15th to Oct. 8th, 1904, 21 sittings altogether. At nearly all of these sittings the lower parts of the legs were likewise exposed to the rays for five minutes.

In regard to future treatment it will be important to observe how the patient progresses now that she has left the hospital; in fact, the question is whether any special treatment is at present advisable or not. In the absence of all evidence that the disease is primary in the spleen I do not think that the operation of splenectomy can be recommended

REMARKS AND CONCLUSIONS.

As stated at the commencement of this paper I regard the present case, in spite of the absence of cyanosis, as similar in nature to my previous case[23] of splenomegalic polycythæmia. The excess of red corpuscles, true plethora ("polyhæmia") and arterial hypertonia were present in both cases. In the previous case the polycythæmia with the resulting increased viscosity of blood and increased strain on the circulatory mechanism was doubtless of older standing, the patient's vital powers were probably on the decline, and the cyanosis and relatively scanty urine may have been a result of a gradually developing inadequacy of the circulatory mechanism to compensate for the great viscosity of the blood (in spite of the presence of high arterial blood pressure).

The conclusions arrived at in my paper with Dr.

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[17] Vide Wright and Kilner on a New Method of Testing the Blood and the Urine, THE LANCET, April 2nd, 1904, p. 921.

[18] This was the urine passed directly after the examination of the blood, the bladder having been emptied before the examination. It was of specific gravity 1010, clear, rather pale, acid, and free from albumin.

[19] A. E. Wright: THE LANCET, Jan. 23rd, 1904, p. 218.

[20] Wiener Klinische Wochenschrift, 1904, Nos. 6 and 7.

[21] Stengel and White: A Report of a Case of Chronic Acetanilide Poisoning, with Marked [illegible] the Blood, University of Pennsylvania Medical Bull[illegible]ry 1903, p. 462.

[22] Cf. especially A. Wolf [illegible] Behandlung der Leukämien und Anämien mit lytischen [illegible] durch Röntgenstrahlen und Leukolytische Sera, Wiener klin.-ther. Wochenschrift, 1904, No. 49

[23] Weber and Watson, loc. cit.

Watson as to a pathological activity in the production of erythrocytes in the bone marrow being the cause of the blood and circulatory phenomena have, I think, been amply confirmed by the present case. Our theoretical observations on a possible alteration in the osmotic tension of the blood may not have been required to explain the phenomena observed and, indeed, I shall not discuss that question here, as I have no fresh evidence to offer that there is any special change in regard to osmotic tension to be found in the symptom-complex under consideration.

In my previous case the existence of most extensive bone-marrow changes was proved by examination after death. A great portion of the normal bone marrow of the shafts of the long bones was found to have been replaced by red bone marrow, relatively free from fat, in which very active formation of red corpuscles was in progress as evidenced by the large quantity of erythroblasts. The changes were, however, not exclusively of an erythroblastic kind, and it may be doubted whether the erythrocyte-producing functions of the bone marrow can ever be greatly increased without the myelocytes being to some extent involved in the unusual activity. Dr. Boycott has pointed out that in the present case an abnormal activity of the bone marrow may not only account for the excess of red cells in the blood, for the great variations in their size (and for the variations noted in lesser degree in their shape and staining capacity), and for the presence of nucleated red cells, but likewise for the high percentage of polymorphonuclear leu[illegible] [illegible] ve been found in other cases of [illegible] There is no evidence pointing [illegible] lessened wearing out of red blood cells as a factor in the production of the anomalous blood condition. If the polycythæmia were due merely to concentration of the blood it would doubtless be only temporary and the blood would rapidly be diluted by fluid absorbed from the alimentary canal either directly into the blood capillaries or else into the lacteals to be thrown into the blood stream by way of the thoracic duct. Moreover, the fact that the total volume of blood in the body is abnormally great precludes the possibility that mere concentration of blood can be the cause of the blood changes. The clinical investigations of these blood changes, as already pointed out, as well as post-mortem examination, show that in cases of splenomegalic polycythæmia there is increased production of red corpuscles and I think the evidence is now really conclusive that the symptom-complex is always accompanied by, and at all events mainly due to, a pathological activity in the bone-marrow. Whether the latter condition can or cannot be regarded as the primary factor is a question to which I shall refer later. The objection to calling the symptom-complex "primary myelopathic polycythæmia" is that we are not sure that the disturbance of the bone marrow is necessarily the primary pathogenic factor; whilst the term "myelogenic polycythæmia" is insufficient, for every polycythæmia, excepting temporary states due to mere concentration of the blood, is "myelogenic" in the sense that the excess of red blood corpuscles is due to unusual activity of the bone marrow. On the other hand, the term "splenomegalic polycythæmia" only signifies that the spleen is usually enlarged, not that it must necessarily be found enlarged in every case.

I now believe the *order of development of the main symptoms* and their *causal connexion* to be as follows:—1. Increased erythroblastic activity involving a great part, but not necessarily the whole, of the bone marrow.[24] 2. Increased viscosity of the blood resulting from the polycythæmia. 3. Dilatation of small blood-vessels, partly to lessen resistance to the abnormally viscous blood, partly to make more room for dilution of the blood. 4. The "plethora vera" or "polyhæmia" is probably to be regarded as an attempt to compensate for the increased viscosity of the blood and for the excessive percentage of the total blood volume occupied by the cells. In fact, it is necessary, firstly, that there should be sufficient blood plasma to nourish the tissues and make metabolism possible; and, secondly, that the viscosity may not become so great as to render sufficient circulation impossible. 5. The arterial hypertonia is to be regarded as a result of the greater strain thrown on the circulatory mechanism. 6. Cyanosis, when this occurs, is probably due to inadequacy of the series of compensatory changes which, according to my view, precedes it.

In my opinion the evidence afforded by this and other cases strongly supports the foregoing conclusions, but the question now arises, *What is the nature of the pathological activity in the erythroblastic function of the bone marrow?* At least two theoretical explanations suggest themselves. In the first place that the bone-marrow activity is a primary one, allied to a tumour formation, or the result of an "idiosyncrasy" of the patient. One can suppose, for instance, that some persons have a bone marrow which reacts to ordinary erythroblastic stimuli to an excessive degree—viz., by throwing almost double the normal quantity of red cells into the blood stream. If, however, as H. Ribbert[25] believes there is a form of "myeloma"—that is to say, of growth originating in the elements of the bone marrow—which should be termed "erythroblastoma," because the tumour cells are related to erythroblasts, it seems possible that cases of splenomegalic polycythæmia, such as our two cases, may bear a relation to cases of erythroblastoma similar to that which lymphocytic leukæmia bears to lymphocytic myeloma.[26] The other explanation is that some toxin of a hæmolytic nature manufactured in the enlarged spleen or alimentary canal is absorbed into the circulating blood in minute quantities not sufficient to cause much hæmolysis but in amounts just sufficient to excite reaction in the hæmopoietic (erythroblastic) tissues. Metchnikoff quotes Belonovsky[27] of St. Petersburg as having increased both the number of corpuscles and the amount of hæmoglobin in the blood of anæmic persons by the injection of minute doses of hæmolytic serum.

I have just mentioned these [illegible] to the nature of the bone-marr[illegible] polycythæmia, but they are n[illegible] and I do not think it will be profitable to discuss them further without additional evidence.

The cause of the splenic enlargement.—If one inclines to the view that the bone-marrow condition in splenomegalic polycythæmia is the result of reaction to toxins circulating in the blood it is natural to suggest that the enlargement of the spleen is due to the same toxins, whether they enter the circulation from the intestines or elsewhere, or else that there is a primary disease of the spleen, such as tuberculosis (as there actually was in the case of Rendu and Widal[28] and some other cases), which gives rise to a condition of toxæmia to which the bone marrow reacts (excessive reaction being explained by idiosyncrasy) by an erythroblastic reaction resulting in polycythæmia. In favour of such a view there is the fact that in Saundby and Russell's case of splenomegalic polycythæmia with cyanosis Dr. J. W. Russell saw the patient with an enlarged spleen several years before cyanosis developed. To this I would answer that the polycythæmia was probably likewise present for years before the cyanosis developed and that cyanosis, if the views I have brought forward are correct, is not an essential part of the symptom-complex.

In my present case the enlargement of the spleen is not excessive and does not appear to be progressive and there is no fever or reaction to tuberculin to suggest the presence of tuberculosis. Splenic tuberculosis is certainly not necessarily present in cases of splenomegalic polycythæmia and primary tuberculosis of the spleen is not necessarily accompanied by polycythæmia.[30]

Possibly in the cases in which the splenic enlargement is due merely to increase of the pulp and engorgement with blood, as it seems to have been in my previous case, it may be explained as being due to the plethora vera (polyhæmia) and high blood pressure or as resulting from excessive functional activity in attempting to compensate for the excessive production of red corpuscles by increased destruction. Of these two last alternatives the former seems to me the most probable, as there is as yet no evidence of greatly increased destruction of red cells in these cases either occurring in the spleen or elsewhere.

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[24] [illegible] in the body might be more than three times the normal amount.

[25] [illegible] Allgemeine Pathologie, Jena, 1904, [illegible]

[26] [illegible] of Acute Leukæmia, with a Scheme [illegible] Pseudo-leukæmias, Transactions of [illegible], 1903, vol. liv., p. 286.

[27] Sur l'Influence de l'Injection de Diverses Doses de Sérum Hémolytique sur le Nombre des Eléments du Sang, St. Petersburg, 1902.

[28] Bulletin de la Société Médicale des Hôpitaux de Paris, 1899, p. 523.

[29] An Unexplained Condition of Chronic Cyanosis, THE LANCET, Feb. 22nd, 1902, p. 515.

[30] Cf. Y. Bayer, Ueber die Primäre Tuberkulose der Milz, Mittheilungen aus den Grenzgebieten der Medicin u. Chirurgie, 1904 vol. xiii., p. 623.

Relation of erythromelalgia to polycythæmia.—There is no certain causal relationship and in the present case the association of the two conditions may have been a chance one, Yet it must be remembered that the association of splenomegalic polycythæmia with erythromelalgia has already been noted by W. Türk[31] of Vienna. I have elsewhere[32] given my reasons for believing that in the so-called "idiopathic or neuropathic erythromelalgia," as well as in what might be termed "symptomatic erythromelalgia" (that is, severe pain and redness in an extremity affected with decided arterial obstruction), there is obstruction to the supply of arterial blood, at all events during the chronic stages. In the present case the muscular atrophy and absorption of bone salts in the affected extremity[33] at one time pointed to local deficiency of arterial blood-supply. It is possible that when for any reason the supply of blood to the bone marrow of a long bone is greatly diminished the bone marrow may make an attempt to manufacture more blood; in fact, may undergo a hæmopoietic (erythroblastic and leucoblastic) reaction. Through the kindness of my colleague, Dr. E. Michels, in 1904 I had the opportunity of examining the tibia removed by amputation from an extremity affected by chronic arterial obstruction. There was some red metaplasia of the bone marrow at the ends of the shaft. In this case, however, the bone-marrow reaction may have been connected with the septic pyrexia preceding the amputation. Dr. J. Galloway also kindly showed me a patient with pain and redness in one foot undoubtedly due to arterial obstruction and informs me that in that patient the blood has been repeatedly examined and the number of red cells has always been found considerably above the normal. Such an increase in the number of red blood corpuscles was, however, not present in another somewhat analogous case, and further information is needed to find out whether chronic ischæmia of an extremity, which can notoriously give rise to local muscular and osseous atrophy, can likewise produce changes in the bone marrow of the affected part besides those due to absorption of fat cells.

I have to thank all those who have so kindly assisted me in the examination of this case, without whose assistance I could not have arrived at my few conclusions—in the first place, Dr. Haldane, Dr. Boycott, and Dr. Wright, and then Dr. J. H. Drysdale, Dr. Emery, Mr. Ryffel, and Dr. G. L. Eastes, and also (not least) the house physicians at the German Hospital, Dr. R. Blendinger and Dr. Schuh.

Addendum.—In cases of splenomegalic polycythæmia the onset of chronic cyanosis probably still further increases both the viscosity and the total volume of the blood. The effect of carbonic acid gas in increasing the viscosity of the blood has been clearly demonstrated by J. Bence[34] who states also that, according to Limbeck, an increase in the total volume of the blood accompanies the increase in the viscosity and adds that, according to Hamburger, this volumetric increase depends on an alteration in the osmotic relation between the red corpuscles and the blood plasma. Since writing the present paper I have come across an interesting account by W. Weintraud of three cases of splenomegalic polycythæmia.[35] The second of Weintraud's patients suffered also from a condition said to resemble erythromelalgia. In the same case, on one occasion, a remarkable improvement in the subjective symptoms followed a sharp attack of hæmatemesis.

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[31] Wiener Klinische Wochenschrift, 1904, Nos. 6 and 7.

[32] British Journal of Dermatology, February, 1904, p. 70.

[33] This was shown by radiograms of the two feet. Vide Transactions of the Clinical Society of London, 1904, vol. xxxvii., p. 250.

[34] Deutsche Medicinische Wochenschrift, April 13th, 1905, p. 590.

[35] Zeitschrift für Klinische Medicin, 1904, vol. lv., p. 91.

[36] This does not include all the articles referred to in the footnotes.

SYMPTOMATOLOGIE ET DIAGNOSTIC DE L'ANGINE À SPIRILLES ET BACILLES FUSIFORMES (ANGINE DE VINCENT).

Par le Professeur H. Vincent.

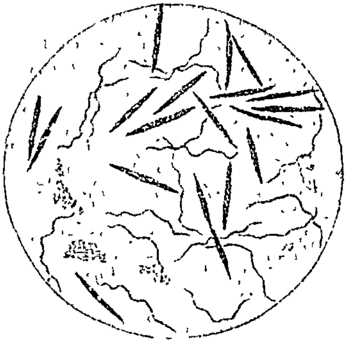
I.

La maladie que j'ai décrite sous le nom "d'angine à spirilles et bacilles fusiformes" présente une fréquence attestée par les nombreuses publications parues sur ce sujet. Elle peut s'observer à tous les âges, mais elle est surtout fréquente chez l'enfant vers l'âge de 8 à 10 ans et chez l'adulte de 18 à 30 ans. Au delà de 35 ans, elle devient certainement plus rare. D'après mes statistiques, cette angine s'observe dans la proportion de 2·26 pour 100 cas d'angines de toute autre nature (diphtérique, streptococcique, staphylococcique, colibacillaire, etc.), chez les adultes.

Cette maladie existe dans tous les pays, sous tous les climats et chez toutes les races, y compris la race nègre. Elle n'épargne même pas ceux qui prennent soin de l'hygiène de leur bouche. Cependant, elle est plus fréquente chez les sujets malpropres, chez ceux qui abusent du tabac ou de l'alcool, chez ceux qui ont des dents cariées. Cette angine a aussi des relations avec l'évolution dentaire. Tantôt seule, tantôt associée à la stomatite ulcéro-membraneuse (qui est due, le plus souvent, ainsi que je l'ai démontré, à l'infection par les mêmes microbes) l'angine se manifeste assez souvent au moment de la deuxième dentition et à l'époque de l'éruption des dents de sagesse. L'influence particulièrement favorisante du terrain sur l'éclosion de cette infection locale, est démontrée par sa fréquence chez les sujets anémiés par la misère physiologique, affaiblis par le surmenage; chez les syphilitiques et les tuberculeux; chez ceux qui vivent dans des logements malsains, mal aérés. Cette angine a une certaine prédilection pour les étudiants en médecine qui font la dissection, pour les garçons d'amphithéâtre d'anatomie,

etc. L'angine à bacilles fusiformes et spirilles est inoculable, soit chez le malade qui en est déjà porteur, soit chez un sujet sain, ainsi que je l'ai constaté. Queyrat a inoculé les microbes de cette maladie sur la muqueuse du sillon balano-préputial, chez un homme. On ne sera pas surpris de l'inoculabilité de cette maladie puisqu'elle est sous la dépendance des mêmes microbes pathogènes que ceux de la pourriture d'hôpital ou gangrène nosocomiale, que j'ai découverts en 1896. C'est pourquoi, aussi, cette angine est quelquefois contagieuse, à la suite de cohabitation, de contact intime ou de l'usage d'un même objet (verre à boire, cuillère, pipe, etc.).

Cette angine, appelée "maladie ou angine de Vincent," est déterminée par un *bacille* spécial ayant l'aspect d'un fuseau allongé. Les dimensions de ce bacille sont de 6 à 8μ pour les formes courtes ou moyennes, 10 à 12μ pour les formes longues. La largeur est de 1μ à 1μ 5. Examiné à l'état frais, dans la salive, ce bacille est tantôt assez mobile, tantôt peu mobile ou immobile. Il ne se colore pas par la méthode de Gram. La simple coloration de l'exsudat par la thionine, le violet phénique ou le liquide de Ziehl dilué, permet d'en obtenir des préparations satisfaisantes. Le microbe est reconnaissable à son aspect rectiligne, sa forme en fuseau, son protoplasma fréquemment vacuolaire. Il existe toujours en quantité abondante, parfois colossale, dans l'exsudat. A ce bacille s'associe en symbiose, dans la plupart des cas, un fin *spirillum* long, sinueux, très mobile, qui, dans les préparations colorées, offre un aspect tout différent de celui du bacille fusiforme et prend moins bien la matière colorante.



Angine à bacilles fusiformes et spirilles $\frac{1000}{1}$.

Les préparations des fausses membranes montrent ces deux microorganismes à l'état presque exclusif, malgré la présence d'innombrables bactéries étrangères diverses dans la cavité buccale. Les bacilles fusiformes et les spirilles semblent, en quelque sorte, "faire le vide" autour d'eux. Enfin il existe des cas dans lesquels le bacille fusiforme est seul, sans adjonction de spirilles. Quelquefois il est associé au streptocoque, au staphylocoque, au B. coli. Ces cas sont beaucoup plus rares.

Le bacille fusiforme est cultivable dans le bouillon ordinaire ou la gélose additionnée d'un tiers de liquide d'ascite, de sérum humain, de liquide d'hydrocèle, etc. Les cultures dégagent une odeur fétide. Le spirille n'est pas cultivable à l'air ou dans le vide.

II.

Il existe deux formes cliniques de l'angine, l'une diphtéroïde, très rare, que j'ai rencontrée dans 2 pour 100 des cas ; l'autre, ulcéro-membraneuse, la plus commune.

1 *La première forme* simule beaucoup la diphtérie. Elle débute par une légère douleur pharyngée et on constate un petit placard blanchâtre, d'abord mince, puis plus épais, qui s'élargit et repose sur la muqueuse rouge et enflammée. Cette membrane peu atteindre un ou deux centimètres de diamètre ; ses bords sont plus minces. Elle se laisse décoller et soulever. Elle est assez consistante. On voit alors qu'elle repose sur une surface exulcérée ou même saignante. Il existe de la dysphagie, une légère fétidité de l'haleine. Les ganglions sous-maxillaires sont habituellement tuméfiés. Une fièvre légère accompagne le début de cette forme d'angine. La durée de celle-ci est de quatre à huit jours, environ. Cette variété est déterminée par le bacille fusiforme seul ou associé soit au streptocoque, soit au staphylocoque, etc.

2. *La deuxième forme* de l'angine est, à la fois, la plus commune et la plus importante. C'est la forme *ulcéro-membraneuse.* Elle est déterminée par l'association du bacille fusiforme et du spirille. Elle est annoncée par du malaise, de la courbature, de la céphalalgie, de la fièvre, pendant deux ou trois jours, avec rougeur d'une amygdale ou d'un pilier et sensation de picotement. Parfois on voit un léger enduit blanchâtre. La fièvre atteint habituellement 37° C., 38° C., 39° C., et quelquefois davantage. Chez les enfants, il y a de l'agitation nocturne.

L'examen du pharynx montre bientôt une fausse membrane grisâtre ou jaunâtre, molle, peu épaisse, peu adhérente, sous laquelle la muqueuse est déjà exulcérée. L'amygdale est le siège le plus habituel de cette lésion. La fausse membrane augmente d'épaisseur (un millimètre et davantage) ; elle est molle, friable, facile à enlever et, vers le quatrième jour, elle repose sur une ulcération plus ou moins profonde, irrégulière, saignant facilement. L'amygdale est rouge, hypertrophiée, parfois de consistance assez dure. L'haleine du malade est particulièrement fétide. La langue est saburrale. La secrétion salivaire est exagérée. La déglutition est pénible, douloureuse. Les ganglions sous-maxillaires sont plus ou moins tuméfiés et sensibles dans les cas sérieux ou moyens ; ils sont peu gonflés ou même nuls dans les formes légères ou chroniques. Cette angine finit par guérir au bout de huit à quinze jours ; mais, chez certains malades, elle prend une marche chronique et peut persister, avec des alternatives d'amélioration et d'exacerbation pendant un mois, deux mois, et même six mois. Toutefois, ces cas, bien soignés, guérissent rapidement. J'ai observé dans 4 pour 100 des cas une amygdalite double. Il n'est pas rare d'observer la coexistence d'une stomatite ou gingivite de même nature fuso-spirillaire. Le processus ulcéreux déterminé par ces microbes est, quelquefois, très envahissant. Il peut gagner le voile du palais, la muqueuse de la langue, le pilier, après avoir intéressé la tonsille entière. Il peut même détruire entièrement la luette (Auché). Ces formes graves sont, cependant, exceptionnelles.

Les *érythèmes* scarlatiniforme, noueux, polymorphe, le purpura, ont été observés plus souvent. Il peut exister du *pseudo-rhumatisme* ordinairement bénin. L'embarras gastrique, l'inappétence, la constipation, sont fréquents. Je n'ai pas constaté de complications respiratoires. Cependant certaines complications graves peuvent apparaitre dans le cours de cette angine : albuminurie, myocardite, endocardite, etc. Mais ces complications résultent d'une infection surajoutée due, le plus souvent, au streptocoque.

III.

Le *diagnostic* de l'angine à bacilles fusiformes peut être assez difficile dans la forme diphtéroïde de la maladie ou bien à la première période de la forme ulcéro-membraneuse. La fausse membrane, l'adénite, la fièvre, peuvent faire penser à la diphtérie. Mais l'examen bactériologique montre immédiatement qu'il ne s'agit pas de diphtérie et que le bacille de Löffler est absent. Il importe de savoir, cependant, qu'il existe des diphtéries associées dans lesquelles le bacille de Loffler, au lieu d'être conjugué avec le streptocoque, le staphylocoque, etc. (comme c'est le cas le plus fréquent), est associé avec la symbiose fuso spirillaire. Dans ces cas la fausse membrane repose sur une ulcération plus ou moins évidente et la culture, ainsi que l'examen microscopique, viennent élucider le diagnostic.

A la *période d'état* de l'angine ulcéro membraneuse, les signes sont caractéristiques. Peut-être pourrait on penser à la diphtérie si l'ulcération est peu profonde Il est inutile de faire remarquer que la sérothérapie antidiphtérique est sans résultats et qu'il ne faut jamais négliger de pratiquer l'examen bactériologique de l'exsudat pseudo-membraneux. Les angines dues aux autres microbes : streptocoque, staphylocoque, pneumocoque, colibacille, leptothrix, oidium, etc., ainsi que les angines que j'ai appelées polymicrobiennes, n'offrent pas d'habitude les caractères cliniques de l'angine à bacilles fusiformes, avec son enduit jaunâtre ou crayeux, son ulcération *sous-jacente* l'odeur très fétide de la bouche, l'adénite. Les microbes spécifiques de l'angine de Vincent font, d'ailleurs, défaut Parfois on trouve ça et là quelques bacilles fusiformes dans les préparations microscopiques des angines polymicrobiennes, mais il n'y a pas, en réalité, de multiplication véritable de ces derniers microbes. Leur présence s'explique parce que le bacille fusiforme, de même que d'autres microbes pathogènes, est un hôte normal de la bouche des sujets sains. Cette dernière remarque s'applique aux lésions ulcéreuses diverses de la bouche et du pharynx, qui peuvent tantôt montrer quelques bacilles fusiformes, tantôt être littéralement envahies *secondairement* par l'infection fuso-spirillaire.

Une mention spéciale doit être faite pour le diagnostic différentiel de mon angine avec le chancre syphilitique ou les syphilides ulcéreuses de l'amygdale. L'angine à bacilles fusiformes a certainement été, parfois, confondue avec la syphilis des amygdales. Il est à remarquer, d'ailleurs, que la tonsille sous-jacente à l'infection fuso-spirillaire est souvent congestionnée et d'une consistance assez dure, et l'on peut alors penser, en présence de l'ulcération et de l'adénite, qu'il s'agit d'un chancre syphilitique. Cependant cette dureté modérée de l'amygdale n'est pas constante et n'est jamais aussi nette que dans le chancre spécifique. Enfin l'examen bactériologique vient lever tous les doutes. Mais il est important de savoir que les lésions syphilitiques secondaires ou tertiaires peuvent être infectées secondairement par le bacille fusiforme et les spirilles; ces microbes semblent avoir une certaine prédilection pour les ulcérations syphilitiques du pharynx. Dans ces cas, il est plus difficile de reconnaître la nature syphilitique de l'ulcération, dissimulée sous la fausse membrane. Il faudra, naturellement, tenir compte des accidents simultanés d'origine spécifique: roséole, plaques muqueuses, alopécie. Dans la syphilis, les ganglions cervicaux sont tuméfiés en même temps que les ganglions sous-maxillaires. Enfin le traitement servira de "*pierre de touche*" *ou de criterium essentiel. L'angine à* bacilles fusiformes est guérie en quelques jours si l'on frictionne deux fois par jour la lésion avec un tampon imprégné de teinture d'iode. Ce traitement est sans effet s'il y a une lésion syphilitique sous-jacente. Inversement le mercure et l'iodure de potassium déterminent la guérison de l'ulcération syphilitique, même si elle est compliquée par l'infection fuso-spirillaire; ce traitement n'amène, au contraire, aucune amélioration de l'angine que j'ai décrite.

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Val de Grâce, Paris.

TREATMENT OF COMPLETE UTERINE AND VAGINAL PROLAPSE.[1]

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So much diversity of opinion still exists among gynecic surgeons as to the proper treatment to be employed for the cure of complete uterine and vaginal prolapse that it seems timely again to bring this subject forward for discussion; and for this reason I desire to place before you for consideration the method of treatment which in my experience has proved the most satisfactory. Before

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[1] A paper read at the annual meeting of the American Medical Association, held at Atlantic City, N.J., on June 9th, 1904, before the Section on Obstetrics and Diseases of Women.

doing this, however, a few words in regard to the pathology of the disorder may be of interest. The condition is best described as a reducible hernia through the pelvic floor, the sac being the inverted vagina, containing, besides the uterus, the tubes, the ovaries, the bladder, and the rectum, a large portion of the small intestines. The causation of the disorder, as is well known, is primarily a separation—often submucous—of the tendons of the muscles forming the pelvic floor where they unite in the median line and is usually due to the passage of the child's head during parturition. This separation of the tissues, which hold the rectum in its proper position, allows the lower anterior portion of the gut to bulge upward and forward into the vagina, pushing the vaginal tissues before it. This abnormal position of the bowel is increased by every act of defæcation and straining at stool and is also added to by the lifting of heavy weights. As the muscular force employed follows the line of least resistance it tends in these cases not to expel the bowel contents through the anus, as it should, but instead to force the gut forward through the hernial opening into the vagina. The difficulty experienced by the sufferer in emptying her rectum causes her to exert an ever-increasing force and gradually and steadily, day by day, the rectocele increases in size, force in a downward direction being necessarily applied to the attached uterus and its ligaments, which in a normal condition serve simply as stays holding it in place, are gradually stretched and lengthened, allowing greater freedom of position to the descending organ. As the uterus descends the bladder goes with it. The descending process is hastened, after it has fairly begun, by the added weight of the small intestines, which being contained largely in the pelvis find their way by gravity to the lowest point. Thus after a period of a longer or shorter duration, varying usually in accordance with the natural vigour of the patient and the amount and character of the work she is called upon by reason of her environment to perform, a complete inversion of the vagina occurs and a hernial sac of large size appears outside the body and we have the condition known as complete uterine and vaginal prolapse to deal with. This complete form of the disease does not, as a rule, appear until rather late in life, although the patient has probably suffered from much discomfort and disability for many years.

In the surgical treatment of this disorder much ingenuity has been displayed. Various operations on the anterior and posterior vaginal walls, as well as the removal of the uterus in whole or in part, have been recommended, but unfortunately without very satisfactory results. In my opinion, these disappointing results have been due to the operator's failure in most instances to recognise the fact that the vaginal wall in these cases is a hernial sac with other contents than the uterus, tubes, ovaries, bladder and rectum, and that consequently the simple repair of the external perineal body, the removal of a larger or smaller portion of the vaginal walls, or even the removal of the uterus itself, would not correct the greatest cause of the difficulty—namely, the abnormal position of the small intestines. In the elderly patients suffering from this disease who have come under my observation, many of them having external tumours of large size, the uterus has not been found abnormally enlarged and consequently could not be considered a factor in the causation of the trouble and many patients have come under observation upon whom a hysterectomy for the cure of this disorder had been previously performed by other surgeons who stated that their tumours were larger than before operation.

In view of the foregoing facts it seems clear that the operative procedures required for the successful treatment of the class of cases under consideration are those that will first obliterate the inverted and stretched vaginal wall—which is in reality a hernial sac—and then restore the damaged perineal structures and distended anterior vaginal wall as nearly as possible to their normal condition. The technique which has, in my experience, best answered these requirements has been the following. The patient on coming under observation is placed in bed in the recumbent posture and the tumour is reduced, gravity being employed to help retain the parts in their normal position by raising the foot of the bed about six inches. Tampons moistened with glycozone are placed in position and the parts treated until all the ulcerated portions of the vaginal walls have healed, the general condition of the patient being meanwhile carefully looked after. The next step in the procedure is the performance of a laparotomy after the usual preparations have been made, the patient being placed in the Trendelenburg posture before the abdomen is opened for the purpose of obtaining the aid of gravity in drawing the parts back into their normal position. The bowels are usually in these cases found to be more or less attached to the vaginal wall by adhesions which must be broken up. The uterus, which, as has been previously stated, is in elderly women usually small, is found and pulled upward by the aid of bullet forceps, drawing the vaginal wall upward also. When this has been accomplished a needle armed with large size kangaroo tendon is passed through the fibres of the uterus at the point of its attachment to the round ligament and carried down the broad ligament in the form of a purse-string suture (see Fig. 1) and back again, the needle being finally made to emerge at about the point of entrance, so that when the two ends of the suture are drawn upon the broad ligament on that side is folded up and drawn together, thus doing away with its excessive length and giving the uterus a new point of attachment near the insertion of this ligament at the pelvic brim (see Fig. 2).

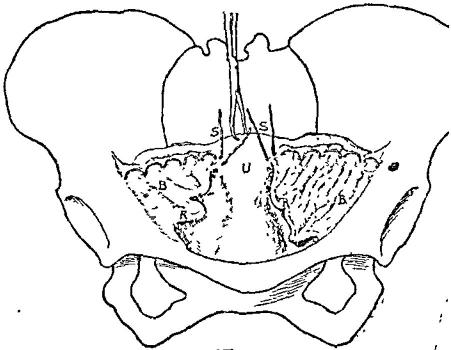

Fig I

B B, Broad ligament. R R, Round ligament. S S, Sutures. U, Uter

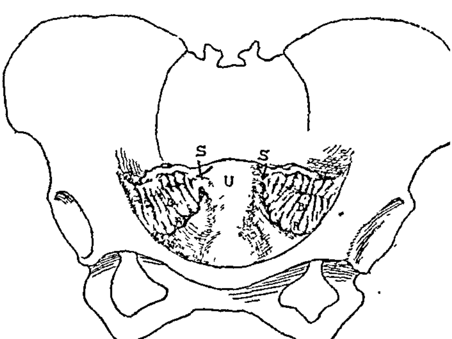

Fig II

B B, Broad ligament. R R, Round ligament. S S, Sutures. U, Uterus.

The same process is repeated on the opposite side. The abdominal cavity is then flushed with saline solution, some of which is allowed to remain, and the wound in the abdominal wall is rapidly closed by means of buried sutures and protected by a celloidin dressing. If the patient is then in ordinarily good condition repair of the pelvic floor and reduction in size of the anterior vaginal wall are undertaken. In my experience there is usually no difficulty in accomplishing this, for all the operative measures necessary to make a complete cure can easily be performed in 40 minutes. In these operations time is an important factor, as most of the patients are elderly and do not bear prolonged [illegible] procedures well, or those involving much loss o[illegible] *hence the importance of not removing the uterus in w[illegible] part when it is not at fault in the treatment of this disorder.* Many operations such as have just been described have been performed by me during the last few years on women whose ages ranged from 60 to 83 years, without mortality and with most satisfactory results.

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CARCINOMA OF THE UTERUS AND ITS SURGICAL TREATMENT.

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THE following brief notes of six cases of carcinoma of the uterus are given simply as examples of the method which, I believe, gives the best final result in those instances in which removal of the uterus is justified.

CASE 1.—The patient, a nullipara, married, aged 32 years, was first seen on Dec. 15th, 1894. She gave a history of repeated attacks of pelvic peritonitis, probably the result of an infective salpingitis. The menses had been regular every four weeks; of late there had been occasional blood-stained discharge between the periods. On examination the uterus was fixed and retroverted; both ovaries were cystic and of about the size of a large orange. From the posterior lip of the cervix was a fungating mass which bled readily on being touched. A portion removed for microscopic examination showed it to be carcinoma. Operation was performed on Dec. 24th. The uterus, ovaries, Fallopian tubes, and broad ligament were removed; also the pelvic glands. On section under the microscope two glands from the left side showed carcinomatous change. Five months after the operation a small recurrent nodule was excised from the scar in the vault of the vagina. There was no further recurrence. The patient is now (Feb. 4th, 1905) quite well.

CASE 2.—The patient, a nullipara, married, aged 50 years, was first seen on Feb. 16th, 1897. She complained of pain in the left side of the pelvis. The menopause took place three years and three months previously; "nothing seen" for two years and three months, then a "flooding" occurred and since then there had been slight irregular bleedings. Of late a bad-smelling discharge had been present. On examination the uterus was still of normal size—i.e., not atrophied; it occupied a good position, was tender to touch, and slight bleeding occurred after examination. Operation was performed on March 19th. The uterus and appendages, together with the broad ligament and the pelvic glands, were removed. Two glands from the left side of the pelvis showed carcinomatous infiltration. This patient lived for six years well; she then became ill and died during the seventh year from "Bright's disease." She was not under my care at that time.

CASE 3.—The patient, married, aged 51 years, was first seen on August 12th, 1900. The menopause occurred seven years previously. Three months previously a "sudden gush" of blood took place; slight bleeding had been present ever since but no pain. On examination there was nothing abnormal in the thorax or abdomen. The uterus was of full size and not atrophied; there was an old cervical tear. The sound entered two and three-quarter inches, followed by blood from the os. Operation was performed on August 25th. The uterus and appendages, together with the broad ligament and the pelvic glands on both sides, were removed. The uterus showed carcinoma of the body growing from near the right cornu; also two glands from the right side of the pelvis were infiltrated by carcinomatous deposit. This patient is now (February, 1905) alive and well.

CASE 4.—The patient, a multipara, married, aged 46 years, was first seen on March 14th, 1900. The menses had been regular every four weeks. She had had a "watery discharge" for nearly six months; this was sometimes blood-stained. On examination a fungating ulcerated growth from the cervix was seen; this bled readily on being touched. The uterus was apparently free from adhesions. Operation was performed on March 21st. The uterus and appendages, together with the broad ligament and the pelvic glands on both sides, were removed. In this case there was carcinomatous infiltration of the glands from both the right and [illegible]st marked, however, on the right. During the [illegible] was found to be easier to ligature the internal [illegible] the uterine artery far back; this [illegible] in dissecting out the pelvic glands. On the *fourth day* there was a leakage of urine into the vagina, although a considerable amount was also drawn off through the urethra. This leakage gradually diminished and ceased entirely on the twelfth day. I received a letter from this patient on Jan. 26th, 1905 in which she says that she is, and has been, perfectly well since her convalescence after the operation.

CASE 5.—The patient, a multipara, married, aged 33 years, was first seen on July 1st, 1901. There was a history of severe bleeding from the vagina. The patient was blanched. On examination there was found a fungating growth from the cervix. This was removed with a sharp spoon to control the bleeding temporarily. Operation was performed on July 19th. The uterus and appendages, with the broad ligament and pelvic glands, were removed. The glands on the right side were infiltrated with carcinomatous deposit. The fungating mass was a cylindrical-celled carcinoma. The patient is now (February, 1905) well.

CASE 6.—The patient, a multipara, married, aged 34 years, was first seen on Jan. 2nd, 1903. The menses had been regular every four weeks up to August, 1902, then "floodings" occurred at each period, also some bleeding between times. The patient was blanched and breathless. On examination a fungating bleeding growth from the cervix uteri could be seen. On bimanual examination a gland on the left side of the pelvis, of the size of a pigeon's egg, slightly moveable, could be felt. Operation was performed on Jan. 14th The uterus and appendages, broad ligament, and pelvic glands were removed. The glands on both sides were infiltrated by carcinomatous deposit; this was more advanced in those of the left side. The patient when last seen a short time ago was well and there were no physical signs of recurrence.

I [illegible] brief notes of these six instances of [illegible]as simply as illustrative cases. All occurred in my private practice and I was therefore able to follow them more closely than is usually possible in hospital practice. They are only a small number of those operated upon during the past ten years but they demonstrate the points which I wish to emphasise.

In each case the growth was examined microscopically. In each the pelvic glands were the seat of carcinomatous deposit secondary to the uterine growth. In one only could it be demonstrated before operation that there was involvement of pelvic glands—i.e., Case 6—the most recent one. The leakage of urine in Case 4 was, I believe, the result of trophic changes either in the base of the bladder or in the right ureter near the bladder and due to the fact that the right internal iliac artery itself was ligatured and not the anterior division of it or the uterine trunk. That there was no lesion at the operation is proved by the fact that there was no leakage until the fourth day after. I have seen this happen three times, and in each case the leakage only lasted a few days and ceased spontaneously; and in each of the three cases either the right or left internal iliac artery had been tied and divided. In two cases this was done to facilitate access to the deeper glands lying against the internal iliac vein. I have not met with any instance of septic cystitis spreading up along the ureters to the pelvis of the kidney, such as are recorded in the *Johns Hopkins Hospital Bulletin* for May, 1904. I think that this may be due to the fact that, recognising there must of necessity be a great deal of serous oozing after such an operation and also that, owing to the free removal of peritoneum, it is often difficult to obtain sufficient to cover over the exposed ureters and base of the bladder; I have made it a practice to pack the lower part of the pelvis lightly with a long strip of several thicknesses of iodoform gauze, bringing one end out into the vagina and so providing very free escape for the serum instead of the small drain which is apparently used at the Johns Hopkins Hospital in such cases.

The chief point, however, to which I desire to call attention is the fact that in all these cases the pelvic glands were more or less the seat of secondary carcinomatous deposit and that by no possibility could these glands have been removed had the ordinary vaginal operation of hysterectomy been performed. They can *only* be dissected out through an abdominal incision Further, I think it must be granted that in each of the six cases the patient s hope of "cure" would have been *nil* had the glands been allowed to remain and that although in only two cases has the five years' *limit been well passed and in two others* almost, but not quite, reached still, not one of these four would now be alive or have survived at the outside more than three years In the two more recently done cases it must be allowed that they, at all events, have a fair chance of "cure" which otherwise would have been an impossibility On reading the report of the Gynæcological Section at the last meeting of the British Medical Association in England I saw that Professor Olshausen definitely condemned any other major operative procedure in carcinoma of the uterus than vaginal hysterectomy, stating also that it was impossible to know beforehand whether the pelvic glands were involved or not except, of cour e, in advanced and inoperable cases This was used as an argument in favour of vaginal hysterectomy and against any more radical operation Surely it ought to be the other way about The few cases I have cited and many more could be adduced, seem to prove this Another argument used against the more thorough and radical operation was its great mortality, as stated by [illegible] I have found it to be [illegible] ht —above the 3½ per [illegible] to the vaginal opera [illegible] er such an added risk [illegible] is greater, and that this must be so I think [illegible]

I am aware that in [illegible] sition to all the speaker [illegible] referred to, but the facts seem to justify the position I have taken for the past ten years—i e , in all cases of carcinoma of the uterus, where a maj [illegible] one admissible is that one [illegible] "cure," provided that the [illegible] To leave the pelvic glands behind in such cases is to jeopardise the patient s chances of "cure small as they may be at best I have not given a detailed account of the steps of the operation as I usually do it because I have already done so in the *Journal of Obstetrics and Gynæcology of the British Empire* for January 1903

Sydney New South Wales

THE TECHNIQUE OF THE OPERATION FOR ADENOIDS AND ENLARGED TONSILS, WITH SOME PRACTICAL SUGGESTIONS

BY FREDERICK O CARLE M.B LOND , M R C S ENG

SENIOR CLINICAL ASSISTANT TO THE THROAT HOSPITAL GOLDEN SQUARE W

THE operation for adenoid growths and enlarged tonsils now so extensively practised is in reality a more complicated surgical procedure than it appears to the casual observer To perform the operation efficiently so as to obtain the greatest amount of benefit to the patient and satisfaction to the surgeon considerable skill is required which is only obtained by extensive practice Many untoward after effects come before the surgeon s notice which he learns by experience how best to avoid When one remembers that the completeness of the surgical measures employed is estimated by touch at the time of operation without directly viewing the area operated upon it will be readily appreciated that it is only by constant practice the surgeon is able to detect any incompleteness of his work by touch alone

A description [illegible] practised at the Throat [illegible] less clear up many difficu [illegible] ith A C E mixture on a flat table Any pillow placed beneath the patient s head should be removed before the operation is commenced The head thus maintains its normal relation to the trunk upon which it is neither flexed nor extended The importance of this I shall point out later The degree of anæsthesia should be such that the conjunctival reflex is lost but not the reflex to light A gag preferably Doyen s is now introduced by the anæsthetist and the mouth well opened The head is steadied by the anæsthetist The surgeon, standing on the right side of his patient introduces the forefinger of his left hand to depress the tongue thus bringing into view the soft palate and uvula A StClair Thomson s adenoid curette is carefully passed behind the soft palate into the naso pharynx The handle of the curette is well depressed, so as to cause the cutting *edge of the instrument to impinge against the base of the* septum The handle of the curette is carried through a semicircle considerable pressure being used in making the cutting edge travel across the pharyngeal vault In the latter part of the stroke so much pressure is not desirable for fear of cutting too deeply into the muscular tissue of the posterior pharyngeal wall On withdrawing the instrument the mass of adenoid tissue is found in the cage of the instrument The patient is immediately turned on to his right side the nurse taking charge of the body and the anæsthetist of the head The tonsils are next removed with a Heath s guillotine, the lower or right first The surgeon defines the tonsil with his left forefinger introduces the guillotine and slips the ring over the organ The handle of the instrument is carried well over to the oppo ite side when the blade is pressed home and the tonsil removed The upper or left is removed in a corresponding manner, the surgeon reversing his grasp of the handle in his right hand The fauces and post nasal space are then carefully palpated with the forefinger and any remaining adenoid tissue detected is removed with a Gottstein's curette The violence of the bleeding is allowed to abate when the patient is removed to bed in a prone position with the head low, a towel being held to the face during transit to catch any blood

The practical points to which I would call attention are as follows The horizontal position of the patient in the dorsal decubitus, the head being neither flexed nor extended With the head extended the cervical curve of the spinal column is increased in this position the operator is liable to cut deeply into the muscular structures of the posterior pharyngeal wall which will be stripped down by the curette leaving extensive tags of muscle and mucous membrane These will slough and give rise to unpleasant symptoms in the after treatment so making the patient more liable to acute middle ear inflammation a not infrequent result of the operation for adenoids The lateral position favours the drainage of blood from the pharynx out through the mouth and in no way inconveniences the surgeon in removing the tonsils In removing the tonsils a small guillotine is better than a large one since the encircled organ is not so liable to slip out of the smaller ring The lower end of the tonsil hangs down into the pharynx and does not merely project from between the faucial pillars In removal therefore it is important to get the lower edge of the guillotine ring below this projection and to thread the ring on to the tonsil from below upwards The posterior pharyngeal wall is best cleared at the end of the operation by scraping with the finger nail from below upwards, thus avoiding tearing downwards of the posterior pharyngeal wall as is liable to follow the use of a curette Large buried tonsils are best dealt with by removing a thin slice followed by breaking down of the tonsil tissue with the finger The cicatricial contraction following this method of procedure markedly reduces the size of the hypertrophied organ The results obtained by the above method of operating are eminently satisfactory any after ill effect rarely occurring

William street S W

ANATOMICAL PECULIARITIES OF A GALL BLADDER AND AN APPENDIX

BY FERGUSON LEMON, M B , B S MELB

AN instance of inclusion of a gall bladder in the substance of the liver presented itself recently while Dr W K Bouton of Melbourne was operating for gall stones After opening the abdomen in the manner recommended by Mr A W Mayo Robson for this [illegible] of operation the liver presented itself in the operation wound and what appeared to be a hydatid cyst was seen on the anterior surface of the right lobe—a slightly rounded elevation of pale yellowish colour On lifting the liver forward a similar though somewhat more projecting eminence appeared on the posterior surface which when viewed through the substance of the liver was quite translucent It was in the normal position for a gall-bladder but the surfaces, both anterior and posterior, were continuous with the liver substance. As no gall-bladder could be discovered an incision was made on the posterior surface into the swelling when bile gushed out, and on further exploration two large gall-stones, one barrel-shaped and the other conical, were secured; there was an additional facet on the barrel-shaped stone showing that a third stone had been present, but as a probe passed the whole length of the common duct without striking one it had evidently been passed previously. The edge of the incision into the gall-bladder at the time of operation was at least three-eighths of an inch thick, the circularly arranged coat of the gall-bladder being marked off very definitely from the liver substance on the one hand and the mucosa, &c., of the bladder on the other. Having secured a specimen for microscopical examination the usual procedure for closing the abdomen and draining the gall bladder was undertaken. On examination with the naked eye after the usual hardening process the specimen measured about three millimetres and showed the same three layers as already mentioned. Under low power the layers were made up of (1) an outer thick layer of connective tissue, probably a continuation of Glisson's capsule; (2) a circularly arranged layer of connective tissue, evidently the true covering of the gall-bladder; and (3) the mucosa, muscular tissue, &c., of the gall-bladder. The thickness of the anterior surface of the bladder and liver appeared to be slightly more than that of the posterior surface, but no section was made of it.

Curiously enough on the same day at another operation for appendicitis a divergence from the normal was seen in the appendix. On lifting the cæcum into view a small elevation on the anterior surface of the cæcum, about five inches from the extremity of the gut, was seen from which a little pus oozed. At first sight it looked like a perforation of the cæcum itself, as no trace of the appendix connected with it could be seen, but on further examination a little loop of appendix with a diameter of half an inch sprang from the extremity of the gut and, passing upwards, appeared to end in the cæcum half an inch away from its origin. No elevation appeared on the smooth peritoneal surface to indicate that the loop had any connexion with the perforated elevation four and a half inches distant. However, taking the loop as a guide and carefully dissecting away the peritoneum the appendix was traced till it ended in the elevation. The appendix was then stripped off the cæcum and removed in the ordinary manner. The exposed surface beneath was the muscular tissue of the cæcum and it bled freely. After careful application of a continuous suture of fine catgut through the free edges of the peritoneum, including some of the muscular layer, the bleeding was stopped, and for further security a second row was inserted invaginating the first and including the stump of the appendix. The abdomen was then closed.

Both cases did excellently. I am indebted to Dr. Bouton for permission to publish them.

Hawthorn, Victoria, Australia.

CÆSAREAN SECTION FOR CONGENITAL MALFORMATION OF THE CERVIX UTERI; RECOVERY.

BY H. TRAILL SKAE, M.B., CH.B. ABERD.,
HONORARY DISTRICT SURGEON TO THE ROYAL MATERNITY CHARITY.

THE patient, aged 24 years, married, pregnant for the first time, was taken in labour early on June 12th, 1904, being then seven and a half months pregnant. She was a well-built, healthy woman. Her menstrual history was normal except that she sometimes had a good deal of pain. She was seen about 1 P.M. by a medical man of much experience who found an apparent absence of the cervix but did not interfere. At 9 P.M. he handed the patient into the care of my partner, Dr. W. D. G. Mulloy, who subsequently asked me to examine her with a view to operation. The patient had then been in strong labour for about 12 hours and was becoming exhausted. The liquor amnii was stated to have been dribbling away all day. The patient was emphatic in saying that she had felt the child move a few hours before.

On examination at 10.30 P.M. pains were found to be frequent and sharp but of short duration. The patient was a well-formed woman with no abnormality of the bony pelvis. The fundus uteri was one and a half inches above the umbilicus (most of the liquor amnii had dribbled away). The fœtal head could be felt above the pubes. The external genitals were normal. The vagina was unusually short, the finger being brought to a standstill quite unexpectedly, and just for a moment the impression of total absence of a cervix was strikingly given. The vaginal walls were quite lax and undilated. On further examination it was found that the vaginal cervix was represented by a small flat warty projection, somewhat irregular and quite hard and firm. At its centre was the os—a small opening hardly large enough to admit a probe. This projection was placed almost in contact with the rectal wall, the posterior fornix being almost unrepresented. A slimy purulent discharge was oozing from the opening. The fœtal head could not be distinctly felt through the vagina. No fœtal movements could be felt and the heart sounds were not to be heard. It was evident that there would be much difficulty in introducing any instrument to dilate the os and further, that any attempt to dilate would inevitably result in rupture into the rectum. And as it appeared advisable to sterilise the patient by tying and dividing the Fallopian tubes abdominal Cæsarean section was decided upon. (Permission to sterilise was, however, subsequently refused.) Sedatives were given to enable the patient to get some rest.

At 11 A.M. on the next day chloroform was administered by Dr. R. Purdie, the patient having been prepared in the usual way, and Dr. Mulloy assisted me in the operation. The abdomen and uterus were opened in the middle line, an elastic ligature being placed round the latter. This tourniquet had afterwards to be temporarily loosened as it was found to have caught the fœtal scalp; bleeding, however, was readily controlled with the hands. The fœtus had evidently been dead for some days as putrefactive decomposition was well marked. The placenta, attached to the posterior wall of the uterus, was soft and foul-smelling—quite putrid. The uterus was emptied and scraped and then swabbed with perchloride solution (1 in 2000) followed by sterilised water. With considerable difficulty a narrow strip of gauze was forced into the vagina, about one and a half inches projecting into the uterus to act as a drain. The uterus was closed with deep and superficial sutures and contracted well. The abdominal wall was sutured in one layer and dressed. Vaginal douches of izal were given twice daily. There was a little feverishness for some days owing to the imperfect drainage from the uterus. The gauze drain was expelled on the fifth day. The perchloride swabbing caused no ill-effects and the patient made a good recovery.

There was no history of any malformation in the patient's family.

Hampstead, N.W.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

A Case of "Splenomegalic" or "Myelopathic" Polycythæmia with True Plethora and Arterial Hypertonia, without Cyanosis.

A MEETING of this society was held on May 9th, Mr. H. T. BUTLIN, Vice-President, being in the chair.

Dr. F. PARKES WEBER read a paper on a case of "Splenomegalic" or "Myelopathic" Polycythæmia with True Plethora and Arterial Hypertonia, without Cyanosis, which is published in full in this issue of THE LANCET.

Dr. J. S. HALDANE agreed that all facts pointed to an increase in the activity of the bone marrow as the cause of the polycythæmia. The method of determining the total volume of blood by the carbon-monoxide method gave results which were identical with results obtained by older methods. He referred to the extraordinary constancy of the ratio of the hæmoglobin and of the total blood volume to the body weight under various conditions. In the case under consideration, however, the blood volume was nearly double the normal ratio. The patient's condition was similar to that of an animal into which blood from another animal had been injected—there were an increase in the percentage of hæmoglobin and an enormous increase in the number of blood cells.

He suggested that extensive bleeding might be resorted to in treatment of this condition

Dr A J **WHITING** referred to the enlargement of the spleen in this condition and said that experimentally by copious bleeding of animals the bone marrow underwent hypertrophy and at the same time the spleen became swollen and of a rosy red colour and microscopically was hardly distinguishable from bone marrow He asked whether the spleen had been examined in Dr Parkes Weber's first case and what changes had been found

Dr A E **BOYCOTT** said that he had dealt only with the pathology of the blood Apart from the increase in the hæmoglobin and in the number of cells he had found a distinct alteration in the size of the blood cells some being larger, and others smaller, than normal The staining reaction of the cells was altered and a small number of nucleated red cells were constantly present The polymorpho neutrophile cells were always present in a high percentage

Dr **PARKES WEBER** in reply, said that very little change could be seen in the sections of the spleen which had been examined Only an increase of the spleen pulp was present

MEDICAL SOCIETY OF LONDON

General Meeting —Discussion on the Perineal and Suprapubic Methods of Prostatectomy

THE annual general meeting of this society was held on May 8th Mr **JOHN LANGTON** the President, being in the chair

The annual reports of the council the honorary librarian and the chairmen of the house and finance committees were received and adopted and the election of the officers and council for the ensuing year took place The result of the ballot was as follows President Sir Lauder Brunton Vice Presidents, Dr Edward J Nix Mr Charters J Symonds Dr William Pasteur, and Mr C W Mansell Moullin, treasurer Mr David H Goodsall, librarian, Dr Arthur Francis Voelcker, honorary secretaries, Dr J S Risien Russell and Mr Cuthbert S Wallace, honorary secretary for foreign correspondence Dr Humphry D Rolleston Council Sir Hugh R Beevor, Dr J Vincent Bell Mr C Carter Braine Dr John F H Broadbent Dr John H Bryant, Dr Henry A Caley Mr Albert Carless Dr Edmund Cautley Dr Harry Corner, Dr W J Gow Mr Francis Jaffrey Dr Robert Jones Mr J E Lane Mr John Langton Dr Sidney Martin, Dr H H Mills Dr Frederick S Palmer Mr Walter G Spencer Dr George C Steele Perkins, and Mr H J Waring

Mr **REGINALD HARRISON** opened a discussion on the Perineal and Suprapubic Methods of Prostatectomy No practical subject had occupied surgical attention more than that having for its object the improvement in the treatment of certain forms of prostatic hypertrophy when they occasioned serious obstruction to the natural expulsion of urine from the body The surgical treatment of prostatic obstruction as it occurred in the enlarged or adenomatous gland might he remarked, be discussed under three headings (1) by catheterism alone as practised by the surgeon or the patient himself (2) by perineal prostatectomy and (3) by supra prostatectomy Where the first method sufficed for the wants and comfort of the individual the necessity or expediency for the removal of the prostate did not arise Much more could now be done by strict antiseptic precautions to keep patients within this limit and there could be no question that many had thus been able to enjoy long and useful lives without taking the risk of an operation such as the removal of the prostate entailed Though fully recognising the force of this consideration, which had had prominence given to it by Mr G Buckstone Browne and others there could be no doubt that it was not possible to keep all prostatic cases within these limits On the other hand difficulty in the use of the catheter pain frequent and unrelieved desire, the continued formation of vesical stone in spite of its repeated removal by lithotrity hæmorrhage broken sleep and unrest cystitis and offensive urine in addition to other local and general states of sepsis represented conditions which when persistent no catheter even with its modern accessories could adequately abate It was in c

tatectomy had

Opinions were

cal ility of the perineal and suprapubic methods Perineal prostatectomy had for some years been largely practised both in France and America but hitherto had not found much favour in this country It was Mr Harrison believed, of only limited application and in his practice had been almost entirely confined to some partial removal of the gland For instance by this route pendulous outgrowths of what was known as the middle lobe of the prostate which by acting as a ball valve obstructed micturition, might be dealt with satisfactorily Complete extirpation of the prostate could also be effected by the perineum and many excellent results had been obtained But Mr Harrison had reason to think from cases that had come under his observation that some degree of incontinence of urine was not a very uncommon event after a completed perineal prostatectomy Dr George E Goodfellow of San Francisco[1] reviewing his experience of 73 patients operated upon by him by median perineal prostatectomy had come to the same conclusion and other surgeons had recorded a somewhat similar experience Dr William White[2] of Philadelphia had stated, Past experience does not justify the expectation that the results of prostatectomy by the perineal route will compare favourably with those of total enucleation Turning next to the operation of complete suprapubic prostatectomy Mr Harrison believed it to be the operation of choice in the majority of cases It had many advantages The operation could be completed with a knife aided by the fingers in a very few minutes The bladder and prostate were approached from their most accessible position where there was little

vided free drainage was afforded for as he had pointed out in the Lettsomian lectures of 1888 the density and contractility of the scar left after a complete or partial rupture from violence or laceration of the male urethra were in an inverse ratio to the direct drainage provided for the wound He had never found difficulty or delay in healing after the suprapubic operation provided that the drainage was sufficiently ample Moreover suprapubic prostatectomy had often been the means of bringing to light unsuspected stones contained within saccules and pouches of a presumed healthy bladder Nor was it uncommon to find as age advanced and the prostate enlarged that the obstruction thus caused resulted in pouches in which concretions, small stones, and putrid urine might be detained These considerations were of much importance in determining the precise nature of the operation that should be selected for the removal of the prostate Partial suprapubic prostatectomy was an alternative operation but it had not on the whole proved a success Instances had been recorded where after partial removals in this way the entire gland had had to be enucleated and this had been attended with good results Enucleation with the finger alone as now practised had greatly simplified the process of complete removal and had rendered more secure that which was to some extent a matter of chance In making reference to the distinctions between partial and complete extirpation Mr Harrison did not wish to minimise in any degree the originality of Mr Freyer's work but only referred to the point for the purpose of illustrating the wide difference in results between partial and complete removal of the gland however effected In reference to the mortality attendant upon the two forms of prostatectomy under discussion Mr Harrison was not disposed to think there was much difference in this respect between them including all causes of death it was about 10 per cent probably it was rather less with the perineal operation He had no doubt that this percentage might be considerably reduced in many instances by an earlier prostatectomy and by the exclusion of malignant and other unsuitable cases where the operation had to be undertaken for distinctly palliative purposes

Mr W **BRUCE CLARKE** speaking from his own experience agreed with Mr Harrison that in all ordinary circumstances the suprapubic operation was the best He was very glad it was becoming more usual to operate on cases earlier than formerly The time of operation depended upon the degree and symptoms of obstruction The symptoms varied probably because the gland became congested from time to time The method of enucleation was discussed and the importance of getting into the right layer of the capsule was emphasised. This could not be done by incision through the mucous membrane. Incontinence of urine was, Mr. Bruce Clarke believed, unusual. In respect to the alternative, the perineal, operation there were a few cases in which this operation was justified, and in some cases a combination of the perineal and suprapubic methods might be adopted.

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[1] Journal of the American Medical Association December 1903

[2] Annals of Surgery December 1904

Mr. W. G. SPENCER (who exhibited microscopic specimens of Carcinoma, Fibrous Hardening, and other diseases of the Prostate) referred to certain cases in which he had found the perineal operation useful. Some were cases of prostatic obstruction and were instances of densely hard prostate without much enlargement, such as the diffuse fibroma of the prostate, from which one of the microscopic sections had been taken. The various histological changes which might produce this condition were discussed and several cases were described in detail and the special methods which Mr. Spencer had adopted for the performance of perineal prostatectomy were described. In such cases of hard prostates it was difficult or impossible to separate the gland from its capsule. Benign lesions of the prostate might become malignant and this was another reason for dealing with the prostate in the manner suggested.

Mr. P. J. FREYER said that no real comparison could be made between the perineal and the suprapubic prostatectomy because they were applicable to such different kinds of cases. The latter was applicable to prostates enlarged to any extent but the former was applicable only to small hard prostates such as the cases referred to by Mr. Spencer. Accidents of various kinds were found after the perineal operation, such as rectal injury, rectal fistula, perineal fistula, orchitis, incontinence of urine, stricture, and loss of sexual power, which did not occur after the suprapubic method. In 110 cases which he had previously recorded the mortality had been about 10 per cent. but in 85 operations more recently performed the mortality had only been 5·5 per cent. This reduction depended on rapidity of operation, improved methods, and improved after-treatment.

Dr. H. T. HERRING remarked that there were four considerations which influenced the decision as to the operation performed—the mortality, questions of drainage, ease of operation, and after-effects. In general terms he recommended the suprapubic method, but advocated more careful preventive methods as obviating the necessity for any operation.

Mr. C. W. MANSELL MOULLIN thought that the choice of operation depended upon the size and condition of the prostate and also on the accessibility of the organ. In stout people it was very difficult to reach the prostate satisfactorily by the perineum but the choice of operation depended also upon the position and size of the enlargement, the kind and degree of the growth, and the question of drainage.

Mr. CUTHBERT S. WALLACE advocated the suprapubic method in most cases as being more satisfactory on general surgical principles. It was important to avoid, if possible, operation in states of active sepsis.

Dr. HEYWOOD SMITH referred to a case operated on suprapubically some time before in which no incontinence had ensued.

Mr. J. W. THOMSON WALKER discussed the limits of the two operations. The perineal operation was only available when the size of the prostate was small and the thickness and the depth of the perineum were moderate. The rapidity of the suprapubic operation was an important matter, not more than about 15 minutes being required.

Mr. JOHN G. PARDOE remarked that the important point to his mind was to be able to determine which kind of prostate could be enucleated. Fixity of the gland was a contra-indication to removal and generally indicated malignancy and he agreed with Mr. Spencer in thinking that such cases were best dealt with by perineal prostatectomy.

Mr. HARRISON replied.

OPHTHALMOLOGICAL SOCIETY.

Histological Changes in Choroiditis.—Results of Birth Injury to the Cornea.—Anterior Synechia of the Pupillary Membrane.—Bjerrum's Method of Testing the Field of Vision —Pulsating Exophthalmos cured by Carotid Ligature. —Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on May 4th, Mr. JOHN TWEEDY, the President, being in the chair.

Dr. LESLIE BUCHANAN (Glasgow) showed a series of lantern slides illustrating Histological Changes in Lesions of the Choroid found after Removal of the Eyes for other Causes. The first was disseminated choroiditis of old standing exhibiting the appearances usually described. The second showed proliferative changes in an active stage affecting the [illegible] and others usually found in sympathetic [illegible] third case exhibited well-marked irregular pigmentation of the choroid with fibro-cellular deposit on the surface of the retinal pigment epithelium, characterised by small black spots surrounded by a lighter areola and due to accumulation of pigment granules in the epithelial cells. The last part of the demonstration was concerned with the formation of the myopic conus which was shown to involve more than a mere stretching of the choroid as in two instances a fibro-cellular formation was found on the surface of the elastic lamina, in the one case vascular and in the other degenerated.

Dr. BUCHANAN also read notes of two cases illustrating Late Effects of Birth Injury to the Cornea. The first case was that of a girl, aged 12 years, with defective vision represented by $\frac{6}{60}$ and $\frac{6}{18}$ in the right and left eye respectively. Superficial observation indicated the presence of a corneal nebula but when examined with the ophthalmoscope and a 12 D. convex lens the appearance was found to be due to two peculiar lines at the posterior surface (refraction opacity), double outlined and altering with the position of the observer. The appearance so closely resembled that observed by Buchanan and Thomson in cases of birth injury that this matter was inquired into and was found to correspond exactly with that described by them in the Transactions of the Ophthalmological Society, 1903. In addition there was a high degree of astigmatism. The second case was similar and in this the astigmatism attracted attention. The corneal scars were so very faint that they were passed over in the first ophthalmoscopic examination. Ophthalmometric measurements were given in both cases and showed that the astigmatism was entirely corneal. The existence of a high degree of astigmatism and the involvement of one eye only should direct the ophthalmic surgeon to investigate the posterior surface of the cornea and the circumstances of birth.

Mr. A. H. H. SINCLAIR pointed out the advantages of Bjerrum's method for testing the visual field in clinical work, especially in the diagnosis of glaucoma. A large screen of black velvet, marked with lines of black thread in a radiating and concentric manner in order to determine the extent of the field in any direction, was employed. The fixation point was in the centre and the test objects of white ivory (1 – 20 millimetres in diameter) were carried across the screen by means of a slender black rod while the field of vision was mapped out by black pins and transferred to an ordinary perimeter chart. The advantage of the method was in obtaining a more discriminating chart of the centre of the field involving relative defects of great clinical importance which were not demonstrable by the ordinary perimeter. Lantern slides selected from a number of charts illustrated glaucoma in which the areas of vision and relative defect were conterminous at the blind spot, this being in all cases partly encircled by a horn-like projection of the area of highest visual acuity. Optic atrophy, on the other hand, though showing an even greater limitation of vision, had not this peculiarity, which was a permanent one, as shown by cases of several years' standing.

Dr. A. J. BALLANTYNE read a paper describing the Microscopic Examination of the Left Eye of an eight months Fœtus in which the pupillary membrane was almost complete and closely adherent at one part to the posterior surface of the cornea, the iris being attached in the same situation. The cornea itself was normal but the endothelial lining of the anterior chamber was almost entirely absent along the line of contact of iris and pupillary membrane with the back of the cornea though present elsewhere. Remains of the hyaloid artery and tunica vasculosa lentis were also present. Dr. Ballantyne attributed the adhesion to an inflammatory process which had led to destruction of parts of the endothelium of the anterior chamber and consequently of an intimate adhesion of its walls at this point, including the iris, the pupillary membrane, and the cornea. He alluded to 14 cases already recorded and discussed the theories put forward in favour of the one he had adopted.

Mr. S. JOHNSON TAYLOR reported a case of Pulsating Exophthalmos cured by ligature of the common carotid. The patient, a woman, aged 55 years, was first seen four years ago suffering from this condition on the right side with a well marked intracranial bruit audible to herself and to the observer with the stethoscope The bruit had appeared immediately after a fall seven weeks before the consultation in which the patient had struck the *left* side of her head against a stone step, rendering herself unconscious for a few minutes and at the same time fracturing her collar bone The proptosis developed gradually four weeks later As the symptoms, severe pain, corneal ulceration, and conjunctivitis, became worse in spite of rest with spare diet and potassium iodide, Mr Taylor ligatured the right common carotid at the patient's own home about nine weeks after the injury, the result being a complete and permanent cure, no untoward effect ever being manifested

[illegible]

Mr L J PATON Early Synostosis of Bones of the Skull with Optic Atrophy

Mr STORY An example of a Couched Eye

Mr W I HANCOCK Nodular Opacities on the Cornea in two members of a family

Mr E T COLLINS Coloboma of the Eyelid

OBSTETRICAL SOCIETY OF LONDON

Mortality in Childbed both in Hospital and in General Practice —Repeated Tubal Pregnancy — Gonococcic Peritonitis

A MEETING of this society was held on May 3rd Dr W R DAKIN, the President being in the chair

Dr ROBERT BOXALL read a paper on Mortality in Childbed both in H offered the three death rate from ad and Wales, in Scotland, or in Ireland (where it was abnormally high as compared with the other divisions of the kingdom) but in London it had declined considerably (2) the death rate from accidents of childbirth had declined slightly in each division of the kingdom but was abnormally high in Ireland and in London had markedly diminished and (3) the death rate from puerperal septic diseases had if anything shown a tendency to increase in each division of the kingdom but in London had been declining for at least the last decade In support of these opinions a large amount of statistical material was exhibited chiefly compiled from the records of the General Lying in Hospital York road, London S E The first table showed the deliveries deaths, and death rate in childbed at the York road Hospital for three successive periods—1833 to 1860 1861 to 1877, and 1879 to 1904 During the first of these there were 5833 deliveries with a death rate from all causes of 3 08 per cent during the second there were 3773 deliveries with a death rate from all causes of 1 69 per cent and during the third there were 11 186 deliveries with a death rate from all causes of 0 47 per cent Tables were also exhibited showing the death rate from childbirth from puerperal fever or metria from accidents of childbirth and from all causes estimated for 10 000 children born alive these tables gave the various particulars for London for each year from 1848 to 1903, for England and Wales for each year from 1847 to 1903 for Scotland for each year from 1855 to 1902 and for Ireland for each year from 1864 to 1903 Another table showed the mean mortality from childbirth and from puerperal sepsis and accidents of childbirth in London England and Wales, Scotland and Ireland before 1880 and after 1881 From this it appeared that in London the total childbirth mortality per 10 000 births was 48 5 from 1848 to 1880 and 35 4 from 1881 to 1903, in England and Wales it was 48 7 from 1847 to 1880 and 48 4 from 1881 to 1903, in Scotland it was 49 8 from 1855 to 1880 and 50 0 from 1881 to 1902, and in Ireland it was 66 0 from 1864 to 1880 and 67 1 from 1881 to 1903 In other tables placed side by side for the purpose of comparison there was shown the mortality of childbirth and in childbed at the York road Hospital for the last 25 years and in England and Wales for the years 1901–03 In spite of the large number of serious cases sent to hospital the deaths occurring under the head of accidents of childbirth and from septic disease were less in hospital than in private practice While retaining the douche before delivery and immediately afterwards routine douching during the greater part of the puerperium had been given up, and the later use of the douche took place once only—namely on the fifth day From August to October, 1888, an attempt was made to replace corrosive sublimate by salufer for douching but the results were very unsatisfactory —Dr A L GALABIN expressed an opinion on the conclusion that the death rate from puerperal sepsis had if anything shown a tendency to increase in each division of the kingdom He thought this conclusion too pessimistic and not supported by the charts From statistics which he had himself published he concluded that there had been a distinct improvement in the mortality from puerperal septicæmia in England and Wales since 1880 which for the previous 25 years had been conspicuously absent although it was not so great as might be desired being rather less than half the improvement in septic diseases apart from the puerperium —Dr W S A GRIFFITH said that it was obvious to every consultant that as a rule the disease was neither diagnosed nor was efficient treatment adopted until the patient was hopelessly septic and beyond the aid of successful treatment He thought that some other cause must have been at work to account for the disastrous effects of douching with salufer At Queen Charlotte's Hospital patients were frequently admitted in labour with infective vaginitis and it had not always been possible to disinfect these severe cases in time He asked whether Dr Boxall had met with the same difficulty and, if so how he had so successfully dealt with it —Dr C O FOWLER alluded to the difficulty met with by medical practitioners in controlling the engagement of nurses for confinement cases in private practice He considered that a nurse should never be asked to give a douche unless she had had a proper training He deprecated the practice which largely prevailed of the nurse endeavouring to get the case over before the arrival of the medical man He knew it was a common practice among some of those who ostensibly professed to follow aseptic methods and to disinfect their hands before making a vaginal examination to handle various articles between the disinfection and the examination regardless of the risk of reinfecting them —Dr C J CULLINGWORTH related the circumstances in which on his initiative salufer had for a time been used as a douche and for washing the external genitals He was still in doubt as to whether the occurrence of sepsis just at that particular time was really due to the use of salufer Of course salufer itself could not convey infection and if it was the cause of the outbreak it could only be so indirectly owing to the discontinuance of douching with corrosive sublimate The great value of the paper to his mind was that it once more emphasised the unpleasant fact that whilst in lying in hospitals sepsis had for all practical purposes been eliminated the prevalence of puerperal septicæmia in the country generally was just as great as ever He believed that the great hope lay in the direction of better clinical instruction both for medical students and for midwives He should rejoice if the passing of the Midwives Act had the effect of indirectly calling attention to the conditions under which English medical students obtained their practical instruction in midwifery —Dr C E PURSLOW thought that the great importance of cleansing and disinfecting the vulva of the parturient woman was sometimes likely to be neglected in private practice —Dr BOXALL in reply said that he hoped that Dr Galabin's criticism would prove correct The evidence of the disastrous effect of salufer as a douche rested not on the mortality so much as on the morbidity records as evidenced by the temperature charts This to his mind appeared conclusive and warranted the belief that it would be better to omit the douche altogether than to use with it an inefficient antiseptic He considered that a nurse unless properly trained should never be allowed to administer a douche after delivery In his experience also notification of puerperal fever was rarely made till death was imminent The Notification Act had been practically inoperative in many places so far as puerperal fever was concerned Recognising the futility of attempting to determine the presence of gonorrhœal and of septic matter in the vagina in the case of patients admitted to hospital during labour the practice was followed of disinfecting the vulva and the vagina if possible before delivery and of douching with an antiseptic solution immediately afterwards Under this treatment ophthalmia rarely occurred It was satisfactory to find such a general consensus of opinion among the Fellows of the society as to the necessity of improving the clinical teaching of the medical student in midwifery.

Dr. **PURSLOW** read a short account of a case of Repeated Tubal Pregnancy in which he had operated twice. On each occasion there was intraperitoneal hæmorrhage from the fimbriated extremity of the tube, after the patient had gone exactly a fortnight over the period.—Mr. **ALBAN DORAN** referred to a case in his own practice which had symptoms of tubal abortion on the right side and in which he operated a year later for tubal gestation on the left. He then found evidence of the former pregnancy.—Dr. **HERBERT R. SPENCER** said that he had operated on three cases of repeated tubal pregnancy, although he did not usually operate in early tubal gestation.

Mr. A. G. R. **FOULERTON** showed Microscopic Specimens from a case of Acute Peritonitis in which cultures of the micrococcus gonorrhœæ had also been obtained from the peritoneal exudation. The tubes and the ovaries of both sides were removed by operation. The micrococcus gonorrhœæ was found in the vaginal discharge and also in pure culture in the pus contained in the tubes. Histologically, the lining epithelium of the tubes showed but little change and a careful examination had so far failed to show any penetration of the gonococci either into the epithelial cells themselves or below the epithelial lining. He thought that infection of the peritoneum had been brought about by an acute kink near the middle of the right tube. The ostium abdominale of the left tube was apparently closed.

HUNTERIAN SOCIETY.

Discussion on Influenza.

MEETINGS of the Hunterian Society were held at the London Institution, Finsbury-square, on March 22nd and April 26th, when there was a discussion on Influenza, Dr. F. J. **SMITH**, the President, being in the chair.

The discussion was opened by Professor T. **CLIFFORD ALLBUTT** who reminded his hearers that he well remembered the outbreak of the epidemic in the "forties" and that he had heard something of the manner in which people suffered during the previous epidemic in the "thirties." Since those dates there had been epidemics but none that showed anything like the severity of the outbreak which commenced at the end of 1889 and the beginning of 1890. He reminded his hearers that influenza had been known fairly definitely from the twelfth century onwards. Having traced the course through the world of the 1889 epidemic he passed on to consider the contagious nature of the infection. Although contagion was now assumed as obvious this was not the general opinion in 1890, and Professor Allbutt gave examples from his experience as a Commissioner in Lunacy when he was able to observe the course of influenza in the lunatic asylums in England. Those persons who were in contact with the outer world—viz., the medical and domestic staff and the persons visiting them or the patients—were attacked at the rate of about 50 per cent. but on the inmates themselves, those who did not go out in the outer world, the incidence of the disease was relatively slight. Professor Allbutt then said that in his opinion the disease was propagated in the sputum and the spray from the respiratory tract and that unless a patient had respiratory affections he was not infectious. The speaker went on to point out that, like pulmonary tuberculosis, influenza might cause excavation of the lungs. Continuing his address, he passed on to consider the various symptoms, laying great stress upon the extreme suddenness with which influenza, as a rule, attacked its victims. The suddenness of the onset was often, he said, a useful point in the distinction between influenza and typhoid fever. As to treatment he said that it would be dealt with by other speakers and he himself was glad not to have to deal with that particular subject because he did not know that there was anything which could be called specific. Two points, however, he wished to impress upon them (1) that the patient ought to do what nobody, as a rule, would do—that was, go to bed at once and stop there until the acute phase was well passed; and (2) that during the long convalescence he would recommend what he might call a non-toxic diet—viz., milk, custards, and no meat.

Dr. H. **FRANKLIN PARSONS** gave an account of the epidemiology of the disease.

On April 26th Dr. W. **BULLOCH**, in discussing the bacteriology of the disease, said that the researches of bacteriologists culminated in 1892 with R. Pfeiffer's discovery of the hæmophilic microbe since known as the bacillus influenzæ. Practically no new facts have been added to Pfeiffer's original discovery. After searching trials he (Dr. Bulloch) had found that the bacillus only grew in the presence of hæmoglobin and that it was difficult to preserve the cultures alive. The important practical point in reference to Pfeiffer's bacillus was its parasitic character which rendered its cultivation a matter of difficulty. It was very susceptible to drying—a fact which altogether negatived the supposition that influenza was carried to great distances by the air. The extreme temperatures at which the bacillus grew were 27° and 42° C. This showed that in temperate climates, at any rate, the microbe did not multiply outside the body of man. Influenza was a highly contagious disease and in almost all cases it was propagated directly from man to man. As Pfeiffer showed, the bacillus influenzæ was found locally in the respiratory passages and it was an extreme rarity to find it in the circulation. Dr. Bulloch then emphasised the fact that whereas in the early "nineties" Pfeiffer's bacillus was frequently met with it had in recent years become much rarer although epidemics of catarrh—described as influenza—were still very prevalent. He (Dr. Bulloch) believed that what was called influenza clinically was not one disease but probably a series of diseases caused by different microbes among which a prominent place had to be given to the micrococcus catarrhalis and allied cocci. He then referred to the spread of these catarrhal diseases and emphasised the importance of the researches of Flügge and his assistants on the dissemination of microbes in droplets in the form of spray discharged from the mouth and nose during coughing, sneezing, &c. He then referred to the important question of immunity. Experiments on animals and observations in man showed that the immunity, if it existed, was of low degree and at the same time of slight duration. In all probability, however, some immunising influences were at work as in the course of time the microbe became attenuated. The continued occurrence of epidemics of influenza was referable to the fact that the microbes could persist for long periods in the respiratory passages of people who had had the disease. With a disease so eminently contagious, and considering the innumerable chances of infection and the general disposition of man to the disease, a satisfactory prophylaxis was almost impossible.

Dr. T. **GLOVER LYON**, in discussing the clinico-pathology of the disease, said that the most striking feature of influenza was the multiplicity of symptoms and the variety of combinations of them in different cases. He believed that the poison affected all the tissues of the body but chiefly those in a bad state of nutrition; in other words, the weak points. It attacked specifically the central nervous system and might well be named centro-neural fever. In slight cases the symptoms were referable alone to these organs and in more severe cases the nerve centres modified the symptoms displayed in other parts. An important condition sometimes arising was vaso-motor paralysis, especially of the lungs, producing intense congestion. This sometimes proved fatal and had been noticed by Graves. There had been a real change in the disease within record, so much so that old physicians who had seen the epidemic of 1847 did not at first recognise the disease in 1889. In descriptions written before 1889 the respiratory symptoms were made most prominent, then the nervous, the gastro-intestinal coming last. In 1889 the nervous symptoms were most striking, then the respiratory, and lastly the gastro-intestinal. In 1892 and since the gastro intestinal had equalled, if not surpassed, the respiratory symptoms in importance, the nervous symptoms still remaining in the first rank. He thought this change was accounted for by modifications which had taken place in our mode of life since 1847. Between 1847 and 1889 the strain upon the nervous system had been very much increased by the introduction of railways, telegraphs, &c. He believed, too, that of late years the feeding of our population had much deteriorated. Instead of plain food, well cooked, eaten leisurely and regularly at home, many people now took food hurriedly and irregularly in restaurants. Hence, a greater strain had been put upon the digestion, accounting, he thought, for the increased prominence of gastro-intestinal symptoms (and in parenthesis of the increase in appendicitis).

Dr. J. **FORD ANDERSON** said: I only wish to refer to one of Professor Allbutt s remarks and that is as to the special infectiousness of the catarrhal form of influenza That is not quite my experience I am quite willing to admit that the catarrhal form of influenza is the most infectious but I cannot doubt the evidence with regard to the infectiousness of the other forms too, at least in every case where there is a rise of the temperature, and I think that is the best guide Where there is an elevation of the temperature the disease inevitably goes through the house I have seen this both in the gastro intestinal and in the nervous forms I have had reason to think that treatment by sprays is a preventive I have used resorcin for spraying and quinine for gargling, and certainly the members of a family in which these have been used seemed to escape better than those in which they were not employed I have also found good results from the use of quinine giving three grains three times a day or as much as the patient could stand In that case the patient has been apparently immune from the disease With regard to treatment—because I am taking the practical side—I should like to say that although I use the salicylate of sodium I distrust it It is so depressing and upsetting to the digestive organs and I generally prefer salicin as introduced by Maclagan in 20 grain doses, with the addition of phenacetin to reduce fever and to calm the nervous symptoms But the sooner we get away from those antipyretics to quinine the better Quinine however does not seem to me to suit cases of broncho pneumonia at all There I always go to digitalis chloride of ammonium and nux vomica which I think are invaluable in broncho pneumonia I think the digitalis is a most important element It increases the tonic contraction of the ventricle and that is all right but sometimes the arterioles are contracted and unless they are dilated by *some means* there will be trouble and there will be an increase of the broncho pneumonia For that I think the addition of the nitrite of sodium or trinitrine is effective in removing the patches of broncho pneumonia I should like here to express the great benefit I have received from the use of Hill and Barnard s sphygmometer To sum up I think it is a ques

treating the symptoms keeping the patient the amount of fever, *patient There is no panacea for* the disease either in diet or in medicine

Mr F ROWLAND HUMPHREYS followed and spoke with special reference to the cardiac complications of the disease

Mr JOHN ADAMS, arguing from his own experience and from many similar cases considered that though influenza showed marked attenuation in the majority of cases yet others occurred which exhibited no diminution in severity of the symptoms

Dr ST CLAIR B SHADWELL said There was one point mentioned by Professor Allbutt on the last occasion with regard to angina pectoris which I should like to mention He said he thought that it was not the heart but the aorta that was affected But I think after all the cases of angina pectoris that we find in influenza even in very severe cases are essentially nervous and of neurotic origin One case that I saw was very marked A patient who had had an attack of influenza for three days called me in to see her She had attacks which were remarkably like those of angina pectoris I treated her with nitrite of amyl which gave some relief But on the third morning I was sent for and she was then very bad indeed she sat up in bed she gasped for breath she became livid her hands and feet were cold and I thought it was a genuine case of angina pectoris I examined her very carefully and while examining her chest I happened to press my finger on one of the intercostal spaces, she flinched I was quite acquainted with the cases of intercostal neuralgia which we meet with in influenza Consequently I left the chest and went to the back and ran my finger down the spine, the patient called out with pain Then I knew exactly what was wrong it was a case of spinal influenza if I may so term it—that is a case of influenza in which the posterior root of a spinal nerve is affected I have known such cases for many years now What I did was this I took a blister and put it on the tender spot and the patient never had another attack of angina pectoris, she was perfectly cured *That was some years ago* I have attended her for some slight ailments since but she has never shown any symptoms of heart trouble In many cases of neuralgia coming on after influenza if you examine the spine you will find an acutely tender spot and if that tender spot be treated with a blister the pain is relieved in 24 hours or less and in two or three days the neuralgia or the neuritis is practically cured beyond a little tenderness of the nerve I think cases of angina pectoris which are met with in influenza are essentially neuroses and are not due to any cardiac conditions

The PRESIDENT concluded the discussion by a few remarks upon points raised therein He expressed his opinion that in the treatment of influenza the wishes of the patient should be specially considered and finally offered the thanks of the society to all those who had attended to take part in the discussion

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EPIDEMIOLOGICAL SOCIETY —A meeting of this society was held on April 29th, Dr B A Whitelegge, the President being in the chair —Dr G S Buchanan read a paper on the Spread of Small pox around Small pox Hospitals in Relation to Aerial Convection So long ago as 1886 Mr W H Power published his report to the Local Government Board on the Incidence of Small pox in London from 1876 to 1885 and in 1884 the subject of hospital influence was brought before the society by Dr J C McVail but in the six years following the question fell into neglect owing to the absence of epidemics During the last four years however the recurrence of outbreaks had necessitated the establishment of hospitals and revived the interest in their influence Mr Power had shown in respect of Fulham Hospital that there was a regular graduation in the incidence of the disease around the hospital the cases being most numerous among equal populations or numbers of houses within the quarter mile radius and fewer in each successive zone of half three quarters and one mile In 1884 notwithstanding new and stricter precautions the experience of 1881 was repeated and the acute cases had since been *sent to the ships in the Long Reach and the* milder cases and convalescents to Gore Farm, Darenth In the next epidemic of 1901–02 the same course was followed so that the cases on the ships averaged 164 and reached a maximum of 275 and while the average incidence in London was 2 per 1000 (the highest that in Holborn being 7 2) it was 16 in Grays and 18 5 in the 12 parishes of the Orsett union Purfleet suffering most severely yet Dr J C Thresh Dr Buchanan and Mr R Corbet could not discover intercourse with *the ships or neglect of revaccination* of disinfection or of isolation A number of unvaccinated infants succumbed early but there was not the wholesale loss of life that at Gloucester resulted from persistent neglect The sanitary staff worked well and there was no concealment of cases Even contacts played no important part no case occurring among them in four fifths of the houses attacked Yet throughout the epidemics Purfleet Grays, and West Thurrock suffered far beyond the remainder of the district On the Kentish shore a large *number of* workmen were employed in erecting a temporary hospital on the uninhabited flats During the three months Dec 1st, 1901, to Feb 27th 1902 before any patients had been received, cases of small pox appeared among them from time to time 60 in all though of course, personal communication between these men and the members of the staff could not be excluded This however could not account for the appearance of cases on board vessels that had anchored in the *Long Reach when 12 days later they were* at Rochester Faversham or other ports In studying Dr A K Chalmer s report of small pox at Glasgow in 1890 97 the reader was struck by the disproportionate incidence on the eastern district where was the Belvidere the only hospital In whichever division the disease broke out the hospital had no sooner begun to fill than the number both absolute and relative of cases in the eastern division rose until they in three of the six years exceeded and in three closely approached *the highest in the other wards* He admitted that from the reports of the 600 cases of small pox at Manchester from 1902 to 1904 he could draw no conclusion for the population of 48 000 living within a mile of the hospital contributed no more than 25 cases and none of the men employed in laying drains around the hospital were attacked though they refused to be vaccinated Dr R J Reece s report on the epidemic at Liverpool in 1902–03 was the most important contribution *to* the question that had appeared of late With a population of 720 000 there were in the two years 1902 and 1903 not counting those brought by shipping 2278 cases in 1632 houses There were two old hospitals, Priory road and Park hill and one new one, which alone had been approved and aided by the Local Government Board at

Fazakerly outside the city boundary. For 53 weeks Priory-road was the only hospital, when that at Fazakerly was added and remained so to the end, Priory-road being closed after 77 weeks' occupation, while the Park-hill hospital opened during the height of the epidemic was used for 24 weeks only. Park-hill was opened on Jan. 12th to meet a local outbreak due to an unnotified and fatal case. The houses newly invaded within a mile of this hospital rose from two to four in each successive fortnight to from 20 to 50 and the district continued to suffer more than the rest of Liverpool until the hospital was closed. The graduated incidence shown by the percentage of houses attacked in each zone around was well marked, as it was also in those around the small hospital at Priory-road. In what did this "hospital influence" consist? He denied that the traffic of ambulances and vehicles, the visits of friends or tradespeople, or the movements of the staff sufficed, whatever influence was allowed them, to explain the graduated incidence. Save at Dewsbury and a very few places of less importance no general violation of the rules or breaches of regulations for seclusion of patients had been established and the patients, staff, and tradesmen were not drawn from the immediate neighbourhood more than from more or less distant quarters, while ambulance traffic would follow the lines of the main roads, not the smaller streets and alleys. Felling was invaded from the side of Gateshead hospital which stood in a high open position, its own hospital being two miles on the other side of the town. The negative character of the evidence from Manchester was explicable by the measures adopted by Dr. Niven to prevent the diffusion of the epidermis. Then the diffusion of dust, chemical and other, from factory chimneys and of acid sprays which carried by air-currents were seen to fall on certain areas leaving others, of pollen grains, volcanic ashes, and experimentally the spores of moulds and bacteria, all showed the reasonableness of the hypothesis which sufficed to explain nearly every instance of the spread of the disease from a hospital whether other hypotheses did so or not.—Dr. C. B. Ker admitted that Dr. Buchanan's paper was the best defence he had heard of the aerial theory and would have convinced him if he had not known that all evidence on the other side had been suppressed. The supporters of human agencies did not demand that infection should be always, if ever, conveyed by winds but they did demand some evidence of such convection when all the conditions were favourable. The sole isolation hospital in Edinburgh was badly placed and ill-arranged in every way, only 72 yards distant from the fever block with 400 patients, 325 yards from the poorhouse with 1000 inmates, nearer to a hydropathic establishment for 200 patients, while paupers worked all day close to its boundaries. The average number of patients in the small-pox hospital had been 55 for two months and 47 for three months. Within the quarter-mile circle were Craig House Asylum with 400 patients and a general population of 2000, but the only cases within a mile of the hospital were two imported and two secondary in the poorhouse, and by a curious coincidence exactly the same occurred in another poorhouse far away. The fever patients were mostly vaccinated but a large number of typhoid fever patients and of cases of erysipelas in the ward nearest to the small-pox block were not, yet not one contracted the disease. The nurses for the small-pox wards were volunteers from the fever hospital and only the most trustworthy were accepted. Once in they were never allowed to leave the building on any pretext, while Dr. Ker, the medical officer of health, the Local Government Board inspector, and the ambulance attendants were the only persons who were admitted. Here was the secret of their success. He considered the association of fever and small-pox hospitals to present many advantages; the old nurses were more to be trusted than new recruits and the proximity of the hospitals enabled him to exercise more control. Just outside the mile limit several houses were invaded but in three of the first four exposure to infection was proved. The actual epidemic was concentrated around the site of the old hospital which in previous epidemics used to be blamed as a centre for diffusion of disease in the district.—In view of the lateness of the hour and the importance of the subject further discussion of the paper was at the instance of the President adjourned to the following Friday.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on April 26th, Mr. W. B. Holderness, the President, being in the chair.—Dr. W. F. Lloyd showed a child, aged ten years, suffering from symptoms pointing to Syringomyelia.—Dr. R. H. Cole read a paper on the Clinical Aspects of General Paralysis. He based his remarks on the experience gained from the treatment of 19 consecutive cases in private patients, of which careful records had been made. He dilated on the variability of the premonitory symptoms and the difficulty of early diagnosis, also the necessity of placing most cases as speedily as possible under supervision and control. The age incidence in the cases narrated averaged 44 years, the disease affecting twice as many married as single persons. The disease lasted from a few months to a period as long as seven years, although most cases proved fatal in two and a half years. He pointed out the rarity of the disease in female private patients, [illegible] the number. The different types [illegible] described and special reference was made to the tabetic forms. The ocular signs and the cerebral seizures in the various cases were also detailed. The etiological factors were next discussed and it was stated that the element of syphilis was sufficiently proved in 65 per cent. of the cases. Some lantern slides kindly lent by Dr. F. W. Mott illustrating various points in the pathology of the disease were exhibited.—Mr. W. J. Handfield Haslett thought that the question as to the causation of general paralysis by syphilis was not so definitely settled as they would gather from Dr. Cole's remarks. It was, he said, at least strange that a disease like syphilis should at one time bring about a definite train of symptoms compatible with considerable longevity and at another a fatal disease like general paralysis. With reference to the fact alluded to by Dr. Cole, that such a large proportion of sufferers were married men, Mr. Haslett offered the explanation that the early mental symptoms of general paralysis were all of a nature directly calculated to predispose to matrimony and, in fact, he was of opinion that many general paralytics married in the early stage of the disease. And, finally, since it was in the early stage of general paralysis that so much social misery and unhappiness were brought about, Mr. Haslett asked Dr. Cole whether he would give an account of what he considered the earliest signs of the disease. He himself was inclined to attach great importance to the eye symptoms, particularly to the loss of the ciliary reflex.—Dr. Cole having briefly replied the proceedings terminated with a vote of thanks to Dr. Cole for his interesting contribution.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—An ordinary meeting of this society was held on May 1st, Dr. Thomas Barr, the President, being in the chair. A discussion upon Vertigo was opened by Sir Victor Horsley and Dr. J. S. Risien Russell. Sir Victor Horsley confined himself to cases of vertigo arising from destructive ear disease or new growth and discussed minutely the symptoms which enabled the lesion to be localised. In disease of the semicircular canals he compared the sudden onset to that of an epileptic fit or an attack of trigeminal neuralgia and pointed out that this was due to a summation of stimuli. When the lesion was in the neighbourhood of the medulla it was almost impossible to distinguish the site of the growth. As regarded symptoms, they had to consider both *rotation* and *titubation*, the latter occurring when the lesion was anywhere between the medulla and the cerebral cortex. The results of observations occurring when rabbit shooting were valuable in localising lesions of the pons and crus. The experiments of Mills of Philadelphia showed that the centre for orientation was situated in the temporal lobe of the cerebrum and patients with growths in this region showed titubation cured by removal of the neoplasm. Sir Victor Horsley's address was illustrated by lantern views.—Dr. Risien Russell discussed vertigo as a symptom in affections of the ear, in organic intracranial disease, in disseminated sclerosis and tabes, in epilepsy, neurasthenia, and hysteria. He pointed out the difficulties in diagnosis, the most trustworthy data upon which a correct diagnosis could be established, and the influence of diagnosis on prognosis and treatment.—Dr. J. Dundas Grant, Dr. H. Tilley, Dr. Urban Pritchard, Mr. R. Lake, Mr. E. B. Waggett, Mr. Hunter F. Tod, Mr. G. W. Hill, Mr. Hugh E. Jones, and the President took part in the discussion which followed.

MEDICAL DEFENCE UNION.—The annual general meeting of the Medical Defence Union, Limited, will be held at the Medical Society's rooms, 11, Chandos-street, W., on Thursday, May 25th, at 5 P.M., to receive the annual report for 1904, and to discharge other business.

Reviews and Notices of Books.

Health at School, considered in the Mental, Moral, and Physical Aspects. By CLEMENT DUKES, M.D., B.S. Lond., F.R.C.P. Lond., Physician to Rugby School, &c. Fourth edition, revised, enlarged, and illustrated. London: Rivingtons. 1905. Pp. 606. Price 10*s.* 6*d.* net.

THOSE who are already acquainted with previous editions of Dr. Dukes's book, the last of which appeared in 1894, will welcome the publication of a new edition. For the sake of those who are not so acquainted with it we may point out that it is not a mere dry treatise upon drains and ventilation, upon infection and isolation, upon wearing flannel next the skin, and eating porridge for breakfast. All of these matters are indeed contained within this volume but there is much more besides. Dr. Dukes considers from the point of view of health practically every side of a boy's life at school—*votum, timor, ira, voluptas, gaudia, discursus*—and is thus enabled to produce a book which affords most interesting reading to all who are concerned in the happiness and the well-being of boys and girls. Even such a matter as the value of compulsory Greek comes within the writer's purview. And here we cannot help recalling a "tag" of equally compulsory Latin, containing the advice *ne sutor ultra crepidam;* for on a purely educational subject such as this Dr. Dukes speaks with no more authority than any other intelligent observer, and a tendency to stray into such by-paths rather detracts from, than adds to, the authority with which he deals with matters upon which his words have real weight. However, with the gist of his opinions even on this thorny subject we can heartily concur, amounting as they do to the doctrine that mentally as well as physically boys and girls vary and that what is mental food for one may be indigestible when supplied to another. We hope that educational authorities may in the future hit upon a plan which will enable masters first to ascertain their pupils' bent and then to arrange their studies accordingly. After the acquirement of the three R's we would not have either compulsory classics or compulsory science for all alike, though there is a certain modicum of general information which must be possessed by all who aspire to escape the charge of illiteracy.

With regard to the choice of a school Dr. Dukes points out that probably the healthy boy coming of a sturdy stock will flourish in any locality, given conditions of ordinary sanitation, but that the delicate boy must have his school carefully chosen for him on the grounds of health as well as of social and educational advantages. He also rightly remarks that many schools at the present day charge first-class fares for third-class accommodation, especially as regards the sleeping and living rooms for the boys. This is a matter into which parents must inquire and insist upon getting proper value for their money. But we fear that at present they have very inadequate notions as to what constitutes proper conditions for school life. We hope that Dr. Dukes's book will be so widely read as to spread abroad more enlightened ideas. Indeed, it is not only at school that the best sanitary conditions are to be provided for growing boys and girls but also at home. The holidays should be, it is true, periods of rest and home influence but they should not be devoted to indulgence in such unhealthy amusements and pursuits that the children go back to school in anything but a satisfactory state of health. Studies, too, must be regulated with due attention to the physical condition of pupils. It is well to remember that the period of most rapid growth does not coincide in boys and girls, being greatest in boys about the sixteenth year and in girls at an earlier age—namely, from 12 to 14. Dr. Dukes quotes some interesting tables showing these variations.

With regard to the arrangements for sleeping accommodation at school, Dr. Dukes is much in favour of large dormitories as opposed to cubicles or separate rooms. We cannot help thinking that it is impossible to lay down any general rule in the matter which shall be applicable to all schools. Much must depend upon the age of the boys concerned and especially upon the relative admixture of different ages. The same criticism may also be applied to the advice that the boys should have little or no leisure time entirely to themselves but should be expected to join in organised games whenever they are out of school. Surely it is better for elder boys to have opportunities of gradually accustoming themselves to find occupation for their leisure moments while they are at school than that they should after a time of exaggerated tutelage suddenly find themselves at a university or in business where no supervision is exercised over their spare time. Dr. Dukes's advice is no doubt excellent for schools containing small boys and probably for the junior classes at a public school. We seem, however, to have a recollection of a certain public school at which some such supervision as he suggests was carried out during every minute of the boys' time and we do not think that the results achieved were in any respect better than those of other institutions which pursued what we have always regarded as the more English plan. It is well for boys to feel that they are trusted; they will then grow up trustworthy.

The last point upon which we will quote Dr. Dukes's wise advice is that of punishment at school. He rightly urges that expulsion should be reserved as a last resort in the case of boys who prove themselves incorrigible by other methods; a boy who loses his character at school should have the opportunity of redeeming it there. On the other hand, corporal punishment of suitable kind in suitable cases is needful and salutary. But the method adopted must be suitable. It is becoming recognised that "boxing" the ears is cruel and dangerous and Dr. Dukes insists on the further danger of shaking. Against the birch there is nothing to be said if applied with discretion and to the proper region.

In conclusion, we can only express the hope that the new edition of this book will be carefully studied by the greatest possible number of both parents and schoolmasters and that they may unite to put into practice the many excellent pieces of advice which it offers for their guidance.

Transactions of the American Ophthalmological Society. Fortieth Annual Meeting, held at Atlantic City, N.J., 1904. Vol. X., Part II. Hartford: Published by the Society.

THIS number of the Transactions contains reports of 28 papers read before the society, of which the chief are: 1. Operations upon the Eyeball in the presence of an Infected Conjunctival Sac, by Dr. O. S. Bull. It is shown in this communication that a conjunctival sac free from noxious bacteria of all kinds does not exist. Quoting from Rymowicz, who examined 100 healthy eyes, it appears that in 94 cases the bacillus pseudo-diphtheriticus was present; in nine the pneumococcus, in five a streptococcus, in six the Morax-Axenfeld bacillus, in six the staphylococcus aureus, and in eight cases the staphylococcus albus. Dr. Bull strongly urges the importance of thoroughly freeing the conjunctival sac as well as the margins of the lids from the various germs always present by careful irrigation with some indifferent fluid, such as normal saline solution, and to avoid operating as far as possible until the sac and the lids are clean. He is of opinion that if there be suppurative disease of any part of the lacrymal passages all operations on the eyeball are positively contra-indicated. The lacrymal sac must be excised by the galvano-cautery and the lacrymal puncta obliterated. 2. Dr. G. E. de Schweinitz contributes two papers, one on Certain Non-traumatic Perforations of the Macula Lutea, and a second on Conjunctivitis Nodosa. Each article is accompanied by a coloured plate and the latter one by two plates in addition, representing the pathological conditions present. Dr. W. C. Posey describes cases of Tuberculous Growths on the Iris and in the Choroid and gives drawings showing the pathological appearances under the microscope, and Dr. Thomas R. Pooley also gives a case of Conglomerate Tubercule of the Choroid. Dr. W. A. Holden describes a case of Mind Blindness, unique in that the entire mesial surface of both occipital lobes and both optic radiations were preserved. Dr. A. Duane gives the results of his experience on Prism Exercises. Besides the above the Transactions of the fortieth meeting contain several interesting papers, as those of Dr. George Gould on Dextrocularity and Sinistrocularity; of Dr. Lucien Howe on the Muscle of Horner and on the Act of Winking and its Photographic Measurements; and of Dr. Robert Sattler on Sympathetic Neuro-retinitis and on Angelucci's Modification of Cataract Operation. There are also several accounts of particular cases, such as that of Dr. F. H. Verhoeff on a rare tumour arising from the pars ciliaris retinæ, which he terms a terato-neuroma; of Dr. Clarence Veasey on a case of Bitemporal Hemianopsia; and of Dr. C. W. Cutler on Symmetrical Enlargement of Parotid and Lacrymal Glands. There is a report of the committee on Standard Test-types which is of value, and Dr. William and Dr. Archibald G. Thomson record improvements in the refractometer which they have devised.

Le Béri-béri: Définition, Etymologie, Historique, Bactériologie, Symptomatologie, Pathogénie, Pathologie Expérimentale, Traitement. Par le Dr. H. VIVIAN DANGERFIELD. Paris: A. Maloine. Pp. ccxlii.-211. Price 12 francs.

THIS comprehensive work on beri-beri has been written with the purpose of dispelling the various confusing ideas on the subject which are at present extant. The several opinions as to the nature of the disease have been grouped and classified in order of seniority, the theories of the pathogeny have been reduced to order, and an attempt has been made to elucidate the two capital points of the malady—viz., its genesis and its essential nature. The results of the personal researches extending over seven years without interruption are detailed and an attempt is made to assign it to its true place amongst the various tropical diseases.

Beri-beri is depicted by the author as a tropical, infectious, contagious, and epidemic disease, characterised occasionally by the presence in the blood of pathogenic germs belonging to the family of cocci—viz., the micrococcus of beri-beri. Clinically the malady appears under three forms, the œdematous, the paralytic or dry, and the mixed. The first two are not distinct maladies but are merely stages of the same morbid process, whilst the mixed form demonstrates this fact. The post-mortem appearances likewise testify to this fact. The author maintains that the view commonly held as to the endemic character of the disease is not correct; its characteristic is really epidemic. The views of various authors concerning its essentials are next narrated, from those of Corre down to the most recent opinions of Hamilton, Wright, and Durham. A good *résumé* of the history of the disease from the seventeenth century to the present day follows, succeeded by an account of its geographical distribution, from which it appears that it flourishes between the 35 degrees of north and south latitude.

In describing the etiology of the affection the author considers the causes under the two heads of those in relation to the sufferers and those in relation to the malady itself. As regards the former he states that age plays no predisposing part: he has found beri-beri at all ages from the youngest to the oldest. As regards sex the evidence of certain authors points to the female being the most affected, of others to the males, but all are struck with the gravity of the disease amongst pregnant women, especially as regards the nervous and cardiac lesions and the œdema of the external genital organs—indeed, the latter may present an obstacle to delivery; one case is mentioned by the author where the orifice of the vagina was reduced to the size of a two-franc piece. There is no predisposition shown by any particular profession or class of society, although some writers state that those who follow sedentary occupations are more liable to attack. Poverty or the reverse merely acts by means of the more capable resistance to the disease offered by the well-to-do. All debilitating causes predispose to the affection. Heredity plays no part. As regards race this malady has been observed in all nations living in the inter-tropical zone. Next with reference to alimentation, many observers have been struck by the persistence of digestive disturbances in beri-beri and so have concluded that the disease had an origin of an alimentary nature: others to-day hold that the latter has a more subordinate influence and plays but a secondary rôle. Thus Manson cites an epidemic in a prison at Singapore, in which the males were decimated and the females were spared, although both had the same food and water. Temperament has no influence, nor has the soil, the air, or the water. Finally, as regards climate, very cold or very hot ones are not favourable for the appearance of the disease. In climates with cold and hot months beri-beri generally breaks out epidemically in the latter, and where there are two seasons, a dry and a rainy one, and in addition where it is hot all the year round, the disease chiefly affects the rainy season.

With regard to the etiology in relation to the malady itself the capital determining factor is infection. The causes favouring the multiplication of the germs, and thus the expansion of the disease, are the following. Heat plays an important rôle; light, electricity, and magnetism also add their influence. Cold acts most powerfully in producing profound modification of the disease which cannot exist in cold climates. A temperature of 0° C. for a few hours can destroy all vitality in the germs. For the latter to develop heat, moisture, and a feeble electrical tension are absolutely necessary, these factors being here enumerated in the order of their importance. The fact of epidemics occurring on board ships after they have left port for some time is explicable by the artificial production of a suitable environment from the fouling of the air in the cabins and the holds of the vessel and the raised temperature in the latter. It is to be noted also that a continued repetition of infection is necessary for the establishment of an epidemic of beri-beri. Another noticeable fact is the readiness to contract the disease shown by wounded men or those suffering from tropical ulcers when they are associated with patients affected with beri-beri. Lastly, the aggregation of human beings creates a medium especially favourable to an outbreak.

Dr. Dangerfield next deals with the bacteriology of the disease. A short history of the various micro-organisms which have been held to have a causative relation to the disease is first given, commencing from the work of Rogers, Ogata, Lucenda, Cornelissen, and Sugenoya. In 1898 Professor Nepveu described a strepto-bacillus. Pekelharing, d'Atchni, and Winkler next narrated the presence of cocci which when inoculated into animals reproduced the symptoms of the disease. Dr. Dangerfield in 1899 discovered certain spherical organisms which were a little larger than pus cocci. Their cultures, however, were sterile. He next introduced certain modifications in the bacteriological technique appropriate for examination in warm climates and used for his researches a modified Jensen medium. The *micrococcus beribericus* discovered by him has certain morphological characteristics which, however, vary according to its stage of evolution Five such stages are enumerated , thus there is a hemispherical, a diplococcic, a micrococcic, a zoogloeic, and finally, the stage of sporulation The cocci show one peculiarity—viz , that in the centre of the preparation they preserve their individuality, whilst at the periphery they come together with a highly coloured conglomeration forming a sort of barrier to the entrance of the colouring agent The characters of the micrococcus and the colouring agents best adapted to display it are fully described, the author preferring one of gentian violet, methyl blue, dahlia violet, kristal violet, methyl green, and alcohol Next follows a description of the characters of the culture The bacterium is essentially aerobic , its chemical and physical reactions are narrated This section on the bacteriology of the disease is very complete , the author concludes that the organism which he has described has its own special and peculiar characteristics and it is highly probable that it possesses either a specific pathogenic effect or an actively associating role

The symptomatology of the disease is next dealt with under the heads of the Period of Incubation, the Period of Invasion, and the Period of Recovery or Death During the first there are a loss of sensation and feebleness of the lower extremities, with an epigastric uneasiness and various symptoms of dyspepsia The period of invasion is characterised by digestive, nervous, muscular, trophic, circulatory, respiratory, and urinary troubles During the period of reparation the symptoms gradually abate Death may be sudden or may occur slowly If sudden it will be from embolism or syncope, if slowly from asphyxia An excellent chapter on the diagnosis of the affection is given and then the means whereby prophylaxis may have a good result are narrated The immediate methods consist in the vigorous application of the measures advocated by the Conference of Venice The more remote methods are the cleaning of the dwellings and localities which have been contaminated, burning of the bodies of those who have died from beri beri, and the undertaking of thorough sanitation in the effected localities

The remaining part of the work is occupied with the post mortem results , the prognosis, duration, and course of the affection , the statistics of its mortality , and the treatment With regard to the last it is acknowledged that at present we have no specific but the author thinks that the secret of success in this direction is likely to lie in a method of serum therapy that is as yet to be discovered An account of the experimental pathology undertaken by Dr Dangerfield and a valuable series of personal observations from 1897 to 1904 complete the volume, which is without doubt the most comprehensive work on this serious disease that has yet been published

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A *Treatise on Bright's Disease and Diabetes* By JAMES TYSON M D Professor of Medicine in the University of [illegible] Ophthalmology in the University of Pennsylvania, Ophthalmic Surgeon in the Philadelphia Hospital London Rebman, Limited 1904 Pp 381 Price 17*s* 6*d*

THE first edition of this work was published in 1881 and having been out of print for many years it has been in a large measure rewritten and much enlarged The earlier sections of the book deal with the anatomy of the kidney and with albuminuria The remarks on the source of albuminuria and the mechanism of its production are brief and incomplete, the vexed question of "physiological" albuminuria being scarcely touched upon A good account, however, is given of the various forms of casts which may be met with in the urine, together with a consideration of their nature and clinical significance A section has been added on Acute Interstitial Nephritis which is defined as "an acute inflammation of the kidney characterised by a non purulent cellular exudate associated with degeneration of the epithelium but not dependent upon it " The undoubted existence of this form of nephritis as a pathological entity has only been recognised within comparatively recent years, although the first case was described by Biermer as far back as 1860 Dr Tyson gives an interesting account of the pathology of the affection The interstitial cellular infiltration may be general throughout the kidney or focal, though even when the former prevails the disposition to focal arrangement is still marked, but no satisfactory explanation for this character has been found No distinctive symptoms have been observed in this form of nephritis but it occurs more especially in connexion with scarlet fever and diphtheria

The section on the Dietetic Treatment of Bright's Disease gives a good summary of modern ideas as to the diet to be administered to patients who are the subjects of this affection Dr Tyson's views closely correspond with those of Professor von Noorden The indications both in acute and chronic nephritis are to spare the kidney as far as possible and to prevent the accumulation of toxic substances in the blood A purely milk diet (with the addition of cream) is suited to the acute form but is not so desirable for prolonged use Attention is rightly drawn to the erroneous and ill founded notions which have arisen in some minds with regard to meat food, especially as to the difference between white and red meats , it has been demonstrated that the quantity of proteid in raw white meat is little less than in raw red meat Contrary to the opinion formerly held that no flesh food should be given in nephritis, many authorities now hold that some meat is necessary in cases of contracted kidney in order to maintain a high degree of bodily vigour Dr Tyson insists upon the fallacy of the older doctrine and advises patients with chronic nephritis merely to limit their consumption of all meats rather than of any one kind He also doubts the efficacy of recommending copious quantities of water in chronic renal disease, although this plan is generally adopted and with apparent success

Turning to the portion of the volume dealing with diabetes, we find an excellent *résumé* of the present knowledge concerning the pathology of this disease The various theories elaborated by different observers are duly considered and out of a somewhat chaotic collection of facts Dr Tyson arrives at certain conclusions which he expresses very clearly as follows —It appears possible to make three categories of all cases of glycosuria First, cases of alimentary glycosuria whereof diminished carbohydrate ingestion is the treatment Secondly cases of nervous lesion or diseases in which directly or indirectly through the nervous system the inhibitory centre in the medulla oblongata is deranged and an active hyperæmia of the liver and consequent glycosuria *result These cases* recover if the nervous lesion is curable Thirdly cases in which there is no lesion or disease of the nervous system but in which the symptoms of diabetes are very pronounced These for convenience Dr Tyson denominates ' essential diabetes ' In a certain proportion of these the pancreas is diseased , in others no change in this organ is discoverable In the present state of divided opinion as to the pathology of diabetes, the above is a good classification upon which to found clinical procedures, but further investigations are certainly desirable in order to attempt to solve a very difficult problem The directions for the treatment of diabetes are given in a clear and complete manner , the dietetic and hygienic requirements are fully discussed as is also the treatment by drugs

Taking the work as a whole, we can recommend it as being carefully and accurately written It contains numerous practical suggestions as to the treatment of Bright's disease and diabetes and also gives a good idea as to the most favourably received theories in regard to etiology and pathology.

LIBRARY TABLE.

A Nurse's Handbook of Obstetrics. By JOSEPH BROWN COOKE, M.D. Philadelphia and London: J. B. Lippincott and Co. 1904. Pp. 391. Price 9*s.* net.—This book is primarily intended for the pupils in the New York City Training School for Nurses, with which the author is associated. The work is a good example of its kind and contains just that amount of information which it is necessary for every maternity nurse to know. Some of the author's teaching we are inclined to disagree with but on the whole the book forms a very fair and trustworthy guide for an intelligent nurse. We notice that a correct description of the advantages of the binder is given and Dr. Cooke does not repeat the old fallacy that the binder has any real effect in preserving the patient's figure. The instructions given with regard to the changing of the vulvar pads are good, but we are surprised to find that the position on the back is recommended as the best for passing the catheter. In our experience the lateral position is in every way preferable and enables the catheter to be passed much more easily and readily, especially when the parts are swollen after labour. We are aware that nurses are usually taught to pass this instrument when the patient is lying on her back but a trial of the lateral position will very soon convince anyone that this is the easier and better method. The statement on p. 20 that when eclampsia originates after labour it is of a far more serious character than when it occurs either before or during labour is hardly warranted by the facts. On p. 205 the method of packing the uterus with gauze for post-partum hæmorrhage is given undue prominence. It is a procedure which is practically never necessary if the hot douche is used properly. In Chapter XIX. on the Management of the Puerperium the nurse is instructed to hold the fundus uteri through the abdominal wall for one full hour after the birth of the child, but nowhere in this chapter do we find any mention at all of the expression of the placenta and there is nothing to tell us that the author is assuming that the placenta has already been expressed. If it has not been expressed then the directions as to the arrest of hæmorrhage are misleading and if it has been then there is no necessity to hold the uterus for one whole hour after this has occurred. We are glad to see that the old-fashioned method of hardening the nipples with brandy or some similar lotion is not recommended but the very sound advice is given to soften them before labour with lanoline or some similar substance to prepare them for suckling. The illustrations are satisfactory. There is a very useful glossary and the book is one which we can recommend as suitable to nurses.

Ward, Lock, and Co.'s Illustrated Guide Books. London, 1905. Twenty-sixth edition. Pp. 336. Price 1*s.*—That a book has reached its twenty-sixth edition shows pretty well that it answers the purpose for which it was written, and the guide now before us will certainly be found very useful by those for whom it is mainly written—namely, the countryman and the foreigner. We notice one curious omission in the section entitled "The Railways of London." The metropolitan termini of the various companies are given, Cannon-street being alluded to, but there is no mention of Charing Cross, except incidentally under the heading of Charing Cross Station on the "Underground" which is described as being "close to South Eastern and Chatham terminus of same name."

Medical Philology. Gathered by L. M. GRIFFITHS, M.R.C.S. Eng. Part I., A—El. *Bristol: J. W. Arrowsmith.* 1905. Pp. 100. Price 2*s.* 6*d.*—The matter contained in this book is an enlarged edition of papers which appeared in the *Bristol Medico-Chirurgical Journal* in a department of the journal established under the editorship of the late Mr. Greig Smith. The words dealt with are mostly taken from the "Promptorium Parvulorum" and from the "Catholicon Anglicum," two fifteenth-century English-Latin word-books. Mr. Griffiths has got together a vast amount of interesting information. For instance, many readers of Anstey's delightful "New Bath Guide" must have been puzzled by the following passage in Letter XI.:—

> "See little Bob Jerom, old Chrysostom's son,
> With a chitterlin shirt, and a buckle of stone."

Chitterlings, of course, are "the inwards, or hogs' guts dressed for food which are much shrivelled or curled up, from whence the cambric ornaments worn upon the shirts of most men at this (1750) time are so called, because of their being gathered in folds or plaits" (Dyche and Pardou's Dictionary). We look forward with interest to the remaining parts of Mr. Griffiths's book.

How to Keep "Fit," or the Sailor's Guide to Health in all Parts of the World. By Fleet-Surgeon W. G. K. BARNES, M.D. R.U.I., R.N. Portsmouth: Gale and Polden. Pp. 37. Price 3*d.*—This little book has received warm commendation from Lord Charles Beresford and we quite agree with his opinion. The directions are admirable and are expressed in perfectly plain and simple language. Not only men in the Royal navy or in the army but also civilians will profit largely by reading them. We see that Fleet-Surgeon Barnes recommends (p. 28) oil of pennyroyal to keep away mosquitoes. In our experience the oil of mentha pulegium is of little use, whereas we have found the oil from the pennyroyal of the United States (hedeoma pulegioides) decidedly successful.

Obstetrics for Nurses. By JOSEPH B. DE LEE, M.D. Fully illustrated. London, Philadelphia, and New York: W. B. Saunders and Co. 1904. Pp. 460. Price 12*s.* net.—This book considers two subjects—obstetrics for nurses and obstetric nursing, and the author has combined them so that they may be mutually helpful one to the other. The work is divided into three parts; the first deals with the anatomy and physiology of the reproductive system, the second with nursing during labour and in the puerperium, and the third with the pathology of pregnancy, labour, and the puerperium. We are glad to see that the author recommends during pregnancy the application of cocoa butter or albolene to the nipples instead of the astringent washes or alcohol so commonly employed, for as he points out the nipples should not be hardened but rather kept soft and pliable. The directions for the care of premature infants are particularly good and so is the section on the various methods of artificial feeding. There are an appendix on visiting nursing in obstetric practice and a useful glossary and full index. This is a book which can be recommended to nurses.

A Text-book of Gynecology. Edited by CHARLES A. L. REED, A.M., M.D., Professor of Clinical Gynecology in the Medical Department of the University of Cincinnati. Second edition, revised. London and New York: *D. Appleton* and Co. 1904. Royal 8vo, pp. 900. Price 21*s.* net.—This work has passed through successive printings with such rapidity since its first appearance that no very extensive revision has been necessary. In the present edition, however, some changes have been made and some of the paragraphs, more especially those relating to details of treatment and technique, have been rewritten. The book retains its essential characters quite unaltered and we noticed the first edition at length in the issue of THE LANCET of Nov. 2nd, 1901. There is no change in the number of pages and the list of the contributors remains the same. It is a pity that in producing a so-called second *edition* the editor did not seize the opportunity to carry out a more complete revision. The treatment advocated on page *424* for the removal of polypi from the interior of the uterus by the employment of the old-fashioned wire écraseur would then no doubt have been amended. We cannot imagine any modern surgeon employing such a useless and antiquated method of dealing with these tumours. Further down the page we are told that in the case of large polypi the cervix should be incised and then dilated with the finger or a steel dilator—a very certain way of tearing the tissues with no corresponding advantages. Surely it is time the old fallacy that hæmorrhage takes place from the pedicle of these tumours after their removal, which cannot be quite controlled either by a gauze plug or a hot douche, should no longer find any place in a so-called modern text-book. A number of minor errors, mainly in the spelling of names and in the references, still remain and detract from the value of the work. The volume is, on the whole, one which presents many features of interest and a good deal of originality in its arrangement, but like all works by a number of authors there are a certain amount of overlapping and a great difference in the merits of the various sections.

The Principles and Practice of Asepsis. By A. S. VALLACK, M.B. and Ch.M. Syd., Surgeon to the Berrima District Hospital, New South Wales. London: Baillière, Tindall, and Cox. 1905. Pp. 95. Price 2s. 6d. net.—The aim of the author of this small [illegible] and efficient system [illegible] points which are so[illegible] The first is the importance of conserving tissue resistance; the second is the advisability of avoiding contamination of the hands with microbes of high virulence; and the third is the extreme *difficulty of sterilising organic substances such as* catgut. There is an introduction by Dr. W. J. Smyly in which he states his opinion that "this work is a useful addition to the literature of this most important subject." Dr. Smyly writes that he thinks that "*the most important facts clearly* brought out in this work appear to me to be that it is impossible by any known method to render hands which have been already contaminated with septic matter pure; and that therefore it is *necessary to cover them* with sterilised rubber [illegible] by following the rules laid down he will be able to bring his own operation cases to a successful issue. The author regards rubber gloves as the greatest advance in asepsis since the practice of boiling instruments was introduced. At p. 29 it is stated that a solution of perchloride of mercury in glycerine is inert, yet it is, we believe, used largely as a lubricant. At p. 74 there is a very evident error in the wording of the axiom dealing with the great principle of the treatment of wounds. The axiom as printed is controverted by the corollary. This printer's error should not have escaped the reader of the proof. It sounds almost paradoxical to state that in dressing a septic wound aseptic precautions should be observed, yet this is most necessary, lest a fresh variety of microbe may increase the virulence of the infection. The little book will repay those who read it.

The Sanitary Inspector's Handbook. By ALBERT TAYLOR, Member of the Royal Sanitary Institute. Fourth edition, with illustrations. London: H. K. Lewis. Pp. 455. Price 6s. net.—This work has been thoroughly revised, illustrations added, and the text and index amplified, but the arrangement of the subjects remains as in the last edition. To the alphabetical synopsis of the law [illegible] able to England and Wales and t[illegible] in the second edition the provisions of the Public Health (Scotland) Act, 1897, have been added in a separate column. The by-laws of the London County Council relating to the construction of drains, water-closets, soil-pipes, and to the depositing of the drain plans have also been inserted. Sanitary inspectors and those seeking to qualify for such appointments will find the book a useful guide upon all questions concerned in their official work. The book supplies practical information and it may safely be consulted by those who take an interest in sanitary subjects. We note a few printer's errors but the general get-up of the book—the print, the paper, and the illustrations—is good.

Essays in Puritanism. By ANDREW MACPHAIL. London: T. Fisher Unwin. 1905. Pp. 257. Price 6s.—The essays which make up this book were first read before a company of artists who "had the traditional antipathy of their class towards the spirit of Puritanism." Those who read them are asked to keep this local circumstance in view. The essays are five in number; they treat of the lives and doings of Jonathan Edwards, John Winthrop, Margaret Fuller, Walter Whitman, and John Wesley. The essays are written in an interesting way and contain much that is edifying and instructive; occasionally, though rarely, passages are amusing.

In Loco Parentis: Chapters on Institution Life and Work. By the Rev. MARSHALL GEORGE VINE, B.A., Warden and Resident Chaplain of the Philanthropic Society's Farm School, Redhill, Surrey. With a Preface by JAMES GRANVILLE LEGGE, His Majesty's Chief Inspector of Home [illegible] hools. London: John Murray. 1905. Pp. 83. [illegible] 6d. net.—This book can be commended to the [illegible] all engaged in the bringing up of children. It is one which will charm and cheer parents and guardians and at the same time strengthen the resolve of all those who are doing their best to bring up boys to be good men and good citizens of the empire. The idea of writing these chapters was derived from reading Mr. A. C. Benson's lately published book "The Schoolmaster." It occurred to the author that he might be able to encourage and to strengthen the hands of some of his fellow workers in institution schools if he were to offer some remarks derived from his considerable experience of such work. Although the book deals specially with the boys received into the institutional schools, yet we know of no class of boys or of instructors to which the sound sense contained [illegible] lume does not apply. As the author truly says, "[illegible] to all influence over children is to gain their [illegible] and love, if these be won the moulding of character becomes an easier task." Mr. Vine pleads for a preliminary diagnosis of character, for a consideration of the best place in which to put each boy, and for the thinking out and the adoption from the very first of a deliberate line of training to suit each boy. He also pleads for the special training of masters in the sacredness of their trust, in the study of discipline and how to enforce it, in the importance of conscientiousness in the discharge of duty, and in the domestic aspect and unity of the school household. The words "credo, spero, amo," express the principles which should animate institution work and school life, the chapters of this book inculcate the concrete application of them.

ST. MARY'S HOSPITAL.—At a special meeting of the supporters of this hospital held on May 9th under the presidency of Mr. H. A. Harben, chairman of the board of management, the Mayor of Paddington proposed a motion, which was unanimously adopted, to the effect "That this special meeting of governors and subscribers to St. Mary's Hospital is of opinion that it is of the highest importance to the welfare of the hospital that the £60,000 required (1) for the completion of the [illegible]k of enlargement and improvement which has now [illegible]n in progress for upwards of 12 years, and (2) for releasing the general maintenance fund from debt, be obtained without trenching on the small invested capital of the hospital which represents the accumulated savings of half a century, and that the annual income be increased to meet the enlarged expenditure entailed by the increased size of the hospital."

THE LANCET.

LONDON: SATURDAY, MAY 13, 1905.

International Amenities.

THE visit which is now being paid by British physicians and surgeons to Paris and to some of the French watering-places is an event calculated to afford much more than a merely temporary gratification. It is a step, and an important one, towards strengthening the ties of international friendship between free peoples who are in many respects complementary to each other and who have only been kept apart by artificial influences. The cordial alliance that subsisted between HENRI IV. and ELIZABETH, like that which subsists between the French Republic and ourselves to-day, should be regarded as a true expression of our proper relations with our nearest neighbours; and the traditional enmity between France and the England of GEORGE III. was a mere accident due to the opposition of a land of liberty to the ambition of NAPOLEON. The two countries have long ago returned to a more correct sense of their respective duties and obligations and to a conviction of the services which their union is certain to render to the causes of enlightenment and civilisation, and this conviction has been strengthened and confirmed by the consummate tact of our own gracious sovereign, as well as by the political sagacity of M. DELCASSÉ and of Lord LANSDOWNE. Nothing can be more suitable than that the members of the learned professions should follow the examples which have been set them by the rulers of the two countries and should seek, in the attainment of better knowledge of one another, a sure foundation for mutual respect and goodwill. It is to the Frenchman who does not know England or the English, and to the Englishman who does not know France or the French, that the enemies of both nations address themselves. We fear it is less common to-day than it was a generation or two ago for our medical students to regard a sojourn of some duration in Paris as a step essential to the completeness of their education; and the change is no doubt partly due to the greatly increased facilities for travelling which render it so easy "to run over" for a week. In former times, when a journey was a more serious undertaking than it is at present, those who went at all went to remain for a considerable period and, naturally, sought all available opportunities of studying under the great masters of medicine and of surgery and of making friendships of an enduring character. Of the consequences of those friendships some of us now in the decline of life have been privileged to speak and have met the greatest Frenchmen of their day at the houses of English entertainers. The visit of M. RICORD to London, soon after the termination of the Franco-German war, was an event which will live in many memories and which afforded to many of us an opportunity of hearing his own recollections of English worthies who had been the contemporaries of our grandparents.

In matters of science it is not the least of the many uses of friendship between nations that it facilitates new applications of discoveries in circumstances different from those in which they originated; and that it thus tends directly to increase their fruitfulness. It might be thought that philosophy would rise superior to national antipathies but such a view is not confirmed by experience. PASTEUR, in 1868, received from the University of Bonn an honorary diploma as Doctor of Medicine, in recognition of the fact that "par ses expériences très pénétrantes il avait le plus contribué à la connaissance de l'histoire de la génération des petits organismes et avait fait heureusement avancer la science des fermentations;" but in 1871 he declared the sight of the parchment to be odious to him and returned it to the Dean of the University, with the explanation, "Je me sens offensé de voir mon nom, avec la qualification de *Virum Clarissimum* dont vous le décorez, se trouver placé sous les auspices d'un nom voué désormais à l'exécration de ma patrie, celui de *Rex Gulielmus*." It would hardly have been possible in such circumstances as these for any German savant to have made the applications of PASTEUR'S discoveries which were made soon afterwards by Lord LISTER or to have obtained for them prompt and grateful recognition in his country, and the impediments to the progress of science arising from national antipathies have more than once been strongly displayed. At a great International Medical Congress held in Philadelphia in 1876 it was remarked by many of those present with what remarkable frequency representatives of the southern States were found to take views opposed to those which were put forward by representatives of the north, although the questions at issue were always purely scientific and although eleven years had elapsed since the termination of the Civil War.

The ordinary Englishman on a holiday, be he a physician, surgeon, or member of some other calling, is, as a rule, chiefly desirous to leave his profession behind him, and hence, even if he be in France, is little likely to become conversant with the improvements to which at first sight he might have been expected to attend. The physician or surgeon will be more likely to visit theatres than hospitals or museums and will be more likely to be brought into contact with the members of any other profession than with those of his own. It is therefore an especially valuable characteristic of the visit now in progress that it is definitely medical in its nature and objects and is devised as a means of enabling the profession in Paris to exhibit to their British *confrères* all that is most worthy of their professional notice. The time will be too short, the days will be too crowded, for much to be learnt even by visitors of the most inquiring minds and of the most retentive memories, but everyone will see something fresh and everyone will accomplish some sort of natural selection among the novelties that chiefly appeal to him. Above all, and in contradistinction to some of the instances already mentioned, the visitors will bring with them friendly eyes and a disposition to see the best and most useful aspects of all that is submitted to them. It would be an excellent thing if the organisation by which the present visit and the recent visit to London o

French physicians and surgeons have been planned and rendered effective could remain in existence as a more or less permanent institution, so arranged as to afford to practitioners on either side of the Channel information concerning whatever might be best worth seeing on the other, and with facilities for affording introductions which might help visitors on their way. Every step taken in this direction would be contributory to the intellectual fusion of the two nations and to the utilisation in each country of the somewhat differing powers and capacities of the other. We should like to see the revival of the old custom to which we have referred and the frequent sojourn in France of English medical students as an important part of their preparation for the serious work of their calling, more especially because such a procedure would convince both Frenchmen and Englishmen that a competent mastery of the tongue of the other country is a matter not wholly beyond the reach of ordinary care and diligence, and that it is one calculated to bring with it a rich reward. The suggestion brings to mind an old epigram which, if not strictly medical, may at least be said to have a medical aspect:—

"The French have taste in all they do,
[illegible]

Accidents Connected with Motor-Cars.

AN answer recently given to a Member of Parliament by the Home Secretary shows that during last year the police reported 21,771 accidents as having been caused by horse-drawn vehicles and 2079 as due to motor-cars. These large figures, from which accidents connected with tramcars have been omitted, no doubt include many very trifling cases of collision to which the attention of the nearest policeman has been called and which have accordingly found their way into his note-book, but the proportion of those due to motor-cars is considerable. Still more is it noticeable when we turn to the number of fatal accidents, of which 120 were due to horse drawn vehicles and 19 to motor-cars, including motor bicycles. If, moreover, the prominence given to motor accidents recently in the newspapers and their apparent increase in the streets of London afford any guide, we may hazard the opinion that for the current year the number of accidents and fatalities will be greater still. The matter is one of considerable interest to the public and particularly to the medical profession who can appreciate the nature of the injuries likely to be caused by motor-cars of any kind as compared with those inflicted by horsed vehicles of the lighter classes. Medical men also are not only users of motor-cars but of all members of the community have most frequently a good reason for wishing to be driven rapidly, while desiring to be so conveyed with the least possible danger to their neighbours. There are with motor-cars many dangers not connected with the desire for extreme speed, referred to in a recent annotation in THE LANCET under the heading "Motor Maniacs,"[1] but which may arise when the car is travelling well within the 20 miles per hour allowed by statute. These dangers may even in some measure be due to the ease with which the mechanical vehicle can be directed and handled and to the undue sense of confidence which it thus inspires.

Without analysing too minutely the psychology of the chauffeur and of the coachman we may suggest that the latter has more to compel him to caution than the former in the vulnerability or possible nervousness of his horse, and that when, for example, he approaches a blind corner he thinks as much of what may run into him as of what he will have to avoid running into. The instinct of the chauffeur crossing a main thoroughfare seems to urge him to use his speed in order to dart across it rather than to give way to the traffic occupying it. A chauffeur was recently fined £10 at the Marylebone police-court for acting in this manner, thereby endangering the safety of a hansom cab and its occupants. If, on the other hand, the driver of a motor-car desires to turn into the road which he has approached and to proceed along it—in other words, to go round a corner—he forgets that the ease (and safety to himself) with which he can do so may be a source of danger to foot passengers not aware of his intention. The coachman who advances towards a corner at a fast trot has to pull his horses together and to take them round it at a greatly reduced pace, and apart from such signal as he may give with his whip it is not difficult for those near to see what he is about to do. The motor-car, on the other hand, can spin round the angle without lessening what may seem to its driver a moderate speed but at a rate extremely startling and perhaps dangerous to the unwarned pedestrian who may have left the pavement The hired motor-car driver, in short, has not got to consider his own safety and has not learnt to think of the safety of others, his apprenticeship, if he undergoes any, does not imbue him with the traditional courtesy of the road and he seems to be slow in acquiring it. A recent accident, reported in the newspapers owing to the resulting inquest, although death was not entirely due to the injuries inflicted, happened thus. A motor-car driver closely following an omnibus simultaneously quickened his speed and turned outwards in order to pass it, knocking down a foot-passenger who had safely crossed in front of the omnibus. There was another vehicle on the off-side of the motorist, so that he could not avoid the man, and as there was no time to pull up he ran into him. Three points may be referred to here as probably contributing to the accident, all of which directly affect the automobile. The driver, as a rule, is seated much lower than is the coachman and often assumes an attitude which suggests the easy chair rather than the alertness appropriate to the box-seat; consequently he is more likely to have his view of the road ahead of him shut out. The coachman driving behind another vehicle has his horse between him and it, and consequently can see farther to the right or to the left than the motorist, who can, and often does, follow so closely that the end of his car almost touches the obstruction in front of him. Here, again, is a cause which prevents him from seeing what is beyond until he has actually turned outwards in order to pass. When he desires to pass, moreover, the motor car driver can increase his speed with a rapidity impossible in the case of the horse, so that he is liable to dash upon whatever lies in his way with a suddenness unknown to the driver of horses. The essential point to remember where speed is concerned is that there may be plenty of time for the driver or for the person endangered to do what is required, but there may not be time for either of them to make up his mind on the subject. When we consider that a car travelling at the rate of 20 miles an hour traverses a fraction less than ten yards in a second we can easily understand the apparent helplessness of persons injured who, according to some of the opinions expressed after an accident, might have got out of the way.

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[1] THE LANCET, April 22nd, p. 1083.

The dangers occasioned by the tendency of the motor vehicle with indiarubber tyres to skid upon greasy roads appear to be regarded frequently by those driving as more or less inevitable accidents but are, as a rule, due to want of foresight and to the consequent sudden necessity of rapidly checking the speed. It is obvious that if a motor-car having only space in which to travel straight forward suddenly spins round and commences to proceed broadside on much damage may be done to vehicles, horses, and persons in its vicinity. If these occurrences are to be regarded as inevitable in muddy weather motorists will some day have the proposition submitted to them that vehicles which at certain times are inevitably dangerous must at those times be kept at home. An accident of this class was reported recently in the newspapers in which the vehicle which skidded was one of the large motor omnibuses of which a few are plying for hire and the vehicle with which it collided was a hansom cab. In another instance an electric motor-car is stated to have injured seriously the horses, van, and driver of a furniture remover. In considering the question of motor-car accidents the serious nature of the damage to person and property which such heavy vehicles must necessarily cause has to be considered, and in view of the threatened increase in the number of these vehicles many will feel doubts whether a mistake has not been made in placing the limits of weight permitted to a "light locomotive" so high. We have referred to omnibuses, some of which are of a size hitherto associated with tramcars rather than with ordinary road vehicles. A few of these are to be seen here and there threading their way through the more slowly moving horse traffic without much apparent difficulty. It will be a very different matter when a large proportion of the vehicles of the great omnibus companies and of rival organisations are of this type and are competing with one another for passengers. This and the probable increase of motor traffic of all kinds will render our streets extremely dangerous unless care is enforced upon drivers far more strictly than it has been up to the present and by different means.

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Identification by Finger Prints.

THE question of the value of the impressions of the ridges on the palmar surface of the hands, especially those on the terminal divisions of the digits, for the purposes of establishing identity has of late years come prominently to the front, and events at a recent trial for murder have brought the whole matter into particular prominence just now. It has long been known that the patterns formed by the palmar ridges show a considerable variety both in their general arrangement and in detail, and when a clear impression of these is placed on paper or other suitable smooth surface and compared with another clear impression, taken previously or subsequently, of the same digit it is not usually a matter of much difficulty to recognise the similarity and minute correspondence that exist between them. Again, if clear impressions have been taken of different fingers their diversity is readily apparent on comparison, especially if the patterns be not very closely allied, but in other instances it may be necessary with the aid of a magnifying glass to study more or less carefully and in detail the various parts of the print before being able to determine their dissimilarity. The task of determining the identity or non-identity of a set of finger prints is rendered more easy by the fact that if the patterns of any two corresponding digits be not very apparent there are nine other pairs which are available for comparison, the agreement or disagreement of each successive pair of which confirms the identity or non-identity of the prints compared in an ever increasing ratio till the certainty of the result may be absolutely relied upon. On the average each digit gives about 35 points of comparison, so that the mass of evidence afforded by the ten digits is very great, and the factor of personal error is reduced to a minimum, as the digit itself is made to record on the paper the data which it contains. In classifying records of finger prints their small size necessitates in many cases the use of a magnifying glass for their examination, which is decidedly a drawback, but the expert very quickly gets accustomed to the work and is able to do it accurately and rapidly.

Prints of all the fingers of prisoners who have been convicted in this country and sentenced to imprisonment for certain crimes are taken previously to their liberation at the expiration of their sentences and are sent to the Metropolitan Police Office for record. If in a set of prints of any prisoner some are faulty they can be retaken before his discharge from prison; a good set of prints can therefore be secured for classifying at headquarters together with the particulars as to every such prisoner's conviction. In the prisons certain officers are specially selected for the purpose of taking finger impressions and with the practice which they now have they are able to produce good work. An unconvicted prisoner may, on a regular application made in writing to a magistrate being granted, be required to submit to the impressions of his fingers being taken by a prison officer with the view to ascertain whether he has been previously convicted of any offence. Here, again, the prints are taken by practised officers and sought for and compared at the Metropolitan Police Office by equally practised persons. When a set of finger impressions previously taken in a prison is found by the officers of police in the central office to agree with another such set sent from a prison, in most cases it may be safely assumed that the identification is correct, notwithstanding that the two sets of impressions have only passed through the hands of men with no knowledge of the anatomy of the fingers and with only the average education of policemen. But in the interval which has elapsed between the taking of the two sets of impressions cuts and injuries to one or more of the fingers may have occurred whereby the data for comparison may have been diminished. It is therefore, perhaps, somewhat an open question whether, in the interests of the public, in cases where previous conviction is to be proved against a prisoner, the data should not first be submitted for confirmation to some independent authority possessed of anatomical and physiological knowledge. The state of the law on the subject of proving previous convictions against a prisoner is so highly unsatisfactory and dangerous that to get the unchecked testimony as to identity derived from the impressions of several fingers as a backing to mere memory is a decided advance, but too much stress must not be laid upon the backing. Recognition by memory of the prisoner by someone present at his previous trial and conviction is the usual means employed at the present time of proving previous convictions in court. Some police officers, no doubt, have good memories for faces, but the reliance that is to be placed upon such recognition after perhaps an interval of several years is obviously most uncertain. Identification by finger prints is here very valuable but the identification should be made by properly expert persons.

Turning now to the employment in other circumstances of finger impressions for purposes of identification—namely, when a digital impression is discovered on some substance at the scene of a crime and comparison of that impression is made with the prints of the fingers of a person arrested on suspicion of being the perpetrator of the crime—a very different condition of affairs obtains. The prints of the person under arrest are made on paper from the fingers properly inked—that is to say, with the tops of the ridges covered with ink of an exact consistency and the furrows between them free from ink. But the impression of the digit found at the scene of the crime has been the result of the contact of a finger moistened by the natural excretions of the skin or in some cases it may be by blood; dust or dirt of one kind or another will be on the surface of the finger; the surface on which the impression is found will vary and may not be of a nature suitable to record a satisfactory impression—all these things, which might be multiplied, make a fair comparison between such an impression and what may be called an official impression difficult, while the pressure with which the impression may have been made introduces another complexity to the already unequal conditions. In fact, the widest possible range of variation may occur in casual finger imprints from a good clear impression of the whole, or part of it, as is sometimes found on glass or porcelain, to a blurred or imperfect print upon a poor medium out of which it is well nigh impossible to obtain any information. In such cases great skill and caution are necessary to read the imprints and the ultimate certainty on which any statement as to identity can be based is enormously reduced, particularly if an impression of one finger only, presenting a few points of similarity, is available. In such a case the importance to be attached to the absence of clear points in the accidental impression corresponding to those in a carefully taken impression, even although the general pattern of the two prints corresponds, becomes very real, and for the due consideration of the matter it seems to us that the person called upon to examine and to advise as to identity or non-identity should possess thorough and practical knowledge as well as trained mental powers of discrimination. To intrust the duty to partially skilled persons is in the highest degree dangerous from a public point of view.

Annotations.

"Ne quid nimis."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Mr. George Herring has again offered to add one-fourth to any amount collected in places of worship on Hospital Sunday, his liability not to exceed £25,000. In a letter addressed to the secretary of the Fund in which he makes this offer he adds: "I hope the calls on the charitable for building purposes will not decrease the collections for the *maintenance* of the hospitals, as I think that should be the primary object." As was pointed out at a meeting of the council of the Fund held at the Mansion House, under the presidency of the Lord Mayor, on May 9th, it rests wholly with the congregations attending the various places of worship in the metropolis whether the full amount of £25,000 can be secured. The motion that Mr. Herring's munificent offer should be accepted was received with unanimous acclamation by the council and we know that he has the gratitude of the whole of the community, the individual members of which will, we trust, this year show that gratitude in a practical manner and enable the generous giver to contribute the £25,000 which he offers towards the maintenance of the sick and suffering poor of London. It would be most regrettable if the appeals which are now being made on behalf of the building funds of various London hospitals should influence detrimentally the subscriptions to the Metropolitan Hospital Sunday Fund. That great efforts will be made this year to reach a record collection we have every reason to hope, especially as, on the suggestion of Mr. Deputy Wallace, the representative of the Corporation of London, the Lord Mayor has promised to send a letter to the various mayors of the metropolitan boroughs asking them to call attention to the Fund and personally to address letters to the clergy on the matter. Among the members of the council present at this meeting were, in addition to the Lord Mayor, Sir Sydney Waterlow, who has been chairman of the Distribution Committee for the past 34 years, the Ven. Archdeacon Sinclair, the Chief Rabbi, Sir John Bell, Mr. Felix Schuster, Mr. Wakley, Dr. J. G. Glover, Mr. Thomas Bryant, and Mr. Alfred Willett.

VINCENT'S ANGINA.

IN THE LANCET of July 16th, 1904, p. 135, we published a paper from the pen of Dr. H. W. Bruce on Vincent's Angina. This form of pseudo-diphtheria, which was first described by Vincent in 1898, is important because it is a disease which is very likely to be mistaken for diphtheria and in that case, as Dr. Bruce well said, "the dread which that disease still inspires and all the inconveniences of isolation will be inflicted unnecessarily upon the patient. Treatment will be wrongly directed and prognosis will be faulty." At p. 1260 of our present issue will be found an article upon Vincent's angina from the pen of Professor Vincent himself. Professor Vincent was anxious, seeing that we had already published one paper upon the subject, to lay his own views in his own words before his professional brethren upon a disease which is but little known. As during this week British medical men are enjoying the hospitality of their French *confrères* we have considered it a fitting opportunity for the publication of Professor Vincent's paper and we have thought it appropriate to give the paper in the language of its author rather than to translate it. Dr. Bruce's admirable paper was illustrated by an account of ten cases of the disease following a description of the clinical characters and bacteriology of the complaint. Professor Vincent, while giving no account of any particular cases, goes very fully into the symptomatology and diagnosis of the disease and mentions a point not considered by Dr. Bruce—namely, the treatment. This is simple and consists in the local application of iodine. To use Professor Vincent's words, this serves as a touchstone to differentiate between Vincent's angina and ulcerative syphilitic disease of the throat. We may hope that the publication of these two papers will draw the attention of our readers to a disease which, though not uncommon, is apparently frequently unrecognised.

UNIVERSITY COLLEGE, LONDON.

A COURSE of ten lectures will be given by Dr. W. Page May, Fellow of the College, on the Structure and Functions of the Central Nervous System, on Wednesdays, at 5 P.M. The subject of the first lecture, given on May 10th, was Methods of Investigation, Ganglion Cell and Nerve Fibre, the Nerve Arc, Degeneration, and Regeneration. The second lecture will describe the Spinal Cord, its Nuclei, its Conducting Paths, and questions of Localisation. Lectures 3 and 4 will deal with the Structure and Function of the Centres and Paths in the Brain Stem (Medulla, Pons, and Mid-brain). In Lecture 5 the Cerebellum, its Cortex, the Peduncles and their Functions will be described. The subject of Lecture 6 will be the Basal Ganglia, with Special Reference to the Optic Thalamus and Corpus Striatum. Lectures 7 and 8 will be devoted to the Centres and Paths of Vision, Taste, Hearing, and Smell. The subjects of Lectures 9 and 10 will be the Cerebral Hemispheres (Motor, Sensory, and Psychic Areas) and the Main Afferent and Efferent Paths of the Central Nervous System. These lectures are open to internal students of the University of London without fee as well as to medical practitioners on presentation of their cards.

THE STRUCTURE OF NERVES AND ITS APPLICATION TO NERVE ANASTOMOSIS.

IN the *Archives Générales de Médecine* of March 14th M. L. Bruandet and M. Humbert have published an important paper on the Structure of Nerves and its Application to the Operation of Nerve Anastomosis. They find that the fibres of a branch of a nerve do not lie adjacent to one another in the trunk but scattered among other fibres. They become grouped together only on emergence from the trunk or in the last few millimetres of their course in the trunk. This view might be confirmed by studying the degeneration in the branches of a nerve which follows hemisection of the trunk. Degeneration ought to be found in about half of the fibres of each branch. M. Bruandet and M. Humbert have not performed this delicate anatomical study but they have made the corresponding physiological experiment. They performed hemisection of the sciatic nerve of a dog and found that the same motor effects were produced when the nerve was stimulated above the point of section as when stimulated below it. Moreover, the animal was able to perform all the movements of the limb in locomotion. Cases of accidental incomplete wounds of nerves point to the same conclusion: movements are not seriously affected. Thus the nervous supply of the muscles seems to be normally in excess of what is necessary and therefore can be reduced considerably without much loss of movement. A similar phenomenon is observed in the vascular system. A large vessel may be suddenly occluded and yet a blood supply reduced by one-half, furnished by the collateral circulation, is sufficient for the tissues. A parallel may also be found in the vegetable kingdom: when half of the trunk of a tree is destroyed by accident the branches continue to live. These facts are not merely of theoretical interest but have an important bearing on the recent operation of nerve anastomosis. In cases of facial paralysis anastomosis of the facial nerve with the divided glossopharyngeal, hypoglossal, or spinal accessory nerve has been performed. But the gain in motion of the facial muscles has been accompanied by loss in the muscles supplied by the nerve used for the anastomosis. Section of the spinal accessory nerve for purposes of anastomosis is followed by paralysis of the trapezius muscle. Hemisection of the nerve is quite sufficient for innervating the facial muscles and is not followed by paralysis of the trapezius. In using nerves more important than the spinal accessory the desire to preserve their function has led to unsuccessful operations. In cases of destruction of the ulnar nerve the lower end has been anastomosed to the median but in order to preserve the function of the latter a "buttonhole" has been made in it into which the end of the ulnar nerve has been implanted. But the operation of nerve suture shows that axis cylinders should be opposed to axis cylinders. To implant the ulnar nerve in the connective tissue of the median nerve is useless. The operation which should be performed, according to M. Bruandet and M. Humbert, is to separate some of the fibres of the median nerve and to unite them to the ulnar, thus preserving the function of the former and restoring that of the latter. The most important function of the hand—prehension—will thus be restored without even the necessity of re-education of the nerve centres, for in this act all the muscles supplied by the median and the ulnar nerves take part. Possibly the action will not be as energetic as formerly but it will be sufficient for ordinary purposes.

AMERICAN QUACK NOSTRUMS.

IN view of the great number of American quack nostrums that are widely sold in this country chiefly by the aid of advertisements in magazines and newspapers it is of interest to read in the *Pharmaceutical Journal*, vol. lxxiv., p. 223, the results of the analysis of such preparations by Mr. Albert E. Leach, Government analyst of Massachusetts. Of "intemperance cures" there are many. In one case a five-dollar package consisted of two bottles of liquid, yielding respectively 41·1 and 28·2 per cent. of alcohol by volume, together with a small bottle of pills containing nux vomica and coated with a very thin layer of gold foil. In another case 12 powders in a box and sold for $1 were found to contain ammonium chloride and milk sugar but were free from gold and alkaloids which were stated to be present. Many "tonics" and "bitters" are sold in the United States for a similar purpose bearing various attractive recommendations, a few of which are here quoted: "purely vegetable, recommended for inebriates," this liquor contained no less than 41·6 per cent. of alcohol; "entirely free from alcoholic stimulant," yielded 25·6 per cent. of alcohol; "sulphur bitters, contains no alcohol," this preparation actually contained 29·5 per cent. but was free from sulphur; "a non-intoxicating stimulant; whisky without its sting," gave 28·2 per cent. of alcohol; and "liquid beef tonic, recommended for treatment of alcoholic habit," contained 26·5 per cent. of alcohol. Next to this type of fraud comes the class of diabetic flours or wheaten glutens. Of 11 samples examined starch was present in all, the lowest yield being 10 per cent., two others under 20 per cent., two between 50 and 60 per cent., and six between 60 and 70 per cent. One sample containing

59 per cent. of starch was described by the proprietor as "protein in its purest form" The price for these flours varied from 11 to 50 cents per pound Taking cigarettes next, the ——— brand of Medicated Cinnamon Cigarettes, purporting to contain no tobacco, were actually found to contain a large proportion, together with cassia and other aromatic herbs The Massachusetts Department of Agriculture takes quite a fatherly interest in the consumers of proprietary medicines, whether intended for inward or outward application The report contains a list of hair restorers, some of them well known in this country, giving the amount of lead present In the 12 articles analysed the percentage varied from 0 3 to 2 32 Nine toilet preparations were found to contain mercuric chloride or some other poisonous salt of mercury in proportions varying from 1 to 15 grains per ounce In one case a six ounce bottle contained no less than 47 grains of corrosive sublimate Some of these preparations have already found a ready market in this country and doubtless others will follow in due course The advertising managers of many of our most widely circulated newspapers and magazines will accord them a cordial reception, with the result that the public, with simple faith in what they read, will buy them as eagerly as they have done in the past It is surely time that some official control was exercised over this growing evil. Cases have been known of anxious wives denying themselves everything but the bare necessities of life in order to save the necessary shillings, and even pounds, in order to purchase an elixir which should cure their husbands of a craving for alcohol These frauds have been exposed again and again but still the Government, by insisting on the use of a revenue stamp, appears to give these nostrums an official value in the eyes of a certain section of the public In France and Germany a rigid control is exercised over the import and the sale of proprietary medicines and in some of the States of North America the departments of agriculture in an official publication name the preparations which have been analysed and found to be fraudulent Fraud takes many forms but by the law of this country it is not fraudulent to sell a worthless preparation for an exorbitant price or to claim for it healing or dietetic properties which it does not possess There is a punishment for the convicted thief and the forger but for the individual who charges an extortionate price for his worthless or almost worthless nostrum and holds out false hopes of its healing properties *we have only a Government department which* steps in and says You shall affix a 1½*d* stamp on every package of the value of 1*s* and if the value of the article is 2*s* 6*d* a 3*d* stamp must be used The subject is a difficult one to deal with but none the less it requires prompt and *drastic treatment No reform would be complete without* prohibiting the sale of nostrums proved to be worthless or dangerous

ABNORMALITIES OF THE GALL-BLADDER AND THE APPENDIX VERMIFORMIS

THE two instances of abnormality occurring in the practice of Dr W K Bouton of Melbourne and communicated to us (*vide* p 1265) by Dr Ferguson Lemon are of more than passing interest In the first case the gall bladder, although in its normal position, was so embedded in the substance of the right lobe of the liver as to simulate a hydatid cyst We infer from the description that liver substance completely ensheathed the organ, if this were so the condition is quite new to us In our issue of Dec. 3rd, 1904, p 1584, we published an annotation on abnormalities of the gall bladder but knew of no instance of the condition now described It is a matter of common knowledge that a bridge of liver tissue may be found arching across the umbilical fissure and concealing the round ligament A similar bridge occasionally conceals the vena cava inferior It is possible that a band of liver substance extending across the fossa for the gall bladder might cause the appearance noted by our correspondent In the second case the greater part of the vermiform appendix was adherent to the front of the ascending colon and near its tip had perforated into the peritoneal cavity The proximal part of the appendix lay free and it was by tracing this upwards that the nature of the perforation was discovered The consensus of opinion is that when an appendix is adherent and so extraperitoneal the adhesion is the result of inflammation at some earlier period and this appears to be a possible explanation of the condition of affairs described by Dr. Lemon In some cases it is conceivable that during the descent of the cæcum and ascending colon with its mesocolon the appendix lags behind under cover of the latter and may be permanently retained in this position when the developmental adhesion of the mesocolon to the lumbar walls takes place

VITAL STATISTICS IN EGYPT.

IN his annual report on the condition of Egypt for 1904 Lord Cromer says that the want of full and trustworthy statistics in Egypt has for a long time past been felt both in commercial and official circles With a view to remedy this serious defect M Randone, an official of the Custom House department who had shown special aptitude in the preparation of trade statistics, was therefore deputed by the Egyptian Government to visit Germany and Italy in the course of last summer in order to study the systems in force in those countries In a very interesting report which he subsequently submitted M Randone remarks "The work will be easy so long as one has to occupy oneself with commercial matters and the statistics which concern the postal and telegraph services, the railways, navigation, &c, but as soon as one approaches the more important questions of internal economy, such as the registration of births, deaths, marriages, and divorces, the causes of mortality, the professions, cattle, cultivation, and everything that concerns agriculture, that great source of the wealth of the country, one will necessarily encounter numerous difficulties which it will only be possible to remedy gradually." The attempt, however, is to be made and a sum of £E 5000 has been provided in the estimates for the current year with the object of taking some preliminary steps towards the establishment of a statistical service The introduction of vital statistics into modern Egypt dates from the time of Clot Bey who entered the service of Mahomed Ali in 1825 Writing to the Minister of Agriculture and Commerce at Paris on August 22nd, 1851, Dr Clot's successor, Dr Burguières, was able to say 'I can affirm that at present no decease of a suspicious nature can escape the watchfulness of the sanitary authorities The exact number of deaths being known day by day, not only in the towns but even in the smallest villages of Egypt, the slightest increase of mortality must awaken the vigilance of the officials who at once cause an investigation to be made" The exactitude of this statement may, perhaps, be questioned but, be this as it may, there can be no doubt that when the English took charge of Egypt in 1882 the registration of births and deaths was not only worthless from a statistical point of view but also a fruitful source of illicit gain to the universally corrupt sanitary officials. A new system of registration, the work of Franz Engel Bey, was introduced in June, 1885, when registers for births and deaths, drawn up in French and Arabic, were distributed to the larger towns in Lower Egypt In the following year the system was extended to the towns in Upper Egypt and by the commencement of 1887 every village in the country possessing 300 inhabitants and upwards was supplied In this way a beginning was made but the results were necessarily more or less imperfect owing to lack of funds for the remuneration of an efficient staff of registrars. It is to be hoped that now at last the sanitary department may be given the power to carry out efficiently the important duty which it has so long and so creditably tried to accomplish with utterly insufficient means.

PULMONARY FISTULA.

PULMONARY fistula (a communication between the lung and the surface of the body) is seldom observed though it has formed the subject of a number of monographs. At the meeting of the Société Médicale des Hôpitaux of Paris on March 9th M. C. Achard and M. Louis Ramond communicated an important paper on this subject. The causes of pulmonary fistula are various. Previous adhesion of the two layers of the pleuræ to one another being a necessary condition for their production they are rarely traumatic—due to a penetrating wound of the chest. For the same reason they always occur in the course of chronic diseases. They generally originate from an infectious focus which begins outside the lung or in the lung itself; more rarely there are two foci which are first independent and then become fused. The extra-pulmonary foci occur in the skin, in the subcutaneous tissue, in the bones of the thorax, or in the cervical glands. Most often the cause is a tuberculous lesion of the soft parts or of the bones; sometimes it is actinomycosis or cancer of the breast. Pulmonary foci are much the more frequent. They almost always are due to chronic tuberculosis. Rarely they are due to abscess, actinomycosis, gangrene of the lung, bronchiectasis, or empyema. The pulmonary focus ruptures both into a bronchus and into the skin. The following case was related. A man, aged 49 years, was admitted into hospital on August 26th, 1904. In 1870 he was wounded in the battle of Gravelotte by a bullet which passed through his chest. The wounds were a long time in healing and he was in hospital for two years. In the spring of 1900 he had hæmoptysis and again in the summer of 1902. Since the first of these periods he suffered from cough. On examination large cicatrices were seen on his chest. That of the orifice of entry of the bullet was situated four fingers' breadth below, and a little outside, the left nipple, below the sixth rib. That of the orifice of exit was a little below, and outside, the inferior angle of the left scapula. At the left apex in front there were dulness and subcrepitant râles; behind there were dulness in the whole extent of the lung and cavernous breathing and gurgling in the lower two-thirds. On the right side the apex was dull in front and subcrepitant râles were heard over the scapula. There was abundant purulent expectoration. The evening temperature was 101° F. Some days after admission the patient complained of acute pain in the left shoulder. On August 31st a reddish fluctuating swelling was found in the position of the dorsal cicatrix. On Sept. 1st it broke spontaneously and a thick yellowish liquid resembling tuberculous pus flowed out. On the following days the discharge increased and at the same time the expectoration diminished. In the discharge white blood corpuscles and tubercle bacilli were found. The opening enlarged and became crateriform and its borders ulcerated. When the patient coughed air escaped and projected drops of pus. This "fistulous cough" was accompanied by a sound resembling that of the discharge of gas from the anus. On auscultation a loud souffle was heard at the left base with a timbre more tubular than amphoric, no doubt due to induration of the lung around the bronchi and cavities by which air passed into the fistula. The patient left hospital on his own initiative on Oct. 10th. He returned on the 24th much emaciated. The fistula continued to discharge pus on coughing or on deep inspiration. On Dec. 13th hæmorrhage suddenly occurred from the mouth, the nose, and the fistula and death took place in a few minutes. The necropsy showed on the left side of the chest a thick whitish deposit which extended from the clavicle to the diaphragm and covered the lung and pericardium. It was firmly adherent to the organs and had to be dissected from the internal surface of the ribs in order to remove the lung. The deposit formed a dense fibrous coat one and a half centimetres thick over the lung and sent fibrous bands into the latter. The larger bronchi were dilated. Only islets of lung tissue were recognisable. At the apex were irregular cavities which communicated with one another and with a huge cavity in the thickened pleura. At the lower part of the latter cavity was the internal orifice of the fistula. Below it was a thick fibrous mass which extended to the diaphragm. The fistulous track was very irregular and complicated. All the cavities, pleural and pulmonary, and the fistula were filled with blood clot. The right lung showed ordinary tuberculous lesions. M. Achard and M. Ramond think that the wound of the lung, which took such a long time to heal, gave rise to sclerosis and pleural adhesions, impairing the mobility of the left lung and rendering its vulnerability to tuberculosis much greater than that of the right lung. Just as an abscess travels along fibrous aponeuroses, so, they think, the tuberculosis extended along the cicatricial bands, which, so to speak, conducted it to the skin. Hence also is explained the exception in this case to the rule that pulmonary fistulæ secondary to tuberculosis are situated at the apex of the lung.

THE ILKLEY CORONATION COTTAGE HOSPITAL

ILKLEY is a small town with a population of some 6000 in the West Riding of Yorkshire and it decided to erect a cottage hospital as a memorial of the coronation of their Majesties the King and Queen. The medical profession of the neighbourhood warmly supported the scheme, a sum of £2500 was subscribed, a building to accommodate nine patients and the necessary nursing staff was planned and erected, and on April 15th the hospital was formally opened by Professor John Chiene of the University of Edinburgh. The proceedings commenced with a luncheon given by Dr. T. Johnstone. At the opening ceremony itself Mr. B. Nussey, the chairman of the hospital committee, in his speech requesting Professor Chiene to declare the building open, referred to all those who had helped them. In mentioning the Ilkley District Nursing Association, the work of which would now be carried on in connexion with the new hospital, Mr. Nussey said that he must specially commemorate the late Miss Maude who had taken such interest in district nursing and who had bequeathed £500 to the association. He concluded by welcoming Professor Chiene and presented him with a key in memory of the occasion. Professor Chiene in the course of his address drew attention to the fact that cottage hospitals practically began to be built in 1864, a date which coincided with the great movement in surgery which is for ever connected with the name of Lister. He was glad to see that the hospital was to be open for all practitioners in Ilkley to come and to attend their patients. He went on to advise that in cases of accident there should be one medical man appointed to attend to all such for a certain period and that medical man should have an understudy. At the end of the period the chief should become the understudy and the understudy the chief, so would they all learn the value of service. Professor Chiene concluded by referring to the question of the difference in economy of management between Scottish and English hospitals. We are glad to join with Professor Chiene in congratulating Ilkley on the successful realisation of its scheme. A cottage hospital if worked on a sound footing such as has been laid down for the working of that at Ilkley is of inestimable value and we have no doubt that the Ilkley Coronation Cottage Hospital will be a worthy memorial of the event which all concerned have worked so loyally to commemorate.

THE AMOUNTS OF NEON, HELION, AND HYDROGEN IN THE AIR.

SOME time ago we predicted that the ingenious method discovered by Sir James Dewar of using cooled cocoanut charcoal as an absorbent for gases would give considerable assistance to the experimental study of the rare gases of the atmosphere. Sir William Ramsay has not been slow to avail himself at all events of the advantages and convenience of this method. By exposing relatively large quantities of air to charcoal at – 100° C. considerable absorption or condensation took place and the helion and neon were concentrated inasmuch as at that temperature neither element is absorbed in an appreciable quantity. In this way it was possible to deal with 18 litres of air. The quantities found were as follows: one volume of neon in 80,790 volumes of air and one volume of helion in 245,300 volumes of air. These figures proved to be somewhat near a guess made by the same investigator and his colleague, Dr. Morris Travers, in connexion with the investigation in another direction. Incidentally Sir William Ramsay concludes that the amount of free hydrogen in the air must be less than $\frac{1}{50}$th of the volume of combined neon and helion, as the residue of neon and helion must have contained all the free hydrogen in the volume of air used for the experiment. It is hardly possible in the face of these results to attach any significance to the presence in the air of such minute quantities of the gases described, but, of course, it is conceivable that in the neighbourhood of thermal waters a greater proportion would be found.

THE PROPHYLACTIC INJECTION OF DIPHTHERIA ANTITOXIN.

THE experience in Germany of prophylactic injections of diphtheria antitoxin as recorded in two recent papers is so satisfactory as to merit notice. Dr. J. Ibraham of Heidelberg relates his results at the University Children's Clinique of that town in the *Deutsche Medicinische Wochenschrift*, No. 11, 1905, while Professor Wesener of Aix-la-Chapelle, in the *Munchener Medicinische Wochenschrift*, No. 12, 1905, states that for the last 18 months he has administered prophylactic injections of antitoxin in nearly all cases of children exposed to possible infection coming under his observation at the Mariahilf Hospital, and amongst others to the relatives of children taken to the hospital on account of diphtheria. The results obtained by both observers are in almost complete accord. Dr. Ibraham only found one case which developed the disease in spite of the injection and in this one there was at the same time infection by measles and whooping-cough. He comes to the conclusion that all the members of a family in which a case of diphtheria occurs, especially children under ten years of age, should receive prophylactic doses of antitoxin. He recommends that at least from 250 to 300 units of antitoxin should be injected in the case of healthy children, but if the child is suffering from measles, scarlet fever, or whooping-cough the dose should be increased to 500 units. No reduction of dose is necessary for sucklings or young infants. The protection conferred by such doses lasts about three weeks. Professor Wesener regards the method as one offering a valuable but not absolute protection, lasting from three to four weeks, and therefore of sufficient length to adopt ordinary prophylactic measures against spread and to disinfect infected buildings. Even when diphtheria occurs in spite of the injection of prophylactic doses, whether owing to subsequent infection or to infection before the injection, the course of the case is usually mild. He thinks that in most cases 200 units are sufficient to give protection but recommends the employment of from 300 to 400 units if possible.

THE LONDON SCHOOL OF TROPICAL MEDICINE.

THE banquet held on Wednesday evening with the object of relieving the London School of Tropical Medicine from a heavy burden of debt has drawn public attention, mainly through Mr. Chamberlain's forceful speech, to the affairs and performances of a most deserving scientific institution. Although it has been but a few years in existence the school has done excellent work and has established some striking facts. We need not recall to our readers the proof of the mosquito theory of malaria that was given to the medical world by the *experimentum in corpore vili* at the hands of Dr. L. W. Sambon and Dr. G. C. Low by their sojourn in the Roman Campagna at the most malarious season of the year in a mosquito-proof hut, owing to which precaution they remained free from the disease and not only so but in robust health. And this connexion between malaria infected mosquitoes and the disease in man was also proved by the demonstration that the former transported for a great distance into a non-malarial country could by their bites then infect human beings here. Another pupil of the school, Dr. A. Castellani, discovered the association of a trypanosome with sleeping sickness. Still another research by another pupil demonstrated a new species of schistosomus. Important researches, moreover, are being carried on as regards the causation and the prevention of beri-beri. Such are a few of the results that have been gained by the research work of pupils of the school. But in addition to the above research work, and even more important, is the educational curriculum that has led, and is leading, to it. Accommodation is provided for about 12 resident pupils, whilst 40 students can be instructed in the laboratory. There are three sessions, each of three months, held at the school. During these a most thorough laboratory course is carried out by the medical tutor, whilst the students have an opportunity of personally becoming conversant with many of the diseases that they will subsequently meet with in their career in the tropics. Already over 500 students have passed through the courses. Again, it may be mentioned that provision is made in the hospital for the admission of sufferers from tropical diseases who are unable to afford the luxuries of a nursing home. Finally, the work of the school is being supplemented by the establishment of laboratories in several colonial medical centres, such as Kuala Lumpur, Ceylon, and Hong-Kong. It is thus seen what a void in our system of medical education this school and the Liverpool School of Tropical Medicine are filling. Formerly the medical officer proceeding to his work in tropical climates had first of all to learn it in those regions; now he can proceed thither having first mastered the elements of this portion of the medical art. England is the great colonising country of the world; how great, then, is the necessity for the various deadly diseases to be understood fully by those of her sons who proceed to the colonies, the home of these diseases. We cordially wish this school and its staff the fullest measure of success that will doubtless in the future accrue to their endeavours. But in order to insure this object funds are necessary and we feel sure that the British public, once it is alive to the great benefits which the school is conferring, will not be backward in supplying them. As the Duke of Marlborough has stated in a public appeal, an increasing number of our kith and kin are annually required to carry on the work in the tropics, where the white man's burden is the heaviest, and it is undoubtedly a matter of Imperial importance that a knowledge of the etiology and treatment of the diseases to be met with in the tropics should be obtained. The London School of Tropical Medicine should not be hampered in its work by the shackles of debt and we are glad to learn that since Wednesday evening its coffers have been enriched by upwards of £10,000.

THE MEDICAL SOCIETY OF LONDON.

THE President and Council of the Medical Society of London will give a conversazione in the rooms of the society, 11, Chandos-street, Cavendish-square, W., on Monday next, May 15th. There will be a reception by the President at 8.30 P.M., when the Fothergillian medal will be presented by the President to Sir Frederick Treves, G.C.V.O., LL.D., F.R.C.S. The oration will then be delivered by Mr. Henry Morris who has taken as his subject the Financial Relations existing between the London Hospitals and the Associated Medical Schools and the Bearing of these Relations on Medical Education in London. At the conversazione there will be smoking and music by Pitman's Blue Viennese Orchestra.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.

THE Lord Mayor of London has announced a Mansion House meeting to be held in aid of the work of the above-mentioned association on Wednesday, May 17th, at 3 P.M. The association is so well known to our readers that we need not refer to it at length here, but it may shortly be said that its chief work consists in measures for improving prophylaxis by advocating various hygienic measures and by the dissemination of literature to educate and to advise the public. With regard to treatment, the association is doing good work in endeavouring to make it plain that certain cases only of tuberculosis—namely, those in an early stage—are fitting subjects for sanatorium treatment. The work of the association is much hampered for want of funds and at the meeting in question an appeal will be made for £10,000. To quote the words of the notification, "Scientific research during the last half century, and especially during the last 20 years, has made plain the conditions which favour the spread of the disease and has shown how largely it is preventable." This is a true statement and one which should bring home to every mind the necessity for not allowing the good work which the association has already done to be more or less thrown away by a continuation of that work being hampered for want of money.

THE medical officer of health of the Cape Colony states that for the week ending April 15th the condition of the colony as regards plague was as follows. At King William's Town one case of plague, a native female, the wife of the patient reported during the previous week, was discovered. At East London three cases were discovered—namely, two coloured males and one European male. Plague-infected rodents were found at Port Elizabeth, Uitenhage, and East London and at the last-mentioned town there were also found two plague infected cats. In other districts there was no case of plague in man or other animal. As regards Hong-Kong, a telegram from the Governor received at the Colonial Office on May 8th states that for the week ending May 5th there were eight cases of plague and seven deaths from the disease.

THE second annual meeting of the Rural Midwives Association will be held at 66, Ennismore-gardens, London, S.W., on Thursday, May 18th, at 2.45 P.M., the Earl of Harrowby in the chair. Dr. George Reid, the county medical officer of health of Staffordshire, Mr. G. H. Fosbroke, the county medical officer of health of Worcestershire, and Dr. Thomas Savage, of the Warwickshire county council, are expected to address the meeting.

THE annual general meeting of the Dermatological Society of Great Britain and Ireland will take place at 11, Chandos-street, Cavendish-square, London, W., on Wednesday, May 24th, at 4.30 P.M., Dr. Henry Waldo, the President, in the chair. Professor McCall Anderson will deliver an oration entitled "A Plea for the More General Use of Tuberculin by the Profession." Members of the medical profession interested in the subject of the oration are invited to attend the meeting.

THE University of London provides courses of advanced lectures in physiology and the first of a course of three on Carbohydrate Metabolism was delivered by Dr. F. W. Pavy on May 9th at the Physiological Laboratory of the University, South Kensington. The remaining two will be delivered at 5 P.M. on May 16th and 23rd. There is no fee for the lectures and cards of admission may be obtained on application to the Academic Registrar.

THE next meeting of the Edinburgh University Club of London will take place at the Criterion Restaurant on Wednesday, May 24th, at 7.30 P.M., when the Right Hon. Lord Robertson will occupy the chair. Among those who have accepted invitations from the club are the President of the General Medical Council, the President of the Royal College of Surgeons of England, and the Director General of the Army Medical Service.

THE position of president-elect of the Medico-Psychological Association having become vacant by the resignation of the late Sir John Sibbald the council of the association at its last meeting unanimously elected Dr. Outterson Wood to the vacancy. The election has been accepted by Dr. Wood who will therefore become President at the annual meeting in July next.

Professor W. Osler has departed from the United States to take up his residence in Oxford as Regius Professor of Medicine. 500 physicians gave him a farewell banquet in New York and presented him with a copy of Cicero's "De Senectute" in allusion to a much paragraphed and much distorted version of his recent address at Baltimore.

THE next meeting of the Society for the Study of Disease in Children will take place at 11, Chandos-street, London, W., on Friday, May 19th, when Dr. Henry Ashby of Manchester will deliver the Wightman lecture on Some of the Neuroses of Early Life. The meeting is open to all members of the medical profession.

AT a recent meeting of the United Grand Lodge of English Freemasons Mr. W. H. H. Jessop, F.R.C.S. Eng., Mr. Ernest Clarke, F.R.C.S. Eng., and Dr. H. G. Thompson were among the new Grand Officers appointed. Mr. T. H. Openshaw, F.R.C.S. Eng., received the honour of past grand office.

Sir Francis Laking, Bart., G.C.V.O., physician-in ordinary to the King, who accompanied His Majesty upon his recent visit to France and French possessions, has been appointed a grand officer of the Legion of Honour.

The King has appointed Mr. Charles E. Truman, M.R.C.S. Eng., to be dentist to His Majesty's household, *vice* Mr. E. T. Truman, deceased.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

(FROM OUR OWN CORRESPONDENT.)

THE visit of British physicians and surgeons to Paris began auspiciously in perfect weather. The opening reception, which was organised by the University of Paris, took place at the Sorbonne on Wednesday evening and was fully attended by the visitors, and in many instances by their wives and families. The absence of M. Casimir Perier, who was, it is understood, too ill to deliver his promised address, was the subject of much regret, but the interchange of congratulations between the University Reception Committee and the London Executive Committee supplied sufficient speeches for the occasion, and, it may be added, their speeches were of a very happy character. Everything promises a most successful reunion.

Two small volumes or pamphlets have been published expressly for the benefit of the British medical men now on a visit to Paris. One, in French, consists of a short history of the ancient Faculty of Medicine and College of Surgeons of Paris. It is beautifully printed and illustrated and commences by recording that Charlemagne advised German youths to study medicine in Paris and invited an English teacher over to give them lessons. This was the philosopher and theologian Alcwin or Alcuin, who was born at York in 735. The little volume recalls this fact with pleasure, for it shows that from the first the University of Paris contracted a debt of gratitude to an English scholar. The work then traces, with quotations from old title deeds, charts, &c., the growth of the school of medicine and surgery, gives pictures of the various buildings which they occupied, and reproduces certain seals, portraits, headings of theses, and other engravings. Some of them are real works of art.

The other pamphlet is issued in English and is written by M. André Mésureur, the son and chief of the cabinet of M. Mésureur, director of the poor relief administrations of Paris (Assistance Publique). It is a practical guide with blank leaves for taking notes. A large coloured map of Paris serves to indicate the position of all the hospitals and of all the other places and offices that relate to the relief of the poor. Then there is a brief description with a photographic illustration of each of the principal hospitals. This is preceded by a short chapter giving a description of the Assistance Publique. It shows how the town of Paris assumes the responsibility for all the services of poor relief and the advantages that this affords in the organisation of the hospitals as representing the practical side of medical education at the University of Paris. M. André Mésureur also briefly alludes to the economic advantages of purchasing wholesale and in one single transaction the meat required for all the hospitals, asylums, and such institutions. These advantages exist likewise in all other respects, such as the bread-supply, milk, medicines, furniture, beds, and so on. Finally, the uniting together of all the poor relief services renders it more easy to ascertain particulars about the hospital patients and prevents the abuse of the hospitals by those who can afford to pay. The cost of all these services is defrayed to a large extent out of the income of the city. The last subvention from the city amounted to £1,120,000. Then there is a direct tax for the relief of the poor levied on every occupied seat at the theatres. This brings in £140,000. The other sources of income are not from taxation. £260,000 were received from lands, houses, and personal property. Fees and gifts from sick patients amounted to £208,000. With other smaller sources the income exceeds £2,000,000 annually for poor relief. The principal expenditure is as follows: hospitals, £820,000; outdoor relief, £500,000; almshouses, £400,000; and foundlings, £560,000. These few figures and facts set forth the great difference between the French system and the British voluntary efforts and the British Poor-law. To study on the spot these very important problems will be the more useful as the method of solution attempted in Paris is so completely different from that employed in England.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XI.[1]

THE POOR-LAW AND MEDICAL SERVICE.

Poor-law Medical Service in England.—Good Work of Dr. Joseph Rogers.—Poor-law Medical Service in Scotland.—The Case of Mr. Lamont.—Parish Councils and Arbitrary Dismissals.—Scottish Poor-law Medical Association.

THE Poor-law medical services of England, Scotland, and Ireland, like the sanitary services of the three countries, are on different bases and with respect to the two last-named countries the abuses that are to be found in their working are gross. The grievances of the English service run a risk of being overlooked because they are of a less sensational character. They are none the less real.

The Poor-law Medical Service in England.

The English Poor-law medical officer's position, although it is good by comparison with that of his Scottish and Irish brethren, is not so perfect that there is anything ungracious in suggesting that it is open to many improvements. The position which it has is the outcome of the work of Dr. Joseph Rogers, founder and first president of the Poor-law Medical Officers' Association. Rogers, one of the numerous brothers of the well-known economist the late Professor Thorold Rogers, was a supernumerary medical officer in the parish of St. Anne's, Soho, at the time of the outbreak of cholera in that district of London in 1855. His work was rewarded by his appointment in the following year as medical officer to the Strand workhouse. Through his brother, as well as from natural taste, he became associated with the school of social reform of which Cobden and Bright were the leaders and as soon as he found himself in responsible charge he set to work, with the cordial coöperation of Thomas Wakley, the editor of THE LANCET, to improve the system of medical relief to the sick poor. The nursing, the diet, the accommodation, and the general amenities of life in workhouses and workhouse infirmaries were fair objects at that time of stringent criticism but Rogers's reforming zeal soon brought him into conflict with the guardians of the parish. The President of the Poor law Board, the extinct Government department then responsible for the administration of the Poor-law, took the side of the supine authorities and Rogers lost his berth. In 1872, however, he was elected medical officer of the Westminster Infirmary, where he pursued the same humane and enlightened tactics. Complaints were again made of him as a troublesome fellow but this time the President of the Poor-law Board found that he was in the right and his admirers presented him with a testimonial. Perceiving that the same obstacles would be brought to bear upon any of his colleagues who might be inspired with similar humane ideas to his own, he founded the Poor-law Medical Officers' Association of which he was the first president.

His hopes that this association would grow into a powerful union have been but partially realised, because progress in the general sanitation of the country has taken place along other lines, but the efforts of Rogers and the small band associated with him count for much in the fact that the grievances of Poor-law medical officers in England are not so pronounced as they are in the other divisions of the kingdom. They are not oppressed by Bumbledom to the same extent and their position is altogether a more independent one. Still they are not without legitimate causes of complaint. The salaries of the medical officers to the Poor- [illegible] their exiguity is not counter- [illegible] r private practice. The life is [illegible] the clinical material presents no features of interest to scientific medicine, though this is a state of things which is tending to improve. The salaries of parochial officers are also small but they are punctually paid. The fact that the Poor-law officer is, as a rule, the social superior of the guardians under whom he serves now and again results in annoyances, but a hard-working and tactful practitioner escapes most of the unpleasantness and the competition for the posts shows that they have distinct attraction. The explanation of this is probably that in some places the possession of Poor-law appointments brings compensating advantages in practice, a view that is strongly combated by those to whom no such advantages have accrued and who contend that the more substantial class of patients have an objection to employ the "parish doctor." Wherever in the social scheme we get competition for posts and complaints of inadequate remuneration going together there will be a difference of opinion as to the reason of such an apparent violation of the laws of supply and demand, and the fact that many desire to fill the berths will be employed as an argument to close the mouths of those who would assert that the berths are not worth filling. As a matter of fact, in the case of the Poor-law medical officer no general rule applies, as the scale of pecuniary return is not uniform and the attitude of the public and the Poor-law guardians is not the same all over the country.

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[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., and X. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), 22nd (p. 1089), and 29th (p. 1151), and May 6th (p. 1218), 1905, respectively.

It is an undoubted hardship upon Poor-law medical officers that in many instances the salaries remain the same as they were 40 years ago, in spite of the largely increased cost of living generally and of medical education and medical practice in particular. All medical men in general practice are suffering from the fact that their professional fees have remained for the most part stationary while everything incidental to medical education and practice has gone up in price. but Poor-law medical officers have an easily demonstrable claim upon the public for better terms: The special fees for operations were fixed in 1847 and have not been revised since. There are numerous operations, the outcome of advancing surgical knowledge, for which no special allowance can be obtained without the consent of the guardians, and there is no fee provided by law for giving anæsthetics. As far back as July, 1902, the President of the Local Government Board was asked in the House of Commons to explain why no provision was made for the administration of anæsthetics when operations had to be performed by Poor-law medical officers on sick paupers at a distance from a hospital or workhouse infirmary; and why no alteration had been made in the scale of fees allowed for special operations performed by Poor-law medical officers since the year 1847, many important operations, which have now become general, not having been placed on the original list. The President of the Local Government Board (at that time Mr. Long) replied that the Board recommended that in ordinary circumstances a case in which a serious operation was required should not be treated in a workhouse or at the patient's home but should be sent to a public hospital. This was the position taken up by the Board eight years previously in a circular letter issued to all boards of guardians, though in that letter it was stated that in any case, when it was not practicable to send the patient to [illegible] n the operation was not of a serious cha [illegible] might sanction the payment to the medical officer of a reasonable sum in respect of any assistance which it was necessary for him to obtain for the administration of an anæsthetic. Mr. Long went on to point out that it had been the invariable practice of the Board to give its sanction to reasonable payments proposed to be made by boards of guardians to medical officers in circumstances of the kind referred to, and added that he was unaware that difficulties had been experienced in connexion with the scale of fees to Poor-law medical officers for operations, but that if representations were made to him showing alterations to be required he would give the subject careful consideration. How Mr. Long came to be unaware of the dissatisfaction among Poor-law medical officers at the scale of fees for operations is difficult to understand but during his tenure of office as President of the Local Government Board he proved himself in many ways an enlightened advocate of medicine and we may feel certain that his want of information was real and not merely official. With his opinion that in ordinary circumstances patients requiring serious operations should not be treated in their homes all medical men are in agreement; it is not so certain that the recommendation to draft every important surgical case to a hospital in contradistinction to an infirmary is so sound. But the promise of careful consideration of the whole subject has not been kept by the Local Government Board. In December, 1902, encouraged by Mr. Long's kind words, the Poor-law Medical Officers' Association addressed a memorial to the Local Government Board pointing out that in spite of the Local Government Board's circular letter of 1894 guardians almost invariably declined to ask the sanction of the Board for the payment to medical men of fees for extra services, so that the Poor-law medical officer when requiring to perform an operation upon a pauper patient has either to obtain the unpaid assistance of a brother practitioner or to pay the anæsthetist's fee out of his own pocket. The memorial suggested that a fee of £1 should be paid for the administration of an anæsthetic, the payment being restricted, if thought well, to those instances where a certificate of its necessity is forthcoming from a second medical practitioner, while operations, now common procedures, like laryngotomy and tracheotomy, should be paid for at the rate of £2. The highest payment for operations on the present scale to Poor-law medical officers of health is £5, which is the legal fee for the treatment of strangulated hernia, of compound fractures or dislocations of the thigh or leg, and for major amputations. To this list the memorial proposed to add the operation of trephining and the treatment of a compound fracture of the patella, while for simple fracture of the patella a fee of £3 was asked. The memorial acquiesced in the general proposition that serious cases should be treated as far as possible in a hospital but dwelt upon the difficulties of Poor-law medical officers in country districts where it may be often impossible to move a patient to a hospital. In such cases the particular injustice done to the Poor-law medical officers in making them attend the patients without extra fees is aggravated by the fact that many hospitals receive from boards of guardians payments for the réception of cases for operation—the scale of which payments, by the way, might well be scrutinized. To this memorial the Poor-law Medical Officers' Association has received no reply. This is distinctly unfair to the association in view of Mr. Long's sympathetic words in Parliament and must necessarily confirm boards of guardians in their intention not to take any steps to grant extra fees.

The attitude of boards of guardians towards their medical officer differs considerably—in some districts the work is harmoniously carried on and in others it is not. In certain parts of the country boards of guardians have refused to raise the salaries of their medical officers, being public vaccinators, on the plea that the last Vaccination Act has increased the public vaccinator's fees, and some guardians have been attempting, where contracts have terminated, to reduce salaries on the same grounds. This is, of course, quite unfair. To begin with, any reduction of the salaries of Poor-law medical officers must be illogical considering the increasing work that now has to be done by them and the enhanced expenses of medical education and medical practice. In the second place, the emoluments received by public vaccinators, who are also district medical officers, vary so much that no general conclusion can be drawn from them. In some urban districts the public vaccinator's fees may pay him well. in some rural districts they certainly do not. But urban and rural districts alike, a request by medical officers for a higher salary based upon an increase of work and an increase of expenses is generally met with a refusal at the hands of the guardians, who quote in support of their action the vaccination fees.

Thus it will be seen that the grievances of the Poor-law medical officers in England are quite genuine, if not exactly glaring as they are in Scotland and Ireland. Their work has increased and their expenses have increased, while their salaries have remained the same, not without threats of curtailment. Yet there is considerable competition for the posts, so much that favouritism, it is alleged, takes place in respect of the appointments. How is this to be explained? Firstly, the pay offered by the unions, poor as it is, is better than that offered by medical aid associations. Secondly, the posts sometimes carry indirect advantages. There are readers of THE LANCET who may not endorse the statement, but it seems impossible to escape from the conclusion that these posts are accepted in certain instances because they provide the holders with a publicly guaranteed introduction to the neighbourhood. That such should be the fact is regrettable. Honest work should be worth proper payment, it should never have to look for indirect emolument, and one class of medical men should not be tempted to use their official position to the detriment of their brethren. These things are admitted; but it must also be admitted that the appointment of Poor-law medical officer is a good deal coveted.

The Poor-law Medical Service in Scotland.

In Scotland the public medical service, the service which is intended to meet the wants of the indigent poor, is in urgent need of reform. To go no further back than six years attention was called in 1899 to the scandalous condition of affairs by the *cause célèbre* of Mr. J. Lamont, the medical officer of South Uist,[2] whose vicious treatment by the authority to whom he owed his appointment was made the subject of Parliamentary interference. Mr. Lamont was dismissed summarily from his office by the parochial authority, his dismissal being apparently due, at least to a great extent, to his insistence on the closure of a school during an epidemic of infectious disease. In this he had the support of the Local Government Board of Scotland, but that availed nothing when, as a practical rejoinder, the parish council terminated his appointment. Following on his dismissal from office Mr. Lamont's oppressors in South Uist raked up the fact that he had some considerable time ago vaccinated certain children whom, owing to press of work and length of distance (or want of roads), he had certified as successfully vaccinated without paying a second visit, his certificates being based on what he regarded as trustworthy information. This he did in his inexperience and in the absence of official guidance as to his procedure, but it appears that the practice is by no means unknown in the northern counties of Scotland. It is an evil practice and no one should attempt to justify it, but the prosecution of Mr. Lamont was undertaken in a manner warranting the theory that its origin was to be sought not in regard for the law or in zeal for vaccination but in vindictive spite. It was the manner in which Mr. Lamont was treated that led to the publicity which may yet have a fortunate issue, as it has called attention to the grievances of the Poor-law medical service of Scotland, especially of those whose duties lie in the highlands and islands. Mr. Lamont was arrested at midnight in his mother's house on the allegation that he had absconded from justice; he was imprisoned for two days, was escorted from Glasgow to South Uist by the police, was imprisoned a second time, and on release was subjected to a fresh warrant of arrest in London. The nature of this persecution led to very downright speaking upon the existing conditions of the Scotch Poor-law medical service in the press. Then came action in Parliament. Sir Charles Cameron, in Committee of Supply on the vote for the salaries and expenses of the office of Secretary for Scotland, called attention to the case and, when the Lord Advocate defended the prosecution as right and justifiable upon the evidence, several influential Members of Parliament spoke in strong criticism of this view, asserting that Mr. Lamont had been harshly used and was entitled to some sort of compensation. The Lord Advocate then agreed that the arrest should not have been ordered and undertook to censure the Procurator Fiscal, when the Prime Minister delivered an important pronouncement. He expressed his regret that in the present state of the law medical officers in Scotland had no protection against the arbitrary action of the local authorities and thought that the Government ought to possess the power to protect medical officers whose duties must occasionally bring them into collision with, and subject them to the arbitrary action of, those who were their employers and against whom at the same time it might be their duty to proceed. He pointed out that as the law stood no Vote in Supply could affect the matter at issue one way or another, directly or indirectly, but he discussed the question whether any action could be taken against the local authorities who, it appeared from the discussion, were the real villains of the piece. The Lord Advocate at the close of the discussion announced that he had the authority of the Prime Minister to say that he considered himself bound to look into the question of compensation.

Mr. Balfour's words raised all the issues admirably because he so clearly distinguished between the great grievances of Mr. Lamont and the anomalous position of all Poor-law medical officers in Scotland whereby such things became possible. Mr. Balfour definitely committed the Government of that day, which remains the Government of this day, to look into the whole question of the position of parochial medical officers in Scotland. A practical result followed upon this important debate, for Mr. Weir moved Parliament for a return showing the number of medical officers dismissed by parish councils in each crofting county during each year from 1895 to 1901 inclusive, name of the parish council, and the cases in which a cause of dismissal was assigned. The return was issued as follows:—

Return of Medical Officers Dismissed by Parish Councils since May 15th, 1895.

County and parish	Number of medical officers dismissed	Date	Whether cause for dismissal was assigned
Argyll			
Kilfinichen	1	1897	No
Caithness			
Halkirk	1	1896	No
Inverness			
Ardersier	1	1902	Yes
Barra	1	1898	No
Croy	1	1902	Yes
Petty	1	1902	Yes
S. Uist	1	1898	Yes
Orkney and Shetland			
Lady	1	1899	Yes
Evie	1	1898	No
Rousay	1	1900	No
Stronsay	1	1898	Yes
Ross-shire			
Kincardine (parish of)	1	1896	No
Uig	1	1899	No
Sutherland			
Durness	1	1898	No
Kildonan	1	1899	No
Loth	1	1899	No

It will be seen that in seven years—i.e., from 1896 to 1902—16 medical officers were dismissed by their parish councils, 10 of whom received no reason whatever for the termination of their engagements. Upon this return being made public a wide feeling of insecurity was felt among Scottish parochial medical officers which was not decreased by looking closer into the facts. The return deals only with

petty annoyances and wounded by the advantage taken of their subservient position many medical officers in the Scottish Poor-law service have been compelled to resign office in the interest of their honour and of the dignity of their profession.

The composition of the parish councils is largely responsible for this unfortunate state of affairs. During the 50 years of the existence of the old parochial boards, which were composed of the most influential members of the parish, the medical officers received proper treatment, but on the passing of the Local Government Act in 1894, when the membership of the parish council was thrown open to all ratepayers, a different spirit began to prevail. The parish councils, especially in the crofting districts, are now usually composed of the parish clergy (Established and Dissenting), lay preachers, missionaries, small shopkeepers, crofters, and fishermen. These oddly comprised bodies, more than half of whom are without education—at any rate, without any education that can enable them to appreciate the methods of self-respecting and efficient medical practice, the proper rate of pay, or the proper methods of behaviour—have unlimited power over the medical officer and in many cases, it would seem, do not fail to use it. While rendering his tenure of office miserable they can and do dismiss him without a reason. This is an extraordinary position of affairs and one that calls for the measure of reform virtually promised some years ago by Mr. Balfour. Inspectors of the poor and other parish officials cannot be dismissed without the sanction of the Local Government Board of Scotland and the medical officers ought to enjoy the same security. They ought to be able to feel that their work and conduct will be judged by a competent and unbiased public department and not by a group of their neighbours, mostly their inferiors in station and knowledge.

Insecurity of tenure, however, is not the only drawback to the service. In many cases, it is stated, exorbitant house rents are charged and the salary is not commensurate with any heavy expense in rent unless the private practice be lucrative. This it is not likely to be in sparsely inhabited neighbourhoods where patients live far apart and where horses have to be kept to meet their wants. Moreover, the cost of medical education has increased and the working expenses of the medical officer have become heavier of late years but the salaries given have not been raised and, while never anything but small, now bear no sort of proportion either to the medical officer's needs or to the hardships that he has to undergo. During sickness, or temporary absence from the parish for a holiday or upon private business, the medical officer has to provide a substitute who may cost him from £4 4*s.* to £5 5*s.* a week with travelling expenses and board. Other parish officials—*e.g.*, ministers, Poor-law inspectors, and schoolmasters—can usually get a free and even an extended holiday, and the same reasonable facilities for rest and recreation should be granted to the medical officers not as a favour but as part of their contract for service. We are constantly told that the extreme poverty of certain districts of Scotland forbids more generous payment to the medical officers. The proper deduction from this premiss, of course, is that the State should assist the community that cannot assist itself, but the premiss is not secure from contradiction. The financial condition of highland and island parishes has materially improved of late years, while the medical officer's position and absurdly inadequate salaries, fixed by the old parochial boards, remain what they were 20 years ago despite the increased expenses of the medical man's education and the far more costly equipment of medical practice.

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[2] Vide the *Times* Parliamentary Report, July 15th, 1899.

The Scottish Poor-law Medical Association upon these grounds is prepared to advise medical men who are thinking of applying for parochial appointments in the highlands and islands of Scotland to communicate with the out-going medical officer on the following points:—

1. The character and general attitude of the parish council towards the medical officer.
2. The house accommodation and the rent of the house.
3. The adequacy of salary as medical officer to the paupers.
4. The arrangements for holiday and sick leave.

By ascertaining from the late appointee whether the vacancy has recurred owing to his arbitrary dismissal or to a resignation forced upon him by the arduous circumstances of the post candidates run no risk of accepting unfair terms to the damage of their own interests and of the honour of the medical profession. If the younger generation of medical men in Scotland were to follow the suggestion made to them they would find that in many instances the berths to which they aspire are badly paid, or, at any rate, that the salary is incommensurate with the expenses. The following concessions secured by legislation are necessary, in the opinion of the Scottish Poor-law Medical Officers' Association, to make the office of a Poor-law medical officer in the highlands and islands of Scotland worth retaining:—

1. The right of appeal to the Local Government Board of Scotland against unjust dismissal.
2. Free official residence.
3. Increased salary, chiefly in the form of increased fees for attendance on midwifery cases and cases of serious surgical injury, and for the certifying of lunatics.
4. Annual free holiday of reasonable length and a free substitute in case of sickness.
5. Superannuation allowances.

A departmental committee of the Local Government Board, after a close inquiry, has recommended the granting of the first two reforms, and a Bill has been drafted embodying the recommendations.

It is possible that there will be no long delay before the Bill becomes law, but until that day the association suggests that young medical men should not accept appointments in the highlands and islands of Scotland as acquiescence in the existing wrongful system assists in keeping up unjust and unsatisfactory conditions. These proposals for a boycott of the parochial medical service are drastic but it is doubtful if they would succeed. It must be difficult to secure the necessary unanimity of opinion among young medical men anxious to make a start, whose natural desire to support themselves is backed by a family circle guiltless of any professional sentiment. At the same time all must agree that medical men must be provided for the sparsely populated districts of Scotland at proper rates of remuneration and under conditions which they can accept without loss of dignity or risk of unjust treatment. It is to be hoped that Mr. Balfour's promise of reform will not be lost sight of either by the medical profession in Scotland or medical men in Parliament. State aid is required. The simplest form in which that aid could be granted would be by the erection of the Poor-law medical officers into assistant medical officers of health. To such officers, properly salaried, might be confided all the local duties of medical attendance upon infectious disease, of inspection of schools, workshops, bakehouses, and abattoirs, and they might be put in charge, under the county medical officer, of the necessary statistical returns of public health. There is no need in Scotland for a sanitary official distinct from a Poor-law officer, and the care of the sick poor could best be undertaken by those who are responsible for the sanitation of their environment—only money, not much of it, being wanted to carry out this reform.

(*To be continued.*)

THE EARTHQUAKE IN THE PUNJAB.

A NARRATIVE BY A MEDICAL SURVIVOR.

DHARMSALA and the Kangra Valley were visited by an exceptionally severe earthquake on April 4th. It commenced about 6.20 A.M. and appeared to travel in a direction from south east to north-west. Every house in the station was more or less affected, the majority falling in completely and instantaneously, whilst a few stood partially, and in one house (that of Captain Bateman-Champain, 1st Gurkha Rifles) the roof of one room only fell in. There was no time for escape and with the exception of a very few all who were not killed were more or less seriously injured. The killed included 30 Europeans (which represents a very large proportion, nearly 50 per cent., of our small European population). There were also killed 63 of the 1st Gurkha Rifles and 135 of the 7th Gurkha Rifles. The severely injured included nine Europeans, 28 of the 1st Gurkha Rifles, 55 of the 7th Gurkha Rifles, and three reservists. The slightly injured included 15 Europeans, 73 of the 1st Gurkha Rifles, and 117 of the 7th Gurkha Rifles. The number of deaths of natives in the district may probably be reckoned in tens of thousands. First aid to the wounded was rendered as promptly as possible by Major P. Hehir, I.M.S., with the help of two hospital assistants in the 7th Gurkha Rifles; and by Major H. M. Earle, I.M.S., with the help of one hospital assistant in the 2nd Battalion of the 1st Gurkha Rifles. Major Hehir fortunately escaped without being injured and Major Earle with comparatively slight injuries, otherwise it is awful to contemplate the horrors that would have been added. Luckily, also, the surgical appliances, &c., had mostly escaped much damage. The work of rendering first aid was commenced at the time of the disaster and was completed at 11 P.M. the same night. The element of shock naturally entered very largely into the cases. The majority of the wounded are progressing very favourably.

The following is a list of the chief cases of injury: one British officer sustained fracture of the internal table of the skull and compression of the brain; one British officer sustained injury of the pericardium and scalp wound; three British officers suffered from fairly severe scalp wounds and general contusions; and two ladies sustained simple fractures of the thigh. All the above are doing well. One Gurkha officer suffered from crushing of the breast and lungs, laceration of both ears, five extensive scalp wounds, concussion of the brain, and comminuted fracture of the clavicle; he is, however, doing well. Six Gurkha officers sustained various injuries, including broken ribs, scalp wounds, and extensive contusions. All are doing well.

Injuries of the following varieties were noted among the rank and file: a case of compound comminuted fracture of the thigh for which amputation was performed (the patient died); a case of fracture-dislocation of the spine and fracture of the pelvis with rupture of the bladder; a case of fracture-dislocation of the spine (this patient has now developed pulmonary tuberculosis); a case of fracture-dislocation of the spine without further complications (this patient is doing fairly well); a case of extensive destructive crushing and laceration of the front of both legs, exposing several inches of the tibiæ (this patient developed tetanus);

a case of compound comminuted fracture of the right leg tearing the anterior tibial artery and nerve (this patient also developed tetanus), five cases of fracture of the base of the skull (of these patients one died two are doing well and two are left with several cranial nerves paralysed), a case of uncomplicated fracture of the pelvis (this patient is doing well), a case of fracture of the pelvis with rupture of the bladder (this patient is doing fairly well), nine cases of fracture of the ribs (in one of these there was much subcutaneous emphysema and the patient died, in another there was subcutaneous emphysema and pneumonia occurred as a complication but the patient is doing as well as can be expected, two others were also complicated by wounds of the lungs), two cases of dislocation of the spine, both of which were reduced and the patients are doing well, a case of dislocation of the hip joint which was reduced and the patient is doing well, two cases of simple comminuted fracture of the thigh five cases of simple fracture of the thigh, six cases of compound fracture of the leg a case of compound comminuted fracture of the humerus the ends of which were wired and the patient is doing well, two cases of simple fracture of the arm five cases of simple fracture of the clavicle two cases of simple fracture of the forearm, a very extensive and severe scalp wound two cases of injury of the pericardium with hæmo pericardium a case of injury of the pericardium and heart, and five cases of injury of the kidneys (three of these patients died)

As regards the cases that developed tetanus the symptoms commenced on the ninth day after the earthquake Antitetanic serum was administered on the tenth day in curative doses but had no effect All the other patients suffering from compound fractures and crushing wounds have been given prophylactic doses of antitetanic serum and so far have shown no symptoms of tetanus The complicated case of fracture of the pelvis is interesting in that after laparotomy about a cubic inch of the left side of the arch of the pubis was found separated and penetrating the bladder

Most of the fractured thighs have been treated by simple horizontal extension and most of the compound fractures are doing well under conservative treatment In some of the cases of injured kidney urine was voided highly mixed with blood and in others there was almost complete suppression of urine One patient developed uræmia and was treated by diaphoresis and saline injections but finally succumbed The cases of fracture dislocation of the spine were swung and reduced as far as possible and then put up in plaster of Paris

Mr W Watson Cheyne s view that shock is due to a state of exhaustion of the medulla and spinal cord, tending to a great reduction in the vital activity generally and resulting from severe injury of the peripheral ends of the sensory and sympathetic nerves, appears to receive valuable confirmation from the cases of wounded in the earthquake though vasomotor paralysis, no doubt was also present in many cases

There are now five medical officers working on the military side of the station—namely Major Hehir, Major Earle Captain H E M Douglas V C R A M C Lieutenant G H Whale I M S and Lieutenant A F Pilkington I M S Colonel D O Sullivan R A M C also lent valuable aid for some days Four medical officers are working on the civil side—namely, Major Lane Major S Browning Smith Major G MacIver C Smith and Captain W E McKechnie all of the Indian Medical Service with the aid of assistant surgeons and hospital assistants

The Gurkhas both officers and men worked splendidly in extricating the wounded and dead There were several very hard cases of people who were on the point of leaving the place losing their loved ones whilst others were fortunate in having just left Several people who had most, and perhaps all of their money invested in house property are reduced to indigent circumstances and I believe that only one tea factory is left standing in the district Provisions were very short at first but supplies were quickly sent up by the civil and military authorities as was also medical aid Pioneers and sappers and miners have been and are, doing yeoman service in extricating bodies of men and animals and private property from the mines and in repairing roads bridges, &c

Cases of extraordinary vitality were observed, some persons having been dug out alive after three and four days and one man after five days A dog was unearthed alive after having been buried for 11 days All are in tents Fortunately the weather has been fine with the exception of one or two severe thunderstorms Minor shocks of earthquake occurred at frequent intervals during the night following the disaster and subsequently the intervals gradually increased Now we only get one a day Geologists state that the Himalayas are of comparatively recent formation and that there is no reason to doubt that the forces which brought their folds into existence are yet in action It seems a reasonable theory that somewhere under the Kangra valley and Dharmsala there occurred a caving in of some ill supported portion of the earth s crust and possibly the proximity of Dharmsala to the high ranges may have had something to do with the severity of the shock However this may be it becomes an important question and a very enervating one to those residing there, whether further earthquakes will occur in other hill stations in the Himalayas The obvious indication seems to be that buildings should be constructed of lighter material than they are at present and that no double storeyed houses should be built

Dharmsala April 19th

THE GERMAN CONGRESS OF INTERNAL MEDICINE[1]

(*Concluded from p 1232*)

Therapeutic Applications of the Röntgen Rays

Dr HOFFMANN (Dusseldorf) discussed the Treatment of Leukæmia and Pseudo leukæmia by the Roentgen Rays He said that the patient s general health improved the number of leucocytes decreased and the spleen became smaller In one case the skin became gangrenous three months after exposure to the rays It was remarkable that the patients continued to improve even after the termination of the treatment

Dr KRAUSE (Breslau) said that he had treated six cases of myelogenic and two cases of lymphatic leukæmia with the rays during several months He confirmed the favourable results obtained by Dr Hoffmann and drew attention to the fact that the discharge of uric acid was very much increased by the treatment In lymphatic leukæmia his results were not so good as in the myelogenic form In one case of pseudo leukæmia Dr Krause obtained a favourable result in another case there was no improvement

Dr LINSER and Dr HELBER (Tubingen) communicated a paper on the Influence of the Roentgen Rays on the Blood By experiments made on animals they ascertained that under the influence of these rays the leucocytes decreased and might even almost disappear from the circulation They were of opinion that the rays destroyed the leucocytes in the circulating blood They had been led to this opinion by the fact that after the leucocytes had totally disappeared from the circulation they were nevertheless still present within the spleen and the marrow of the bones The same result was obtained whatever part of the body was exposed to the rays and even outside the body the action of the x rays on the leucocytes might be observed in fresh or stained microscopical preparations The destruction of the leucocytes by the x rays produced toxic substances in the blood serum—the so called leucotoxins This leucotoxic serum when injected into animals also destroyed the leucocytes whilst the injection of normal serum made them increase The degree of efficacy of the Roentgen serum depended on the number of leucocytes destroyed and was therefore produced by their destruction At temperatures of 55° or 60° C the serum became inactive Probably the presence of nephritis in animals exposed to the rays was also caused by the leucotoxic substances Some degree of immunity was established in the animals exposed to the rays as after the first decrease of the leucocytes they again spontaneously increased although the irradiation was maintained Radium and ultra violet rays had no destructive action on the leucocytes similar to that which was possessed by the Roentgen rays The Roentgen rays moreover did not affect the red corpuscles

In the discussion some of the speakers deprecated the formation of exaggerated hopes as to the radiotherapy of leukæmia the overwhelming majority however were of opinion that the Roentgen therapy had a curative effect on the disease in a great many cases and in this respect exceeded all the other therapeutic methods. Success was not, however, invariably obtained because certain forms of the disease were resistant to the action of the rays.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medicinische Wochenschrift* through whose courtesy it has been forwarded to us by our Berlin correspondent

Radio-activity of Mineral Waters.

Dr. **BERGELL** and Dr. **BICKEL** (Berlin) communicated a paper in which they described their researches on the Radio-activity of Mineral Waters. The mineral waters when freshly collected from the spring showed an emanation of radium, which, however, disappeared within a short time. Exported mineral waters were, therefore, free from radium, but it was possible to make them radio-active again by means of a solution of radium salts. Dr. Bergell and Dr. Bickel made their experiments with Kochbrunnen, a spring at Wiesbaden, the water of which contains chloride of sodium. This water when deprived of the emanation of radium retarded the digestion of albuminates, but after artificial restoration of the radio-activity it promoted digestion.

Dr. **BRAUNSTEIN** (Moscow) reported that by injection of radio-active water malignant growths were made to disappear, a fact which might be of the greatest importance in the treatment of cancer. The injection of radio-active water was preferable to irradiation because the deeper layers of the tissue might in this way become influenced or the radium might be applied to growths which were not reached by the rays. Apart from the destructive action of radium on the tissues its bacteriological action was of great importance, and its favourable influence on certain fermentative processes might possibly be used in the treatment of diseases of the gastro-intestinal canal.

The Secretion of Mucous in the Intestines.

Dr. **SCHUTZ** (Wiesbaden) said that the mucous discharge in the intestines differed very much in pathological conditions but that it was impossible to conclude from its quantity whether the condition was of nervous or of catarrhal origin. A nervous origin of a secretion of mucus was very rare; as a rule mixed forms occurred together. The quantity of epithelial cells in the mucus was proportional to the quantity of the latter.

In the discussion Dr. **SCHLESINGER** (Vienna) stated that in mixed forms of membranous enteritis and catarrhal colitis the mucous discharge sometimes contained a great quantity of leucocytes, sometimes only epithelium of the intestine without leucocytes.

Dr. **BICKEL** said that the mucous discharge was not produced by a mere nervous irritation of the mucous glands; like Professor Pawlow, he was of opinion that the mucous secretion was a prophylactic measure of the organism to remove injurious substances. He had found that when an injurious agent produced an abnormal discharge of mucus in the stomach it did not extend over the whole surface of the mucosa but was confined to the area affected by the agent in question. Electrical irritation of the mucosa of the stomach produced a discharge of mucus but not of the specific gastric juice.

Sleeping Sickness.

Dr. **ALBERT LORAND** (Carlsbad) read a paper which he described as a contribution to the Pathology of African Sleeping Sickness. He said that the features of the disease resembled those of myxœdema not only in respect of most of the clinical symptoms, including the apathy and somnolence, but also in the anatomico-pathological appearances, especially those observed in the central nervous system. As often happened with myxœdema, sleeping sickness was preceded by an infectious disease. In the case of sleeping sickness this infectious disease was trypanosomiasis, which presented most of the typical symptoms of hyper-activity of the thyroid gland—namely, hyperthermia, tachycardia, perspiration, diarrhœa, insomnia, and pruritus. In hyperthyroidia there was insomnia but in athyroidia (myxœdema) there was somnolence. It was well known that in most of the infectious diseases the thyroid gland was liable to undergo pathological changes which might be followed by degeneration. Dr. Lorand had an opportunity of observing the disease in a white officer who had returned to Europe from the Congo and in whose cerebro spinal fluid trypanosomata were found. In this case good results were obtained by the use of thyroid tablets, especially in the symptoms referred to the nervous system.

Among the many other subjects brought before the congress mention may be made of papers on the Circulation in Anæmic Patients, by Dr. **MOHR** (Berlin); on Nervous Tachypnœa, by Dr. **HOFBAUER** (Vienna); and on the Centrifugal Current in Sensory Nerves, by Dr. **KOHNSTAMM** (Munich).

THE DINNER OF THE LONDON SCHOOL OF TROPICAL MEDICINE.

A BANQUET was held on May 10th, with the object of liquidating a large debt which the London School of Tropical Medicine has unavoidably contracted. The gathering proved in every way a success. The chair was occupied by the man to whose foresight, inspired mainly by Sir Patrick Manson, the inception of the school is due—namely, the Right Honourable Joseph Chamberlain, formerly Colonial Secretary. The school was founded in the year 1899, its primary object being to afford instruction in tropical medicine to medical officers of the Colonial Service, and the committee of management of the Seamen's Hospital Society was invited to establish the school in connexion with its hospitals. The committee at once fell in with the suggestion but instead of the facilities for training being confined to those who had entered, or were about to enter, the Colonial Medical Service the school was thrown open to all medical practitioners who wished to obtain training in the subject of tropical diseases. The institution flourished from its commencement, but, with that kind of *τύχη ἀτυχής* which so often attends success, so many students sought admission that the laboratory originally built did not suffice and a large addition was rendered necessary. The expenses thus incurred laid a debt of £6000 on the school authorities, thus commencing the burden which it was the object of the banquet to relieve.

A representative company assembled, including Mr. Alfred Lyttelton, the Secretary of State for the Colonies, the Duke of Marlborough, Under-Secretary of State for the Colonies, Lord Rothschild, Sir Richard Douglas Powell, President of the Royal College of Physicians of London, Sir Patrick Manson, medical adviser to the Colonial Office, Sir William Church, Sir John Glover, chairman of Lloyd's, Mr. Jonathan Hutchinson, Mr. Watson Cheyne, Professor Howard Marsh, Major Ronald Ross, Professor W. J. R. Simpson, and Professor Augustus Waller.

After the usual loyal toasts, Mr. **CHAMBERLAIN** proposed "The London School of Tropical Medicine" and said that when he was invited to preside at this dinner he could not resist the temptation to repeat the experience of six years ago when he presided at a similar banquet at the establishment of the London School of Tropical Medicine. Now he came back to rejoice in their past success and to inquire into their future, his interest in tropical medicine being unexhausted and unbounded. He regarded it as a privilege as well as a duty to be in any way associated with the school, a privilege because he could not think of any subject of scientific research and philanthropic enterprise which was more interesting, while it was a duty which we owed to the empire and from which we could not divest ourselves whatever our political opinions might be to see that all our possessions were rendered as healthy as possible. This duty had increased in recent years with the extension of our territory, with the increase of scientific knowledge, and with the awakening of our imperial conscience. We owed this duty to the vast population for which we had made ourselves responsible and owed it also to those of our own race who were daily risking health and life in order to uphold the honour and the interests of this country. Where the British flag was planted there must be established the British prosperity; we were unable, therefore, to stay where we began. Let them compare the position of Egypt as it was a quarter of a century ago with the Egypt of Lord Cromer and note the perhaps even more extraordinary advance in the condition of the Soudan and Nigeria. These miracles had been wrought by a handful of men, mostly very young, brought suddenly into the presence of great responsibilities, having to deal with crises of administration, of disease, of savage aggression, and with every problem of statesmanship. Science had given its martyrs recently in the persons of Myers and of Dutton, and owing to our ignorance of the conditions which had to be faced or our inability to deal with them many others had left their health or their lives behind them in tropical climes. Our first duty was to do all in our power to reduce to the uttermost this blood tribute which we paid to the empire. To Sir Patrick Manson we owed the idea of a London tropical school and almost abreast of him came the promoters of the Liverpool School of Tropical Medicine They in London felt no jealousy of the Liverpool school since there was room for all in that work but they did envy them the liberality and energy of their citizens who raised something like £40 000 by private subscription Why could not London, the metropolis of the empire, the metropolis of the world of commerce emulate more frequently the generosity of a provincial city? Mr Chamberlain then referred to the work done by the London school and to the number of its students and appealed for the sum of £100 000 to repay the debt to make proper provision for the teaching and above all, to subsidise research in tropical diseases of every kind

Sir PATRICK MANSON having replied to the toast the COLONIAL SECRETARY proposed 'The Empire in an excellent speech Mr Lyttelton's words were eloquent and lofty and showed him to be inspired by a very true and far reaching patriotism though as was natural, much of what he said centred round the work of the chairman his predecessor in office

Lord STRATHCONA was the representative public man selected to reply to the toast of The Empire '

The Duke of MARLBOROUGH then gave 'The Health of the Chairman, to which Mr CHAMBERLAIN replied

Subscriptions and donations amounting to over £10 000 were received during the evening

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 12, 1827

Every variety of nervous affection does occur without any organic disease But when people have epilepsy without organic disease they generally recover or may recover If the irritation which occasioned the epilepsy continues for a length of time naturally enough, faulty vascular actions will be induced so that in people who have been long subject to epileptic fits you generally find tubercles But the subject is a most momentous and important one, and very much deserving of your attention For my own part I shall affirm that every kind of nervous malady may occur in the brain, as *functional* disorder and not as *organic* disease This is most important, because it leads to the consideration of *madness*, and why should they bleed and purge and the devil knows what poor people who are afflicted with madness as if they have all a disease of the organ the brain itself? Now here I quote Morgagni he has got a long list of diseases that he has published where tubercles were found and among that list are cases of persons who were mad from too hard a brain, from too soft a brain from a fungus in the brain, from a plexus occurring in the brain, and so on, but here comes the epigram the concluding sentence, 'but all these morbid appearances have I seen without any appearance of tubercles at all and I have seen tubercles where there have been no such morbid appearances ' There's a body of evidence for you (Much laughter) Madness is no cause of these tubercles at all I say the object we should bind our attention to is to settle nervous inquietude, to tranquilise the vital actions of the cerebrum, to cut off any cause of irritation affecting it, and I take the putting into order the *digestive organs* to be one gr d point towards accomplishing this end
what I think is the c u e c
human race, it is their
stimulating those organs to an excess thereby producing nervous disorder and irritation The state of their minds is another grand cause the fidgetting and discontenting yourselves about that which can't be helped, passions of all kinds—malignant passions
the mind disturb the cerebi
harm There is something
you are to quiet the mind
and not to keep bleeding and blistering, as if you were to cure all the diseased structure by such measures Of course preventing too powerful an impulse of the blood is important but everything is to be conducted in moderation [1]

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[1] Excerpt from Mr Abernethy's "Physiological Pathological and Surgical Observations, delivered in the Anatomical Course of Lectures at St Bartholomew's Hospital"

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A QUARTERLY meeting of this College was held on May 2nd, Dr J PLAYFAIR the President, being in the chair

The PRESIDENT made feeling reference to the loss which the College had sustained by the death of Sir John Sibbald

On a ballot the following candidates were admitted to the Membership of the College *after examination* Hugh Jamieson M B, C M Edinburgh, Leo Ferdinando Bianchi, L R C P L R C S Edin, L F P S Glasg, Edinburgh, Patrick Stevenson Haldane, M B Ch B Bridge of Allan, and Jamshijd Dadabhai Munsiff L R C P, L R C S Edin, L F P S Glasg Edinburgh

The REGISTRAR reported that since the last quarterly meeting 38 persons had obtained the Licence of the College by examination

The CURATOR submitted his report for the last year regarding the research and reporting work undertaken in the laboratory during the year and the expenditure incurred The report showed that 34 workers had been engaged in research, that 2426 specimens had been reported on being an increase of 61 on the number for the previous year, and that the expenditure had amounted to £1086 12*s* 4*d* The report was adopted by the College

The Parkin prize which is in the gift of the College, was awarded after competition to Dr Charles Porter The subject of the essay on the present occasion was, in terms of the deed of bequest 'On the Curative Effects of Carbonic Acid Gas or Other Forms of Carbon in Cholera, for Different Forms of Fever and other Diseases '

The TREASURER reported that the council had resolved to offer the Parkin prize for competition for the ensuing year, the subject to be in terms of the bequest On the Effects of Volcanic Action in the Production of Epidemic Diseases in the Animal and in the Vegetable Creation and in the Production of Hurricanes and Abnormal Atmospherical Vicissitudes essays to be received by the secretary up to Dec 31st 1906

Dr Norman Walker was elected as representative of the College on the conjoint committee of management of the triple qualification

It was intimated that Dr W Ford Robertson had been appointed Hon on lecturer for the ensuing session

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 76 of the largest English towns 9533 births and 4621 deaths were registered during the week ending May 6th The annual rate of mortality in these towns, which had been 16 6 15 6 and 16 5 per 1000 in the three preceding weeks declined again to 15 4 per 1000 last week In London the death rate was 14 5 per 1000, while it averaged 15 8 per 1000 in the 75 other large towns The lowest death rates in these towns were 6 0 in Burton-on Trent 6 2 in Hornsey, 8 4 in Handsworth (Staffs) 9 6 in Leyton in Aston Manor and in Rotherham, and 9 9 in Grimsby the highest rates were 21 3 in Rhondda 21 8 in Sunderland 22 4 in Bootle, 24 0 in Merthyr Tydfil 24 2 in Smethwick 24 9 in Middlesbrough, and 26 8 in Oldham The 4621 deaths in these towns last week included 469 which were referred to the principal infectious diseases against 553 453 and 460 in the three preceding weeks, of these 469 deaths 186 resulted from measles 132 from whooping cough 47 from diphtheria, 47 from diarrhœa 29 from scarlet fever 24 from fever ' (principally enteric) and four from small pox In Hornsey, Wolverhampton Walsall Leicester Huddersfield Hull Swansea and five other smaller towns no death from any of the principal infectious diseases was registered last week, while the highest death rates from these diseases were recorded in Hanley, West Bromwich Smethwick, Coventry, Oldham Sheffield and Merthyr Tydfil The greatest proportional mortality from measles occurred in West Bromwich Smethwick Coventry Warrington Oldham, Sheffield, and Merthyr Tydfil, from scarlet fever in Wigan Burnley, and Blackburn, from diphtheria in East Ham, and from whooping cough in West Ham Leyton, Hanley Smethwick, Preston, Halifax, and South Shields. The mortality from "fever" and from diarrhœa showed no marked excess in any of the large towns. Of the four fatal cases of small-pox registered last week one belonged to London, one to Nottingham, one to Oldham, and one to Bradford. The number of small-pox patients remaining under treatment in the Metropolitan Asylums Hospitals, which had been 15, 17, and 16 at the end of the three preceding weeks, had risen again to 17 at the end of last week; four new cases were admitted during the week against none, six, and four in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 2152, against 2133, 2128, and 2182 at the end of the three preceding weeks; 235 new cases were admitted during the week, against 290, 253, and 255 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 304, 272, and 306 in the three preceding weeks, declined to 256 last week, but were 63 above the number in the corresponding period of last year. The causes of 48, or 1·0 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Nottingham, Salford, Leeds, Hull, Newcastle-on-Tyne, and in 51 other smaller towns; the largest proportions of uncertified deaths were registered in Hanley, Leicester, Liverpool, Bootle, Blackburn, and Bradford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0, 17·8, and 18·8 per 1000 in the three preceding weeks, declined again to 18·0 per 1000 during the week ending May 6th, but was 2·6 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·4 in Leith and 15·8 in Paisley to 18·9 in Glasgow and 21·3 in Perth. The 603 deaths registered in these eight towns last week included 26 which were referred to whooping-cough, 16 to measles, 15 to diarrhœa, four to diphtheria, three to scarlet fever, and three to "fever." In all, 67 deaths resulted from these principal infectious diseases last week, against 69, 69, and 59 in the three preceding weeks. These 67 deaths were equal to an annual rate of 2·0 per 1000, which was 0·4 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 36, 23, and 27 in the three preceding weeks, declined last week to 26, of which 16 were registered in Glasgow, three in Dundee, two in Edinburgh, two in Aberdeen, and two in Paisley. The deaths from measles, which had been 17, 23, and 21 in the three preceding weeks, rose to 26 last week, and included 16 in Glasgow, three in Dundee, two in Edinburgh, two in Aberdeen, and two in Paisley. The fatal cases of diarrhœa, which had been nine, 12, and eight in the three preceding weeks, rose again last week to 15, of which five occurred in Glasgow, three in Dundee, three in Leith, and two in Aberdeen. The deaths from diphtheria, which had been six, six, and one in the three preceding weeks, increased again to four last week, and included two in Glasgow. The three fatal cases of "fever," including one of typhus, were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 121, 126, and 121 in the three preceding weeks, rose again to 132 last week, and were 32 in excess of the number in the corresponding period of last year. The causes of 22, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·6, 23·4, and 21·9 per 1000 in the three preceding weeks, rose to 22·0 per 1000 during the week ending May 6th. During the past four weeks the death-rate has averaged 22·2 per 1000, the rates during the same period being 15·4 in London and 17·1 in Edinburgh. The 160 deaths of persons belonging to Dublin was one in excess of the number in the preceding week and included eight which were referred to the principal infectious diseases, against eight, 12, and eight in the three preceding weeks; of these, three resulted from measles, three from "fever," one from whooping-cough, and one from diarrhœa, but not any from small-pox, scarlet fever, or diphtheria. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·5 in London and 0·9 in Edinburgh. The fatal cases of measles, which had been four, four, and two in the three preceding weeks, rose last week to three. The three deaths from "fever" were slightly above the number in the preceding week. The 160 deaths in Dublin last week included 28 of children under one year of age and 44 of persons aged 60 years and upwards; the deaths of infants were slightly in excess of the number in the preceding week, while those of elderly persons showed a decline. Two inquest cases and two deaths from violence were registered; and 61, or nearly 40 per cent., of the deaths occurred in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1905.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·6 per 1000 of the population, estimated at 4,684,794 persons in the middle of the year. In the three preceding months the rates had been 5·8, 5·9, and 6·0 per 1000 respectively. The lowest rates last quarter were recorded in Kensington, City of Westminster, Islington, the City of London, Southwark, and Battersea; while the highest rates occurred in Bethnal Green, Stepney, Poplar, Wandsworth, Lewisham, and Woolwich. Small-pox was rather less prevalent than it had been during the preceding month; the 15 cases notified during April included six in Lewisham, two in Paddington, and two in Woolwich. The Metropolitan Asylums hospitals contained 16 small-pox patients at the end of last month, against 15, 15, and 20 at the end of the three preceding months; the weekly admissions averaged four, against one, three, and four in the three preceding months. The prevalence of scarlet fever during the month under notice showed a very slight decline from that recorded in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hackney, Stepney, Wandsworth, Camberwell, Deptford, Lewisham, and Woolwich. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 2067, 1941, and 1997 at the end of the three preceding months, had further risen to 2152 at the end of last month; the weekly admissions averaged 266, against 209, 231, and 272 in the three preceding months. The prevalence of diphtheria showed a considerable decrease compared with that in the preceding month; the greatest proportional prevalence of this disease occurred in Hammersmith, Fulham, Shoreditch, Bethnal Green, Stepney, Poplar, and Woolwich. The Metropolitan Asylums hospitals contained 719 diphtheria patients at the end of last month, against 836, 837, and 788 at the end of the three preceding months; the weekly admissions averaged 83, against 115, 118, and 98 in the three preceding months. Enteric fever was slightly less prevalent than it had been in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Fulham, Chelsea, Holborn, Poplar, Southwark, Deptford, and Woolwich. The number of enteric fever patients remaining under treatment in the Metropolitan Asylums hospitals at the end of last month was 65, against 134, 105, and 68 at the end of the three preceding months; the weekly admissions averaged 11, against 17, 13, and 11 in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Shoreditch, Bethnal Green, Stepney, and Poplar. The 19 cases of puerperal fever notified during the month included three in Lewisham and two each in Islington, Hackney, and Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending April 29th the deaths of 5422 persons belonging to London were registered, equal to an annual rate of 15·1 per 1000; in the three preceding months the rates had been 17·0, 16·4, and 15·5 per 1000. The rates

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1905

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1905	NOTIFIED CASES OF INFECTIOUS DISEASE. Small pox.	Scarlet fever.	Diphtheria *	Typhus fever.	Enteric fever	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total	Annual rate per 1000 persons living	DEATHS FROM PRINCIPAL INFECTIOUS DISEASES. Small pox.	Measles	Scarlet fever.	Diphtheria *	Whooping-cough	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes	Death rate per 1000 living	Deaths of Infants under one year to 1000 births
LONDON...	4,684,794	15	1187	427	1	84	2	19	232	—	2017	5·6	2	166	45	45	192	—	18	—	48	516	1·4	5422	15·1	115
West Districts.																										
Paddington	147,935	2	25	10	—	—	—	—	9	—	47	4·1	—	8	1	—	8	—	2	—	1	20	1·8	162	14·3	136
Kensington	180,083	—	16	6	—	5	—	1	4	—	33	2·4	—	3	2	2	9	—	—	—	2	18	1·3	216	15·6	145
Hammersmith	119,037	—	34	16	—	—	—	1	7	—	58	6·4	—	1	1	1	13	—	—	—	1	17	1·9	129	14·1	143
Fulham	157,210	—	31	20	—	6	—	1	11	—	69	5·7	—	9	1	—	13	—	1	—	2	26	2·2	190	15·8	127
Chelsea	74,496	—	18	5	—	3	—	—	4	—	30	5·2	—	—	—	2	2	—	1	—	—	5	0·9	89	15·6	87
City of Westminster	175,606	1	18	12	—	1	—	—	5	—	37	2·7	—	—	2	—	5	—	1	—	1	9	0·7	163	12·1	100
North Districts.																										
St. Marylebone	129,453	—	30	13	—	1	—	—	9	—	53	5·3	—	5	3	—	4	—	1	—	2	15	1·5	155	15·6	73
Hampstead	88,142	—	20	6	—	1	1	—	2	—	30	4·4	—	—	—	1	4	—	2	—	—	7	1·0	70	10·4	66
St. Pancras	236,183	—	40	25	—	1	—	—	8	—	74	4·1	—	10	2	4	6	—	—	—	1	23	1·3	262	14·5	128
Islington	342,994	—	48	19	—	6	—	2	12	—	87	3·3	—	9	2	2	14	—	—	—	2	29	1·1	379	14·4	95
Stoke Newington	52,828	—	17	6	—	—	—	—	1	—	24	5·9	—	3	—	—	—	—	—	—	—	3	0·7	46	11·3	83
Hackney	223,479	—	79	23	—	7	—	2	20	—	131	7·5	1	10	2	1	12	—	2	—	3	31	1·8	235	13·4	88
Central Districts.																										
Holborn	56,481	1	15	1	—	2	—	—	1	—	20	4·6	—	1	1	—	2	—	—	—	—	4	0·9	63	14·5	81
Finsbury	98,207	—	15	10	—	—	—	1	4	—	30	4·0	—	8	1	2	1	—	—	—	1	13	1·7	148	19·6	125
City of London	22,425	—	4	—	—	1	—	—	1	—	6	3·5	—	—	—	—	—	—	—	—	1	1	0·6	36	20·9	34
East Districts.																										
Shoreditch	116,565	—	31	16	—	2	—	—	11	—	60	6·7	—	11	2	3	19	—	—	—	2	37	4·1	194	21·7	166
Bethnal Green	130,401	—	39	22	—	1	—	—	16	—	78	7·8	—	7	2	4	6	—	—	—	—	19	1·9	156	19·6	135
Stepney	305,466	1	103	41	1	6	—	1	29	—	182	7·8	—	17	4		15	—	—	—	3	46	2·0	410	17·5	147
Poplar	170,230	—	51	37	—	6	—	1	20	—	115	8·8	—	15	4	2	4	—	2	—	8	35	2·7	243	18·6	153
South Districts.																										
Southwark	203,528	—	20	18	—	7	—	—	14	—	59	3·7	—	2	1	2	13	—	1	—	3	22	1·4	273	17·1	112
Bermondsey	129,006	—	27	5	—	2	—	—	10	—	44	4·4	—	9	1	1	2	—	—	—	1	14	1·4	177	17·9	129
Lambeth	313,045	—	66	17	—	5	—	1	16	—	105	4·4	—	3	—	1	10	—	—	—	3	17	0·7	354	14·7	105
Battersea	177,532	—	32	12	—	1	—	—	6	—	51	3·7	—	21	1	1	4	—	—	—	—	27	2·0	194	14·2	102
Wandsworth	265,392	—	124	16	—	4	1	2	20	—	167	8·2	—	1	5	1	14	—	1	—	3	25	1·2	245	12·0	94
Camberwell	271,240	—	110	11	—	1	—	1	20	—	143	6·9	—	9	4	1	9	—	1	—	4	28	1·3	286	13·7	114
Deptford	114,495	—	38	11	—	5	—	—	7	—	61	6·9	—	—	—	—	1	—	1	—	1	3	0·3	120	14·8	144
Greenwich	103,493	1	32	9	—	—	—	1	3	—	46	5·8	—	1	1	3	—	—	—	—	1	6	0·8	90	11·3	109
Lewisham	144,420	6	59	11	—	4	—	3	8	—	91	8·2	1	3	—	1	1	—	2	—	—	8	0·7	142	12·8	98
Woolwich...	125,372	2	42	30	—	6	—	1	4	—	85	8·8	—	—	2		1	—	—	—	2	8	0·8	145	15·1	81
Port of London	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

last month ranged from 10·4 in Hampstead, 11·3 in Stoke Newington and in Greenwich, 12·0 in Wandsworth, 12·1 in the City of Westminster, and 12·8 in Lewisham, to 17·9 in Bermondsey, 18·6 in Poplar, 19·6 in Finsbury and in Bethnal Green, 20·9 in the City of London, and 21·7 in Shoreditch. The 5422 deaths from all causes in London last month included 516 which were referred to the principal infectious diseases; of these, two resulted from small-pox, 166 from measles, 45 from scarlet fever, 45 from diphtheria, 192 from whooping-cough, 18 from enteric fever, and 48 from diarrhœa. The lowest death-rates from these diseases were recorded in the City of Westminster, Stoke Newington, the City of London, Lambeth, Deptford, and Lewisham; and the highest rates in Fulham, Shoreditch, Stepney, Poplar, and Battersea. Of the two fatal cases of small-pox one belonged to Hackney and one to Lewisham. The 166 deaths from measles were 110 fewer than the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, Stoke Newington, Finsbury, Shoreditch, Poplar, Bermondsey, and Battersea. The 45 deaths from scarlet fever were six in excess of the average number in the corresponding periods of the ten preceding years; the greatest proportional mortality from this disease occurred in St. Marylebone, Holborn, Shoreditch, Poplar, Wandsworth, and Woolwich. The 45 fatal cases of diphtheria showed a decline of 62 from the corrected average; among the various metropolitan boroughs diphtheria was proportionally most fatal in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Stepney, Greenwich, and Woolwich. The 192 fatal cases of whooping-cough were 45 below the average number in the corresponding periods of the ten preceding years; this disease showed the greatest proportional mortality in Paddington, Hammersmith, Fulham, Hackney, Shoreditch, Stepney, Southwark, and Wandsworth. The 18 deaths from "fever" were seven fewer than the average, and included two in Paddington, two in Hampstead, two in Hackney, two in Poplar, and two in Lewisham. The 48 fatal cases of diarrhœa showed a slight decline from the corrected average number; among the various metropolitan boroughs the highest death-rates from this disease were recorded in St. Marylebone, Shoreditch, Poplar, Southwark, Camberwell, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 31 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 115 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Stoke Newington, Holborn, the City of London, and Woolwich; and the highest rates in Kensington, Hammersmith, Shoreditch, Stepney, Poplar, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon Robert Forbes Bowie has been placed on the retired list, at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated May 7th, 1905).

The following appointment is notified:—Surgeon G. E. Glynn to the *Excellent* for the *Grafton.*

ROYAL ARMY MEDICAL CORPS.

Lieutenant D. S. B. Thomson is seconded for service with the Egyptian Army (dated April 21st, 1905).

—The undermentioned Captains to be Majors (dated April 29th, 1905):—H. C. French, E. M. Williams, and J. R. McMunn. The undermentioned Lieutenants are confirmed in that rank:—L. V. Thurston, A. W. Gater, and J. P. Lynch.

IMPERIAL YEOMANRY.

Essex: Charles Gordon Roberts (late Second Lieutenant) to be Surgeon-Lieutenant (dated May 3rd, 1905). East Riding of Yorkshire: Surgeon-Lieutenant R. H. Ashwin resigns his commission (dated May 3rd, 1905).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Forfarshire: Surgeon-Lieutenant J. Gray resigns his commission (dated May 3rd, 1905).

Rifle: 2nd Tower Hamlets: Herbert Samuel Stockton to be Surgeon-Lieutenant (dated April 10th, 1905). 2nd Volunteer Battalion the Hampshire Regiment: Surgeon-Captain O. T. Stephenson resigns his commission (dated May 10th, 1905). 2nd Volunteer Battalion, the Manchester Regiment: Surgeon-Lieutenant J. A. K. Renshaw to be Surgeon-Captain (dated May 10th, 1905). 1st Volunteer Battalion the Royal Warwickshire Regiment: Wilfrid Allport to be Surgeon-Lieutenant (dated May 3rd, 1905). 1st Volunteer Battalion the Norfolk Regiment: Supernumerary Surgeon-Lieutenant J. M. G. Bremner to be Surgeon-Captain and to remain Supernumerary (dated May 3rd, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Manchester Companies: Lieutenant G. Fyfe Waterston resigns his commission (dated May 10th, 1905).

RECRUITING IN MANCHESTER.

In the year ending Sept. 30th, 1904, 5038 men offered themselves for enlistment in Manchester. Of these 1962 were at once rejected, while of those passed on for the medical examination 1522 failed to pass. 1378 were finally approved, so that about 69 per cent. were rejected "as unfit for military training and service." Much the same experience has been passed through at other recruiting centres in Lancashire. It is, therefore, very naturally stated that "the steady increase of physical infirmity amongst the class to which the army looks for its recruits provides ground for much anxious thought." Enlistment is not now popular, so that the recruits come largely from those who have difficulty in obtaining work, to whom it is an alternative preferable to starvation. The standard of height has been gradually lowered. In 1870 and immediately following the introduction of the short-service system the height of the infantryman was to be 5 feet 8 inches. In July of the same year the standard was lowered 2 inches to 5 feet 6 inches and in September to 5 feet 5½ inches. In 1871 it was dropped again to 5 feet 5 inches and in 1873 to 5 feet 4½ inches. In 1884 it fell to 5 feet 4 inches and to-day it is 5 feet 3 inches, while during the war in South Africa we were so short of men that little fellows of "only 5 feet" high were accepted. More serious than the deficient number of inches, on account of which indeed, only a small proportion were rejected, is the fact that many failed on account of "small chest measurement." The majority, however, were passed over because of bad teeth and "flat feet,' while many had defective eyesight. It is said that thousands are turned away for flat feet, which is considered by some to be due to the wearing of clogs. There can be no question that among the class from which these would-be recruits come, the "ne'er-do-wells" and "out-of-works," who, thanks to the short-service system go in for "a spell of soldiering," there is grievous deterioration of physique, but it does not follow that it runs through the whole social scale. Their numbers are, however, so great that this decadence is a serious danger to the future of the nation. There are many and diverse ideas afloat as to the best means of remedying the evil, from the feeding of underfed children, without apparently much care about the removal of responsibility from the parents, to the scheme of universal military training advocated by the National Service League. There is little doubt that the latter, if the people and the Government would have it carried out, would do much not only for the physique but the morale of the younger generation, quite apart from any question of the defence of our shores.

THE WAR IN THE FAR EAST.

Notwithstanding the feeling of tension and anxious expectation with which the political world has of late been watching the course of events in regard to the presence of the Russian fleet in territorial waters in the Far East and the steps which were being taken by the French Government to insure the observance of neutrality, there has been a dearth of news, and especially of a medical nature, from the actual seat of war. At the present time the position may be succinctly summed up as follows. Admiral Rojdestvensky's fleet, which had been the cause of this grave difficulty, has left the Bay of Vanfong for some unknown destination. Admiral Togo's fleet has disappeared and its position is still a well-maintained secret, and with respect to the land forces we have of late heard little or nothing about Marshal Oyama's movements. As regards medical news, we learn from St. Petersburg that, according to the *Novoye Vremya*, there is in the region between Lake Baikal and Vladivostock a total of over 2000 sick and wounded Russian officers and 30,368 men.

Correspondence.

"Audi alteram partem."

AN INTERESTING NOTE UPON HOLDEN'S OSTEOLOGY.

To the Editors of THE LANCET.

SIRS,—I have only very recently read your obituary notice of my old teacher and friend, Luther Holden. It has much interested me. Referring to his great and admirable work, "Human Osteology," you say, "When it appeared (viz., in 1855) the reviews generally contained the remark, 'Why did no one think of this before?'" A most natural question, seeing how simple a matter it was. In connexion with it, however, there are a few facts relating to what preceded which may have an interest as illustrating the manner in which the practical applications of inventions often come about.

From 1846 to 1850 I was a student at St. Bartholomew's Hospital. During the winter session of 1848–49, with the view of acquiring for myself a more accurate knowledge of the attachments of muscle, I brought to the dissecting room the bones of the portion I was dissecting and carefully drew with a pencil the outline of the space occupied by the attachment of each muscle. When I had satisfied myself as far as possible of the correctness of these outlines I took the bone home and painted with Indian ink the whole surface included in the outline of each muscular attachment. When a bone was thus completed it was varnished. At this time Mr. Holmes Coote and Mr. Luther Holden were our demonstrators in the dissecting room. I passed the examination of the College of Surgeons shortly before Christmas, 1849, and that of the Apothecaries' Company in May, 1850. Before I left the hospital Mr. Coote asked me to lend him my marked bones. I did so with alacrity, feeling gratified that he took an interest in them, and he kept them many months. Shortly after he had returned them his little book on the bones was published with illustrations, on which were shown for the first time in fine outlines the attachments of the muscles. Not long afterwards Mr. Coote died. One day I had some of the bones in the museum when Sir William Lawrence was there. On [illegible] t them attentively, then [illegible] l his lips, as his manner [illegible]

[illegible] r offered me a tempting opening in the old concern in Plough-court, Lombard-street, and being engaged and anxious to marry I gladly accepted it, and, abandoning all idea of practice, soon became closely occupied with other interests, and it was, I believe, some years after the publication of Mr. Holden's beautiful book that I first saw it. I had intended to let the above particulars die with me but the reviewer's remark quoted by you, "Why did no one think of this before?" seems to invite the foregoing statement.

I am, Sirs, yours faithfully,

Little Berkhamsted, May 9th, 1905. CORNELIUS HANBURY.

PS.—I am sending the bones I marked to the museum of St. Bartholomew's Hospital, where, no doubt, they will be open to the examination of anyone interested and may afford a useful suggestion to some careful students.

THE TREATMENT OF TUBERCULOSIS OF THE LUNGS BY MEANS OF TUBERCULIN.

To the Editors of THE LANCET.

SIRS,—In my article on the Treatment of Tuberculosis of the Lungs by Means of Tuberculin and other Bacterial Derivatives, published in THE LANCET of April 8th last (p. 923), I made the following statement in criticism of the results obtained by Dr. Lawrason Brown in the treatment of pulmonary tuberculosis by means of tuberculin: "And criticising the figures given by Brown it would really appear that 204 out of 282 cases were apparently cured without tuberculin, which is 72·3 per cent.—*greater* than the results with tuberculin."

Dr. Lawrason Brown has pointed out that this is a mistake on my part and that instead of 204 the figures should be 173. This would give a percentage cure without tuberculin of 61·3 per cent. and Dr. Lawrason Brown has pointed out in his admirable article in the *Zeitschrift fur Tuberkulose und Heilstattenwesen*, 1904, Band vi., Heft 4, S. 235, that he has been able to secure an apparent cure in similar cases, using tuberculin, of 72 per cent., which is 10·7 per cent. better than when tuberculin was not used. I am the more wishful to correct this mistake, for Dr. Lawrason Brown has taken the greatest care to avoid making extravagant claims in favour of tuberculin. Dr. Lawrason Brown's results support the favourable reports published by others on the value of tuberculin in suitable cases and do not militate against them, as my remarks may have led your readers to think.

I am, Sirs, yours faithfully,

May 8th, 1905. H. BATTY SHAW.

IF TUBERCULOSIS SHOULD BE CERTIFIED, WHY NOT SYPHILIS?

To the Editors of THE LANCET.

SIRS,—In the correspondence on this subject in THE LANCET one point appears to have escaped notice—viz., that before notifying a disease it is necessary to diagnose it. In the evidence before the recent committee on physical deterioration Sir Alfred Cooper stated: "It is advisable that there should be special departments at general hospitals for the treatment of this class of disease and all such cases should be relegated to that department. It should be under the charge of someone specially skilled in that branch of professional knowledge and a course of instruction in that subject should be compulsory for every student. These special departments have been in existence for years past in the majority of European countries and in America." In fact, in this country there is no systematic teaching of syphilis and venereal diseases and the majority of medical men go into practice knowing little or nothing of two of the most widespread and disastrous diseases which afflict mankind. Until this state of affairs is altered it is idle to speak of notification.

I am, Sirs, yours faithfully,

May 4th, 1905. C. F. MARSHALL, F.R.C.S. Eng.

THE RELATIONSHIP BETWEEN PLAGUE-INFECTED ANIMALS AND THE DISEASE IN MAN.

To the Editors of THE LANCET.

SIRS,—In dealing with Professor W. J. R. Simpson's "Treatise on Plague" in THE LANCET of May 6th, p. 1205, your reviewer attributes certain experiments carried out in Natal on the "relationship between plague-infected animals and the disease in man" to Mr. Ernest Hill. May I be permitted to point out that this is not quite correct? A full account of the experiments in question is embodied, it is true, in Mr. Hill's "Report on the Plague in Natal," 1902–03, but practically the whole of the work was carried out by Mr. H. Watkins Pitchford, the Natal Government bacteriologist, and Dr. Haydon.

I am, Sirs, yours faithfully,

H. S. WILLSON, M.B. Cantab.

King's College, Strand, W.C., May 9th, 1905.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—[illegible] Vice-President, and Council, [illegible] examiners were elected: [illegible] gan and Alexander Fraser. [illegible] Andrew Fullerton, Thomas E. Gordon, and R. [illegible] l histology: Charles Coppinger [illegible] Pathology and bacteriology: [illegible] ilton White. Midwifery and gynaecology: Frederick W. Kidd. Biology: John J. Bu [illegible] Benson and Patrick W. [illegible] atistics: H. Benson Gou [illegible]: J. Charles Wilmot. Chemistry and physics: Edwin Lapper and Robert J. Montgomery. Dental surgery and pathology: George M. P. Murray and William G. Story. Mechanical dentistry: William Booth Pearsall and Daniel L. Rogers. Languages: L. J. Woodroffe. Mathematics, physics, dictation, and English essay: J. W. Tristram.

THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

Committee Meeting at Berne.

(From a Special Correspondent.)

(Concluded from p. 1232.)

Berne, May 1st.

On the reassembling of the committee in the afternoon, Dr. **Posner**, from the chair, opened a discussion on the means of drawing the affiliated associations closer together and rendering the international organisation of real service to the public and to its members. He thought that the publication of an "Annual" might help if it supplied the members with a list of the journals belonging to the International Association, with the rules governing the national associations, and with accounts of the meetings that had been held and of the measures taken. It would be something to show, some testimony and proof that useful work had been done. Such a publication should be issued in time for the Lisbon Congress and if not brought out every year it should at least appear before every great international medical congress.

Dr. **Blondel** and Dr. **Bossi** thought that such a publication would make others more anxious to join the association and the principle that such an "Annual" should be issued was adopted.

Dr. **Péchère** then suggested that journals on their title page should mention the fact of their affiliation to the International Association.

Dr. **Jaquet** inquired how it was proposed to separate the genuine medical press from publications that were issued by manufacturers merely to advertise their drugs, instruments, &c. The latter were often mistaken for *bonâ fide* scientific publications. The proclamation of affiliation should have a moral and scientific effect, it should constitute a privilege, but it was necessary to see that it was worthily employed.

Mr. **Adolphe Smith** said that he gathered that before anything of the sort could be done a considerable work of purification had to be accomplished by some national associations. Before the Conference of Monaco and the publication of the rules there proposed an undesirable element had gained admission.

Dr. **Péchère** thought that the work of purification had been accomplished.

Dr. **Bombarda** said that certainly this was the case in Portugal.

Mr. **Adolphe Smith**, in answer to questions, said that in England the difficulty as yet was not how to expel unworthy members but how to find a sufficient reason to prevent such from joining.

Dr. **Blondel** explained that at first in forming an International Association it was necessary to accept what existed. An international association that existed only as a project could not dictate to national associations that had been in practical life for several years. Now, however, they might begin to register members and where a national organisation had members whose qualifications did not correspond with the Monaco rule the fact should be mentioned.

Dr. **Doléris** promised that the work of purification would be undertaken in France. Many applicants for membership of the French Association of the Medical Press had been rejected. Of late, however, a leakage had occurred.

Dr. **Larra** explained that the Spanish Association of the Medical Press had been in existence for 23 years. It was not possible to exclude journals of 23 years' standing. Fortunately, these were all honourable publications, but the rules differed, inasmuch as the organs of allied professions, of chemistry, and of the veterinary surgeons had been admitted.

Dr. **Blondel** was very anxious to know who was going to undertake the work of purification. Was it the executive of each national association? He thought that some of them would fear to act and, moreover, did they as a central authority possess the power? On paper, at least, it seemed to exist in the second paragraph of Article XI of Chapter II.

Dr. **Péchère** considered such power excessive.

Dr. **Bombarda** said that the committee could not go beyond the national societies or interfere with them. Each nationality must do its own work of purification. Besides, a journal might be very honourable to-day and might degenerate to-morrow. An international committee could not watch such fluctuations and be responsible for all the nations.

Mr. **Adolphe Smith** also insisted on leaving the greatest possible autonomy to each nation. Each national association must bear the sole responsibility of the selection which it made.

Dr. **Blondel**, however, thought that the Berne Conference had the right and the duty to call upon the national organisations to endeavour to carry out the general principles as to membership and to supply full information as to the measures which they were taking to that effect. Dr. Blondel, as general secretary of the International Association, moved:—

> That the present meeting of delegates, so as to conform with the rules, should authorise him to write to the general secretaries and ask them for a list of proposals or rules of their respective National Associations which relate to the journals that they desire should be affiliated to the International Association, at the same time pointing out to them that the assembly of delegates united at Berne expressed the desire that the National Associations should only propose such journals as were exclusively scientific publications and excluding publications distributed gratuitously.

This was adopted unanimously.

Several speakers thought that the power of the International Association would be greatly increased if one or two important questions on which all parties agreed were simultaneously discussed in the journals of all the nationalities represented. The presence of wealthy patients, who could afford to be treated at home, in the beds of hospitals intended for the poor was an example of the sort of question—a grievance which existed in all countries and about which joint international pressure could be brought to bear. This suggestion was very generally approved and perhaps some such subject will be submitted next year at Lisbon. It was also urged that the card of membership would be of use if all members made it a matter of duty to honour and to assist those who bore this card, especially when travelling. This was agreed to and the card will shortly be issued. But it must be borne in mind that to be a member of the International Association the candidate must notify the international general secretary, Dr. Blondel, that he approves the rules, and this must be accompanied by a certificate from the president of his own national association to the effect that he is a fit and proper person. It will be for the presidents of national associations, where the work of purification is going forward, to be careful how they endorse applications made to the international general secretary. The latter will issue cards of membership only in response to the signature of the president of a national association of the medical press.

The very practical question concerning the work to be done at Lisbon next year then came up for discussion. The first point to decide was whether there should be at Lisbon an open congress such as had been held in Paris and Madrid, at which the entire medical press of the world would be invited to attend, whether belonging or not to the International Association. On the one hand such a course has the advantage of drawing together a large number of persons and it provides an opportunity of recruiting new members for the association. Moreover the authorities are more ready to take note of a large congress and to pay some sort of compliment to its members. On the other hand, such congresses can only express pious wishes, for the International Association of the Medical Press cannot allow itself to be governed by resolutions adopted at a congress where a great part of the members present do not belong to the association. The association may have something, perhaps even a great deal, to learn from expressions of opinion gathered from outside but its policy can only be determined by the majority within its own ranks. Therefore when a congress is held it is necessary to have at the same time a meeting of members and it is not easy to manage both together. This difficulty was felt keenly at Madrid, where the better part of two days was spent in the magnificent hall of the Central University listening to fine speeches delivered by irresponsible persons, and when, meeting later in a small side room, the members of the association wanted to attend to their practical work no sufficient time remained for this purpose. Yet there are occasions when the noise and publicity of a large congress may be of use, but such use is more local than international. Indeed, a congress is generally a means of stimulating and of educating local opinion, of creating or of reviving interest in the questions discussed. Therefore it should be left to the Association of the Medical Press where the meeting was to take place to decide whether this should be a general meeting of the International Association or a congress with its doors open to all comers. A proposal to this effect made by the British delegate was at once adopted by the committee. Dr. **BOMBARDA** then explained that his hands were so full with the organisation of the Fifteenth International Congress of Medicine that he feared he could not undertake to organise yet another such assembly. After a good deal of conversation it was agreed that there should be no congress of the medical press but that a general assembly of the entire International Association of the Medical Press should meet on Tuesday and Wednesday, April 17th and 18th, 1906, at Lisbon; that is on the two days previous to the day fixed for the opening of the Fifteenth International Congress of Medicine. No one will be admitted who is not a member of the International Association of the Medical Press, but as all who are members can attend there will be no question of sending delegates. The vote will then be by nationality according to Article XII. of Chapter III. of the rules. The Portuguese Association of the Medical Press will make arrangements to provide a room for the meetings and will probably be able to print a report of the proceedings. Nothing more is offered, but, on the other hand, no entrance fee will be charged. Dr. **BOMBARDA** [illegible] all who will attend the meetir[illegible] also be attending the Medical C[illegible]plify matters to avoid having t[illegible]way tickets, &c. All the advantages and hospitality offered would come to them as members of the Medical Congress.

Dr. **PÉCHÈRE** and Dr. **BLONDEL** thought that the Medical Congress should offer some special recognition or privilege to the International Association of the Medical Press. For instance, 18 cards of honorary membership might be given to the 18 members of the Committee of the International Association of the Medical Press.

The subjects to be put down on the agenda for the Lisbon meeting were next considered. The first question inscribed, with Dr. Blondel and Dr. Posner as reporters, relates to publishing a brief summary of the original articles for purposes of ready reference. They will also report on the advisability of issuing a bulletin. From France a third subject will be introduced—namely, the adoption of the title of "Doctor" for the purpose of signing articles or even advertisements when the writer is not a medical man. Dr. Bossi wants to discuss the relations of medical practitioners with the political press and Mr. A. Smith proposes that Portugal should be allowed two representatives instead of one on the International Committee. Of course many more questions will be introduced for debate before the date of the meeting at Lisbon.

A somewhat animated discussion followed in regard to the work of the press at the Lisbon Congress of Medicine. How could the organisers of the Congress help the press and how could the press be of use to the Congress?

Dr. **BOMBARDA** said that the faults committed at Madrid had been carefully noted, that the very best intentions prevailed at Lisbon, and that full confidence might be placed in the organisers. There was some difficulty in explaining, in making it quite clear, that every confidence existed as to the good intentions of the organisers of the Lisbon Congress of Medicine. At the same time the organisers could not be expected to know what were the requirements of the press unless they were told. Instead of every individual journalist sending in his own personal request or complaint the International Association of the Medical Press had been formed to present once and for all such requests or such complaints, and this in an authoritative manner as the desire or criticism not of one journalist or of one paper but of many papers belonging to many nations. Such collective representations would save much time and would facilitate the work of the organisers of medical congresses. To-day at Berne a committee of technicians were gathered together competent to enter into minute details of what was necessary, so that the work of the press, on which the success of the congress in the main depended, could be best accomplished. For instance, a room where members of the press could work quietly was very necessary. At Madrid such a room was provided but was invaded by a constant flow of distributors of advertisements and touters. Dr. Bombarda promised to do as much as the geographical conditions rendered possible. They were endeavouring not to scatter the Congress of Medicine but to hold it under one roof. This would be that of the new medical schools which were now being built. But the congress had already 20 sections and the number was increasing. Then they had 13 separate offices, a lounge, a ladies' saloon, &c. The committee protested that the work of the press was of more importance than a saloon for ladies, particularly as the crush room of the principal theatre had been set aside for their use during the congress week. It was decided that the members of the press should have a special card over and above the ordinary card of members of the Congress of Medicine and that a special room should be placed at their service and a doorkeeper appointed who would not allow anyone to enter unless he showed the press card. This would be done even at the sacrifice of a subsection if necessary. But it was difficult to say how large this room would be—first, because there was but limited space; and secondly, because it was difficult to ascertain how many working journalists would be present. It had been said, but it was not possible to discover on what authority, that there were 70 journalists at Madrid and 80 at Rome. The next point was with regard to letters. There would be a post installed at the congress, but pressmen had too much work to do to wait in the midst of a large crowd for their letters. Letters headed "Press Bureau" or "Press Service" should be put into separate and special alphabetically marked pigeonholes and conveyed either to the press room or served out by a special attendant at a different part of the counter.

In regard to the reporting of the proceedings in the sections there will be in each section a table set apart for the press. Further, the secretaries of the sections will be requested to remain in the room for a little while after their section has adjourned. They will then read out slowly to the pressmen gathered round them the summaries of the speeches which each person who takes part in the discussion is at once requested to write. Those members of the Congress who are to propose motions will be requested to bring several copies of the same with them for distribution to the press. Efforts also will be made to establish on the spot an office where writers of papers or speeches can go and have copies of the same promptly printed at their own expense. This was done with great effect in Paris in 1900 and was of service to the authors and to the press. It was also suggested that medical students speaking other languages than Portuguese should be invited to attend and to help as interpreters. Then the request was made that a representative of the International Association of the Medical Press should be allowed to speak at the inaugural meeting. Dr. Bombarda promised that he would endeavour to make the necessary arrangement. The press is a Power and as such should speak with the representatives of the Powers. This principle was accepted at Madrid and there was no reason why it should be set aside at Lisbon.

On the other hand, the delegates at Berne were anxious to know what on their side they could do to help the organisers of the Lisbon congress. They could always be of use in putting into circulation whatever it was desirable should be made known and each national secretary placed himself at the disposal of Dr. Bombarda to notify the press of his country whenever the need or occasion arose.

[illegible] questions. [illegible] was read [illegible]ciation of the Dutch Medical Press. The initiative had been taken by one of the best papers in Holland and the association consisted of 14 papers, three issued every month, one quarterly, and one publication which qualifies itself as "irregular."

The minutes of the previous meeting were read and confirmed and then Mr. **ADOLPHE SMITH**, as instructed by the Association of the British Medical Press, moved that:—

> Copyright of articles in a medical journal should be of such a nature as to preclude advertisers from misusing such articles or any quotations therefrom.

Dr. **BLONDEL** having remarked that he was under the impression that the French law punished all who made detrimental quotations the motion was carried unanimously.

Dr. **DOLÉRIS**, on behalf of the Association of the French Medical Press, described at length difficulties in regard to the reproduction of the medical thesis which forms part of the examination for the doctor's degree. As this question is fully explained in the motion proposed it may suffice to give the text. Dr. Doléris moved that:—

> Considering, firstly, that practically the inaugural thesis is an obligatory test accompan[illegible] the exam[illegible] and [illegible] debate. Secondly, that if this [illegible] be publ[illegible] pan[illegible]nd sold to the profit of the [illegible] much

> attenuated by the obligation of sending a considerable number of copies to the professors attached to the universities, the libraries of the faculties and of the schools of medicine; and that further the thesis of the doctorate of medicine is generally and gratuitously distributed by the author himself to a large number of members of the profession, that all this constitutes an extensive publicity which considerably reduces the commercial value of the work. Thirdly, that the reproduction in a journal of an inaugural thesis, even if it possesses a really original character instead of being a mere compilation followed by the same conclusions that are given in classical text-books, can only confer on the author professional and moral advantages that are vastly superior to the profits of the sale of the work. Fourthly, that finally [illegible] lectures, and notes has [illegible] the committee of the [illegible] express the opinion [illegible] cannot, as a rule, be considered to constitute an appreciable material damage. That, further, there can be no question of a penal offence, as the evident intention of the journalist is to render service to the author by giving him a gratuitous publicity.

The feeling on this proposition was not unanimous though it was adopted by the majority. It appears that in France no less than 280 copies have to be sent of the thesis to the various faculties. At the Berne Bureau on International Copyright the question of this form of medical thesis had never been discussed.

An important point was raised by Dr. POSNER. He said that German journals occasionally received interesting papers from foreign, notably from Italian, professors. These might be accepted and published in a German journal. Then some time afterwards it was discovered that they had already appeared in an Italian periodical. No mention of this had been made when the paper was offered and it was not always certain that the translation offered was an authorised translation or even a correct translation. Such difficulties became more acute when dealing with, for instance, the Russian or the Polish language.

Dr. BLONDEL remarked that according to the Berne International Convention on Copyright authors had no right to allow several publishers to issue the same work.

Dr. PÉCHÈRE insisted that no publisher or journal should be offered a work that was going to appear elsewhere in whatever country or language without being fully informed of the fact.

Dr. POSNER pointed out that the priority of publication was also involved and did not belong to the purchaser of a work if it could be shown that it had already appeared elsewhere, though this might be in another country and another language. He therefore proposed the following motion:—

> The Conference of Berne,—considering that some authors are in the habit of publishing their works simultaneously in several journals without informing the editors of these journals, that this custom gives rise to great difficulties for the orientation of literature and the establishment of priority in literary property, and that it is injurious to the rights of the publishers who have purchased these works,—declares that it is not admissible that an author should be able to publish the same work in different journals unless it be a translation authorised by the original publisher. The members of the association are therefore *authorised to insist that the authors who offer them an original* work shall be called upon to affirm that the work is not published or about to be published elsewhere.

The motion was carried unanimously and this concluded the labours of the Conference.

Dr. POSNER, who had occupied the chair throughout, then rose and said a few parting words. He thought that the committee had every reason to offer special thanks to Dr. Bombarda for his presence. He had come a very long way and they all hoped to see him again next year at Lisbon. His presence at Berne had been of the greatest use in view of the forthcoming International Congress of Medicine, of which he was the general secretary. He might carry home the assurance that the press was unanimous in wishing him all success in the organisation of the next medical congress. Every member of the conference assembled at Berne would do his best to promote its success.

The chairman then dissolved the meeting and the members parted company well satisfied with the interesting and practical discussions which had been held during the two days.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Infants at School.

AT the last meeting of the Lancashire county council Dr. Trimble drew attention to the large numbers of children under five years of age now in the elementary schools. They were very liable to catch infectious diseases which often proved fatal and he thought that their exclusion would be of great service from a public health point of view and would leave more room for older children, thus rendering it unnecessary to build some of the new schools which were said to be required. The chairman of the health committee, Mr. R. Sephton, said that the committee had appointed a subcommittee to discuss the subject with the education committee. From some points of view it would be desirable to exclude young infants from the schools, but though they may not assimilate much literary food they learn something of regularity of habit, of combined movements, and so forth, while their mothers would be greatly perplexed when the children were not allowed to attend the schools—those conveniently arranged day nurseries where for several hours a day they are so well looked after. This may not be the proper function for the school but it suits the parents, and in the manufacturing districts where the mothers work in the mills the infants would probably be left to the care of some old woman who might or might not attend to them properly and where the hygienic arrangements would most likely be worse than at the school. Whatever may be the case with older ones it does not appear that there is much fear of overburdening the minds of the youngest children, as few of the teachers consider them very seriously as regards tuition. As to the serious question of the epidemics in the schools there is, of course, some difference of opinion. In a letter to the *Manchester Guardian* Mr. W. Percy Bean says that in his opinion bad ventilation is the cause and that "the splendid well-built modern schools are the worst offenders," not that ventilation is ignored but because "the modern buildings are built of less porous material and also because the arrangement of class rooms is entirely against good natural ventilation." The older, more rickety buildings had the advantage as to this point but it is more than doubtful that county councils will allow of school ventilation being carried on through porous walls. He says, moreover, that on analysis of the air the same thing obtains in the "well-built, modern mill" where it is much worse than in the older ones. "This, of course, applies to those mills which are not ventilated by means of power but (depend) on doors and windows and other natural means of ventilation." He makes a very serious charge as to the "average school," which is, he says, "hundreds per cent. worse in air sewage than a cotton manufacturer would be brought before a magistrate and fined for." "A normally pure air contains about four volumes of carbon dioxide in 10,000," and a mill-owner would be fined if it were found to contain more than an additional five volumes, and he goes on to say, "I doubt if you would find in an ordinary modern class-room less than 20 to 30 volumes of carbon dioxide per 10,000 or from 400 to 600 per cent. more than a manufacturer would be fined for." He states that during the last 12 years he has made thousands of analyses of the air of schools and mills, and has "never yet found a school which could possibly compare with an average mill." He considers that the lowered vitality of the children from breathing "air sewage" increases the susceptibility to infection and that if the schools were properly ventilated the epidemics would cease. He does not think natural ventilation sufficient but that "power will have to be used." Efficient ventilation seems the most difficult problem that architects have to solve and no one will say that their success has hitherto been marked. Most certainly if these statements as to the air of our elementary schools are true the matter should be dealt with without delay.

Manchester Soot.

At the meeting of the Literary and Philosophical Society on May 2nd an interesting paper was read on the composition of the soot which Manchester produces in rare abundance. Before the paper was heard, however, Sir William H. Bailey delivered his inaugural address as president. He claimed that for original work the society was the equal of the Royal Society of London, "not ignoring the work of Sir Isaac Newton, Halley, Boyle, and other great schoolmasters of God's creation. In its ranks had been those great discoverers of the two great departments of the conservation of energy and the indestructibility of matter—Dr. Joule and Dr. Dalton." Coming after them he named William Sturgeon, "the discoverer of the soft iron electro-magnet, the 'unit invention' of electric traction and electric light, &c." Whether the Royal Society will admit the claim to equality is doubtful, or perhaps not doubtful, but the claim to distinction of Joule and Dalton is granted all the world over.

It is, however, pleasant for Manchester people to hear this cheery estimate by Sir William Bailey of the society of which they are excusably proud The paper by Professor Edmund Knecht was on Some Constituents of Manchester Soot He pointed out that smoke and soot did not consist of carbon alone, as popularly supposed, and showed that the soot from the "fat' coal used in the Manchester district contained at least 50 per cent of substances other than carbon and named the following substances which had been isolated from an average specimen of Manchester household soot snow white samples of ammonium chloride, ammonium sulphate, calcium sulphate, and a beautifully crystallised paraffin hydrocarbon, similar in properties and composition to one known to exist in bees' wax There were also 13 per cent of heavy hydrocarbon oils Professor Knecht had prepared a dye stuff which produced absolutely fast shades of brown on cotton Analysis showed that the London soot and that of Prague, especially that from Bohemian lignite, were much cleaner than Manchester soot He commented on the drawbacks attendant on the presence of soot in our atmosphere, chiefly from household fires, but did not hope for any amelioration unless the use of more efficient fire grates could be made compulsory

Purer Streams

Impure air and foul water are two evils that man is always producing and always trying to remedy at least in these days Beginning, as they did, by small degrees when the population was less dense than now, the evil was scarcely noticed but it has now assumed such proportions that it is most difficult to effect a remedy As to smoke and soot, very little has been accomplished and not much perhaps as to our rivers and streams, but still quite enough to justify Sir J T Hibbert, at the meeting of the Mersey and Irwell joint committee on May 2nd, in the cheerful view he took of the progress already made in Lancashire He said that now there was only one out of the 95 local authorities that had not provided in any way for its sewage and only five manufacturers It is encouraging to know that Manchester and Salford, whose task has been most arduous and costly, were complimented on what they had done The report of Mr R A Tatton, the chief inspector, showed that of 23 effluents recently tested only four were below the committee s standard A good deal more purification however, must be done before many once famous trout streams are restored to their former condition

Manchester Bequests

Miss Hannah Beswick of Mossley has left £1000 each to the Ashton under Lyne Infirmary the Manchester Royal Infirmary, the Manchester Eye Hospital, and Henshaw s Blind Asylum, and the residue of her estate, nearly £24 000 after certain bequests amounting to £700 or £800 to some of the local churches to be divided equally between the four institutions named above

May 8th

LEEDS

(FROM OUR OWN CORRESPONDENT)

The late Sir John Barran

BY the death of Sir John Barran Leeds has lost one of its citizens of whom it has reason to be proud and the University of Leeds has to mourn the loss of one of its first honorary graduates and one of its most loyal and consistent supporters Sir John Barron was one of those who founded the Yorkshire College which is now merged in the new university, he was a member of the council from the time that body was constituted, chairman of the finance committee from 1896, and from 1901 till his death he was treasurer Himself a generous donor to the funds of the college and university he possessed the happy power of stimulating generosity in others The relation of Sir John Barran to the city and University of Leeds was concisely and admirably expressed as follows by the Vice Chancellor Dr N Bodington, when the honorary degree of Doctor of Laws was conferred on him last October —

shire College was proposed no one stood before him in welcoming and aiding the scheme He is one of the few original members of the council of the College who are still with us and he is one without whose continual and energetic efforts on behalf of our finance the University would hardly have come into being

Leeds Sewage Schemes

With a steady increase in the population of the city the sewage problem has been a pressing one for some time Extensive experiments have for years been carried out at Knowesthorpe under the chairmanship of Colonel Harding and these have included the bacteriological treatment of sewage Some years ago the corporation purchased the extensive estate of Gateforth near Selby, with the intention of instituting a sewage farm This would have involved the laying of a conduit, which it was proposed to build of brick, some 14 miles long, the route lying through the lands of Temple Newsam and over coal-fields The opposition to this was very strong and a committee of the House of Lords reported that it could not accept it as presented This was in 1902 and the sewerage committee called in expert engineering advisers to consult with the city engineer and arranged that their joint report should be submitted to an independent firm of experts This resulted in a modification of the Gateforth scheme being recommended By this screens and grit tanks would be provided at Knowesthorpe the present sewage station, and pumping plant to raise the sewage to a level of 85 feet The sewage would then be carried in three 47 inch steel pipes to Gateforth, where there would be settlement tanks and percolating filters and where there would be barren grounds for the disposal of the sludge on the land It would only be necessary in the first instance to lay down two thirds of the pumping plant and two of the three tubes This would deal with 80 000 000 gallons of sewage and would cost about £1 000 000, while the annual cost including interest and sinking fund on capital, would be about £60,000 or 7½*d* in the £ on the rateable value of Leeds Other schemes are being discussed and the corporation has shown its earnestness by taking the opportunity offered by the resignation of the city engineer to make two appointments, one officer having to devote himself exclusively to the work of a sewerage engineer at a salary of £1000 per annum The French delegates of the Seine department, who are spending a week in England to study our latest scientific methods for the disposal of sewage paid a visit to the Leeds works on May 3rd and all the methods adopted were shown to them

Memorial to Mr Christopher C Weatherill

Mr Thomas Brock has, I understand, accepted the commission of the board of the General Infirmary to execute the memorial to Mr Christopher Charles Weatherill, under whose will it may be remembered, the infirmary benefits so largely The memorial will probably take the form of a bas relief and will be placed in a ward to be named after the testator

The University of Leeds

On the invitation of the Mayor of Bradford the Marquis of Ripon, as Chancellor of the University of Leeds accompanied by Mr A G Lupton the Pro Chancellor, has recently had an opportunity of addressing a large and influential body of the leading citizens of Bradford and of appealing to them for their sympathy and support in increasing the foundation fund of the new university His lordship said that the aims and aspirations of the University of Leeds were much wider than those of a mere technical school and Mr Lupton pointed out that the university drew its students from a wide area for less than one fourth of its registered day students belonged to Leeds while no less than 58 students studying arts, science medicine and law were registered from Bradford —At a meeting of the Hull education committee a letter was read from the Pro Chancellor appealing to the various county boroughs for grants in aid of the work of the university The letter was referred to the higher education subcommittee with the hope that it would see its way to associate Hull with the university in connexion with its technical work

May 9th

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS)

Health Report of Merthyr Tydfil

THE annual health reports which relate to large industrial centres are always of interest and that of Mr D J Thomas, the medical officer of health of Merthyr Tydfil, is no

from Ayrshire to other sanatoriums until it could be ascertained that the treatment was likely to be successful. By a considerable majority, however, it was decided to go on with the plans. In deference to the opinions expressed by several of the large contributors another meeting of subscribers was held last week to consider whether building should be delayed until an annual income had been secured. The chairman stated that they had collected £12,200; when the hospital was in full working order it would have 40 beds, but in the meantime it was not proposed to have more than 12 beds, but the whole of the administrative block would be built and the estimated cost was £10,200. In the course of discussion Sir Matthew Arthur said that he did not think it was practicable to say they were not to build until they had an income, because he did not think they would get subscriptions towards maintenance until there was something to maintain. It was also pointed out that the sanatorium would appeal to a county with a population of 240,000 and there should be no difficulty in securing an annual income. Eventually it was decided that £10,000 should be spent in providing a sanatorium, including cost of site, and £2500 be ear-marked as maintenance reserve fund.

Northern Infirmary, Inverness.

At the annual meeting at Inverness on May 3rd Mr. C. M. Brown, honorary treasurer, reported that the ordinary revenue for 1904 amounted to £3548 and the expenditure to £5206, showing an adverse balance of £1658. The legacies received amounted to £1122. The average cost per patient last year was £19 11*s.* 10*d.*, showing a satisfactory decrease of £1 16*s.* 6*d.* per patient. The daily average of patients was 86·8, as compared with 76·3 in 1903. Mr. Alexander Grant expressed regret that inroads were being made on capital and Mr. Brown replied that they could only appeal to the public by way of remedy. Mr. D. Shaw, honorary secretary, showed that the committee of management had curtailed the expenditure last year to the lowest figures consistent with fairness to the patients. Mr. James Anderson said that the deficiency was not quite so bad as it usually was. For the past 40 years they had had invariably to draw upon legacies and it was perfectly legitimate to do so. There was really nothing alarming about the state of the funds. It would take about 22 years to exhaust the funds at their disposal. The reports of the secretary and the treasurer were adopted. Mr. Steele, banker, was added to the managers and house committee. Dr. W. A. Reid of Inverness was appointed house surgeon, he being the only applicant for the vacancy. Miss Macconnachie intimated her resignation of the post of matron, stating that she had accepted the appointment of matron-housekeeper of the Upper Banffshire Hospital at Dufftown. The managers tendered their thanks to Miss Macconnachie for her long services and the house committee was authorised to advertise for a matron and to report. It was remitted to the committee to continue the negotiations with the town council and district committee as to accommodation for fever patients.

May 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Mr. C. R. C. Tichborne, LL.D., D.P.H., L.R.C.S. Irel.

Professor Tichborne, who died at his residence, 15, North Great George's-street, Dublin, on May 1st, was well known to all the medical profession of that city, although he never engaged in general or hospital practice. He devoted his labours to analytical chemistry and was for a life-time chemist to the Apothecaries' Hall of Ireland which he represented for some years on the General Medical Council. He held the position of public analyst to many institutions and boards throughout Ireland. Many resolutions expressing the high esteem in which he was held by his colleagues were recently passed, more especially by the Apothecaries' Hall, the governors of which assembled at a special meeting on May 3rd. Similar resolutions were unanimously passed by the Royal Irish Academy and the Royal Academy of Music. Professor Tichborne was a highly skilled player of the 'cello.

Jervis Street Hospital, Dublin.

The annual meeting of the friends and supporters of Jervis Street Hospital, Dublin, took place on May 3rd. There was a very large attendance and the [illegible] Palles, who occupied the chair, [illegible] appeal to the public in suppor[illegible] this old-established institution.

Health of Belfast.

At the monthly meeting of the city corporation of Belfast, held on May 1st, it was reported that the number of cases of zymotic disease notified was more numerous than in the April report, typhoid and simple continued fevers being somewhat more numerous, whilst cases of diphtheria and erysipelas were slightly fewer in number. The death-rate from zymotic disease was rather higher, this being mainly attributable to measles, a disease which caused 32 deaths, those from all other zymotic diseases being 25. There had been no case of small-pox notified since Feb. 23rd and there was only one case in hospital which was still detained owing to complications. With reference to the new infectious diseases hospital, it was announced that it was proposed to put the whole institution under the care of a visiting physician and to have no resident medical officer or medical superintendent. Indeed, the house which was intended to be reserved for a resident medical officer has now been designated as a diphtheria ward.

Rainfall in Ulster during April.

In April rain fell in the north of Ireland on 26 days to the amount of 2·93 inches, which is more than the average (2·53). The total rainfall for this year is now 12·07 inches, which is over the average (11·74 inches).

Belfast District Asylum.

There are at present 1082 patients on the asylum register, 361 males and 369 females being at Belfast, 290 at Purdysburn, and 62 at Ballymena. It is very satisfactory to find that in all the new buidings at Purdysburn there are no extras except in the contracts and this is one for a corrugated iron roof costing £8 10*s*.

Quality of Milk and Meat.

[illegible]

for a holiday on the continent, where he visited Copenhagen, Berlin, and other cities to study the inspection of meat and the milk problem. Since his return to Belfast, about ten days ago, he has been giving the public through the local press his views on these questions. He is strongly in favour of the stamping of all meat by the municipal authorities, which is obligatory in the continental cities, and he urges the same course of action in Belfast. Dr. O'Neill also describes the Danish method of dairying as seen in Copenhagen, of which he appears to approve. A writer in the Belfast *Northern Whig* of May 9th congratulates Dr. O'Neill on the "rapid strides he has made on this subject." He was formerly in favour of sterilised milk, but the real principle of all scientific modern dairying is to procure a pure untreated and natural milk, this being done by perfect cleanliness in milking, by lowering the temperature of the milk after it comes from the cow, by medical and veterinary inspection, and by delivery in sealed cans or vessels. This is the Danish method, as was pointed out by writers in the Belfast papers long before Dr. O'Neill visited Copenhagen.

May 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Re-opening of the Faculty of Medicine.

I HAVE already kept the readers of THE LANCET *au courant* with the recent troubles at the Faculty of Medicine in connexion with the course of lectures given by M. Gariel which resulted in the closing of the Faculty of Medicine. After the Easter holidays the Faculty re-opened and M. Gariel began his course of lectures again without any notable incident. The Corporate Association of Students has addressed a manifesto to its members asking them for the future to refrain from individual protestations but to give such protestations an impersonal and [illegible] character so that the association may be able [illegible] collective and legal method of [illegible] hearers applauded him and M. Debove, the dean of the faculty, who was present at the lecture, made a short speech in which he thanked the students and expressed his satisfaction that this distressing incident had terminated so satisfactorily.

The Identification of Formol in Milk.

At the meeting of the Academy of Sciences held on April 17th M. Nicolas read a communication upon a Simple Test for Formol in Milk. The test will show the presence of formol in the proportion of 1 part in 500,000. The casein is precipitated and filtered and to the filtrate are added one or two crystals of amidol. The tube is then corked and at the end of a minute or two if formol has been added to the milk a beautiful green fluorescence shows itself. The reaction may be hastened by warming the fluid, but in this case it is better to remove all albuminous coagulable substances by the addition of a little acetic acid and subsequent filtration.

The Ophthalmological Institute of Adolphe de Rothschild.

A new ophthalmological institute has just been founded in Paris and is about to be opened. It is destined exclusively for the treatment of diseases of the eye and receives patients of any religion or nationality provided solely that they are indigent or necessitous. Gratuitous consultations are given every day from 9 to 11 A.M. and from 1 to 3 P.M. On Tuesdays, Thursdays, and Saturdays additional consultations are given from 7 to 8 P.M.

May 9th.

Obituary.

SIR JOHN SIBBALD, M.D. EDIN., F.R.C.P. EDIN.

BY the death of Sir John Sibbald the senior ranks of the medical profession in Edinburgh have lost one of their most esteemed and pleasant members. In his own department he had ungrudging admiration extended to him, whilst amongst a wider professional circle he impressed men by his friendly bearing, his quiet courtesy, his calm judgment, and a little vein of Scotch humour. He was not an old man, although he had reached a little beyond the allotted three score years and ten, and he had every appearance of living a good many more years when the mortal malady, which rapidly ran its fatal course, was first recognised.

Sir John Sibbald was an Edinburgh man and was born there in 1833. He received his medical education in Edinburgh where he took his M.D. degree in 1854. His position amongst students is indicated by the fact that he was one of the Presidents of the Royal Medical Society. After holding some general appointments he finally decided to devote himself to lunacy work, and became an assistant at the Royal Edinburgh Asylum under Dr. Skae. From that position he was selected for the medical superintendentship of the Argyle and Bute Asylum in 1862. Eight years afterwards he was appointed a deputy Commissioner in Lunacy for Scotland and on the death of Sir James Coxe he was created a Commissioner. This latter position he held until 1899 when he retired under the age limit. On his retirement he was honoured with knighthood in recognition of his valuable public and official services. His life was devoted to improving the management and the treatment of the insane in Scotland. He did much towards initiating and fostering the views regarding the nature of mental affections which now prevail in the profession generally; he was a pioneer in reducing the prison-like arrangements in vogue in asylums at that time. He from time to time contributed important papers to the *Journal of Mental Science*, his earlier ones dealing with the most advanced continental work bearing upon insanity. For a short period before he became deputy Commissioner in Lunacy he edited the journal mentioned. In 1877 he delivered the Morison lectures at the Royal College of Physicians, Edinburgh, taking as his theme Insanity in its Public Aspect; these were published in book form. Since his retirement he published an important pamphlet entitled "Plans of Modern Asylums for Insane Poor," and so highly was his opinion esteemed on this question that the Edinburgh District Lunacy Board appointed him its medical adviser when the board had to decide on plans for its new asylum.

The last prominent public work on which he was engaged was during last year when the International Congress for Home Relief met in Edinburgh. Sir John Sibbald was chairman of the executive committee and many of his friends in Edinburgh remember the warm interest which he displayed in all matters appertaining to the work of the congress. One of the latest, if not the latest, of his writings must be the pamphlet which he put in the hands of members of that congress on the "Relief of the Poor in Edinburgh, 1904." The pamphlet dealt with public relief under the Poor-law and with private relief rendered by voluntary agencies and was mainly intended for the enlightenment of foreign representatives.

Sir John Sibbald died in his house in Edinburgh and was buried in Warriston Cemetery. The funeral was largely attended by representative members of the Royal College of Physicians, by past colleagues on the Board of Lunacy, and by many private friends.

THOMAS CREED, M.D. ST. AND., M.R.C.S. ENG. L.S.A.

ON April 20th, at Boscombe, Hants, Dr. Thomas Creed passed away at the age of 79 years, after a lingering and painful illness which he bore with great fortitude. From 1851 he practised for 45 years at Greenwich and did yeoman's service amongst the poor of that neighbourhood. For more than 40 years of this long residence in Greenwich he was one of the honorary medical officers of the Royal Kent Dispensary; at the centenary of this institution in 1883 and upon the foundation of the Miller Hospital he was appointed honorary physician to the latter. This post he held till 1891. On his resignation in February of this year to retire to a quieter practice at Boscombe he was elected a consulting physician to the combined institutions and a testimonial, consisting of a purse of sovereigns with an address, was presented to him by the Very Rev. Canon O'Halloran on behalf of his numerous old friends and in appreciation of the respect in which he was held by his professional brethren. In 1876 Dr. Creed was President of the West Kent Medico-Chirurgical Society and took a keen interest in its meetings for many years.

Medical News.

UNIVERSITY OF OXFORD.—At recent examinations in the subjects indicated the following candidates have passed:—

Further examination in mathematics.—G. W. Carte, H. O. Gibson, S. B. Henson, R. E. Negus, A. Pearce-Gould, and A. S. Roe.
Elementary zoology.—P. P. W. Andrews, T. Bentham, J. L. Birley, A. Booth, G. W. Carte, A. R. Chavasse, H. E. Clarke, G. E. Downs, H. O. Gibson, H. Hinds, E. G. Martin, H. P. Newsholme, J. A. Noble, E. L. Pearce-Gould, E. W. M. H. Phillips, H. W. Scott-Wilson, C. J. G. Taylor, W. W. Wagstaffe, R. O. Ward, and T. S. Wright.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna:* Dr. L. Cappelletti has been recognised as *privat-docent* of Neurology and Psychiatry.—*Cadiz:* Dr. I. Gimeno Rodriguez has been appointed Professor of Clinical Medicine.—*Florence:* Dr. E. Dacco has been recognised as *privat-docent* of Dermatology.—*Kharkoff:* Dr. Penski, *privat-docent*, has been promoted to the Extraordinary Professorship of Topographical Anatomy and Operative Medicine.—*Königsberg:* Dr. W. Rindfleisch and Dr. E. Rantenberg have been recognised as *privat-docenten* of Internal Medicine.—*Munich:* Dr. E. Meyer has been recognised as *privat-docent* of Medicine.—*Vienna:* Dr. Raimann has been recognisd as *privat-docent* of Psychiatry.—*Zürich:* Dr. K. Jung has been recognised as *privat-docent* of Psychiatry.

CENTENARIANS IN CORNWALL.—Mrs. Oliver of Newquay, Cornwall, celebrated her 101st birthday on May 2nd, when she was the recipient of many presents and congratulations. Mr. James Carne of St. Columb Minor, near Newquay, entered his 100th year on May 3rd.

LITERARY INTELLIGENCE.—Messrs. Green and Son of Edinburgh will shortly issue "Methods of Morbid Histology and Clinical Pathology," by Walker Hall and G. Herxheimer. It will include all the new methods for blood and nervous tissues and a very full bibliography. Special types have been used in order to make the book convenient for laboratory work.

CHILDREN'S COUNTRY HOLIDAYS FUND.—His Royal Highness the Prince of Wales has again sent a donation of £5 to the honorary treasurer of the Children's Country Holidays Fund, 18, Buckingham-street, Strand, W.C., who appeals urgently for public support in order that many poor children may not be disappointed of their summer holiday.

DR. JAMES GREY GLOVER has received the following letter in reply to a communication made to the King in connexion with the celebration of the 102nd birthday of Miss Elizabeth Walker on May 8th:—

> Windsor, May 8th.
>
> I am commanded by the King to ask you to congratulate Miss [illegible] nent of her 102nd birthday and to say [illegible] hear that she is in enjoyment of such [illegible]
>
> KNOLLYS.

WOMEN AND FORENSIC MEDICINE IN RUSSIA.—From July 13th this year, says the *Bourse Gazette*, it is intended to settle the question of allowing women medical practitioners to act as experts in matters connected with forensic medicine. For this purpose a law, already drafted by the Minister of Justice, is under consideration by the Imperial Council, containing the provision that female medical practitioners may be accepted for independent medico-legal testimony as to women and children.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board met on April 27th at 6, Suffolk-street, Pall Mall, Dr. F. H. Champneys being in the chair. A letter was received from Dr. J. R. Kaye, county medical officer of the West Riding of Yorkshire, forwarding a communication from a conference of county medical officers held at Birmingham on March 10th last inquiring as to the construction of Rule E 2. This rule is as follows:—

> [illegible] a midwife must take with her. (*a*) an [illegible] a catheter, a pair of scissors, a clinical [illegible]; (*b*) an efficient antiseptic for disinfecting the hands, &c.; (*c*) an antiseptic for douching in special cases; (*d*) an antiseptic lubricant for smearing the fingers, catheters, douche nozzles, and enema nozzles before they touch the patient.

The Central Midwives Board was asked whether it was absolutely necessary for a midwife to carry all the apparatus mentioned in the rule and the opinion was expressed by the chairman of the Board that unless midwives fulfilled the requirements of the rules the question of striking them off the roll would arise. The decision of the Board was that Dr. Kaye should be informed that the Central Midwives Board possessed no dispensing power in the matter. The next business before the Board was the consideration of a letter from Dr. J. Niven, medical officer of health of Manchester, asking the Board as to the meaning to be attached to the word "malpractice" in Section 8 (2) of the Midwives Act. According to the Act the local supervising authorities are entrusted with the duty of investigating charges of malpractice on the part of any midwife practising within their area. After the question had been discussed for some time it was decided to send as a reply to the inquiry the statement that each case must be judged on its own merits. The Board then fixed the first examination for midwives to be held on June 27th and the second on Oct. 24th. In future four examinations would be held in each year, in January, April, July, and October. A letter was then read from the town clerk of Ramsgate inviting the Board to express an opinion as to whether the appointment of a Poor-law medical man as inspector of midwives would be suitable and proper. The members of the Central Midwives Board plainly stated that it was not one of their duties to express such opinions or to lay down rules but nevertheless the town clerk of Ramsgate was also to be informed after stating the above facts that the Board on the whole did not consider that such an appointment would be an advisable one. In the cases of three midwives who were charged with negligence the Board directed that they should be cited to appear before the Board. The first case of the three was reported on by Dr. Niven who stated that the local supervising authority in Manchester had found that a *primâ facie* case of negligence had been established against the midwife concerned. In the second case the clerk of the London County Council reported that the local supervising authority for the County of London had found that a *primâ-facie* case of negligence had been established against the midwife, and in the third case the local supervising authority for Aldershot was reported by Mr. W. B. Barclay to have found that a *primâ-facie* case of negligence had been established. 3976 women were passed under Section 2 of the Act and ordered for entry on the roll, the total number on the roll being 22,207.

METROPOLITAN HOSPITAL.—Princess Louise (Duchess of Argyll) on May 9th opened, at the residence of Lord and Lady Battersea, Surrey House, London, W., a two days' bazaar, which has been organised by the Ladies' Association of the Metropolitan Hospital, Kingsland-road, E., in aid of the general funds of that institution.

KING'S COLLEGE HOSPITAL.—The King's College Hospital removal committee, following the advice of its assessor, Mr. Rowland Plumbe, has awarded the first place to the design sent in by Mr. W. A. Pite, of the firm of Messrs. Pite and Balfour. The committee has also appointed Mr. Pite to act as the architect of the new hospital buildings.

UNIVERSITY OF CAMBRIDGE.—Mr. H. J. Waring, M.S., F.R.C.S., has been appointed an additional examiner in surgery for the M.B. and B.C. degrees.—Mr. W. Bateson, F.R.S., St. John's College, has been appointed deputy professor of zoology and comparative anatomy for the ensuing academical year.—At the Congregation on May 11th A. C. Ingram, St. John's College, was admitted by proxy to the degree of Doctor of Medicine.

DONATIONS AND BEQUESTS.—By the will of Mr. William Holborn £2000 are bequeathed to the Royal Hospital for Incurables, Putney, and £2000 to such hospitals for the sick in London as his executors shall select. In the event of their disagreeing this sum is to be paid to the London Hospital, Mile-end-road.—Mr. Joseph Proctor Mann has bequeathed by his will £100 each to Guy's Hospital, St. Thomas's Hospital, King's College Hospital, and Epsom College.

THE BACTERICIDAL ACTION OF HYDROGEN PEROXIDE ON THE GERMS IN WATER.—M. E. Bonjean has contributed to the Académie des Sciences the results (which are published in the *Comptes Rendus* for January, 1905) of a comparative study of the bactericidal action of commercial hydrogen peroxide solution and a solution of hydrogen peroxide prepared from calcium peroxide on the germs in the water of the Seine. Five litres of water were used for each test and the proportions of the bactericidal agents were varied. Nutritive gelatine cultures were made at intervals and counted after 15 and again after 30 days. The figures given show in a striking manner the greater bactericidal power of nascent hydrogen peroxide. It was found that 0·219 gramme of hydrogen peroxide in the form of the commercial solution was ca[illegible] hours, [illegible] at the [illegible] hours. These experiments also show that hydrogen peroxide in the nascent state has the advantage of rapidity of action over the ordinary solution.

MARY WARDELL CONVALESCENT HOME FOR SCARLET FEVER.—The report for the year 1904 of this useful institution, which is situated at Brockley-hill, Stanmore, shows that 131 patients were admitted to the home during the period under notice. The great proportion of the cases received comes from the class of small tradesmen, clerks, and mechanics, though the labouring class form a considerable number, and the medical officers of health of the various local boards send many patients who have been treated in isolation hospitals. Though there has been comparative freedom from scarlet fever during the past three years in and around the metropolis a season of epidemic may come at any time, but whether the cases be few or many there must be a staff prepared to meet the requirements of all emergencies. This, however, is impossible without adequate financial aid. The home is greatly in need of funds and the committee is urging the necessity of raising a small endowment fund for the purpose of covering a portion of the outlay on salary and wages, which is a [illegible] of the home. Subsc[illegible] Miss Mary Wardell and [illegible] Co.) may be sent to Messrs. Barclay and Co., Limited, 1, Pall Mall

East, London, S.W., or to Miss Mary Wardell, Stanmore, Middlesex, from whom further information can be obtained.

Royal College of Surgeons in Ireland.—A general meeting of the Fellows will be held on Saturday, June 3rd, at 1 o'clock, to receive the annual report of the council.—A meeting will also be held on Monday, June 5th, at 1 o'clock, pursuant to the provisions of the Charters, to elect a president, vice-president, council, and secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office should signify their wish by letter to the Registrar, at the College, on or before Tuesday, May 23rd.

Presentation to a Medical Practitioner.—At the annual dinner of the "Pride of Milverton" Lodge of Foresters held at Milverton (Somerset) on April 25th, under the presidency of Sir A. A. Hood, the chairman, on behalf of the members of the club, presented Mr. Charles Randolph, M.R.C.S. Eng., L.R.C.P. Edin., with a silver revolving breakfast dish, a soup tureen, and a pair of entrée dishes together with an illuminated address containing the names of 161 subscribers to the presentation, in appreciation of his services as lodge surgeon since the formation of the club in March, 1884.

Memorial to the late Dr. T. Morton.—The following committee has been formed in connexion with a proposed memorial to the late Dr. Thomas Morton: The Rev. Canon Duckworth, C.V.O., the Rev. W. H. Stone, Sir William H. Broadbent, Bart., K.C.V.O., General R. W. Lowry, C.B., Dr. S. H. Davson, Dr. W. Winslow Hall, Mr. F. W. Hunt, Mr. R. Newnham Davis, Mr. F. Jackson, Captain R. F. W. Ellis, Mr. F. E. Webb, Mr. H. Strousberg, Dr. R. R. Hardwicke, Mr. C. B. Allen, Mr. C. B. Lockwood, Mr. Seymour Lucas, R.A., Mr. John T. Taylor, I.S.O., Dr. G. Danford Thomas, and Mr. J. R. Cooper. Mr. Joseph White, of 7, Abercorn-place, London, N.W., is the honorary treasurer, to whom subscriptions may be sent.

Sussex Medical Benevolent Society.—The first meeting of this society was held at the Dispensary, Queen's-road, Brighton, on May 9th. Those present were Dr. C. F. Bailey, Mr. W. A. Bowring, Mr. G. Vere Benson (Lewes), Mr. W. Campbell (Hastings), Dr. W. C. Chaffey, Mr. Dodd, Dr. J. F. Gordon Dill, Mr. E. F. Frazer, Dr. W. H. Hillyer (East Grinstead), Dr. E. Hobhouse, Mr. W. R. Meyer (Hurst), Mr. G. Morgan, Dr. L. A. Parry, Mr. W. B. Prowse, Mr. C. S. Simpson, and Mr. J. Turton. Mr. Turton was elected president, Dr. J. C. Uhthoff was appointed treasurer, and Dr. Parry honorary secretary. The objects of the society (the membership of which is restricted to members of the medical profession) are to aid the widows and children of members dying in indigent circumstances, to assist members who are incapacitated from practising, and to help in the education of children of members so incapacitated. The secretary reported that 89 members of the profession in Sussex have already joined and he hoped now that the society had a good start the numbers would rapidly increase. The subscription is £1 1*s.* per annum and any medical man in the county is eligible for membership.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Ventilation of the House of Commons.

A small committee, consisting of Sir Michael Foster, Dr. J. S. Haldane of Oxford, and Dr. M. H. Gordon, is making a further inquiry into the ventilation of the House of Commons.

Medical Men and the Use of Alcohol.

When the Scotch Liquor Traffic (Local Veto) Bill was under consideration in the House of Commons on May 5th some discussion arose as to medical opinion in regard to the use of alcohol. One speaker quoted from a magazine article by Dr. R. Farquharson to the effect that when responsibilities are around us and the troubles of the world begin to close over our heads a cheering glass in strict moderation and at carefully selected times is of real use and can be defended both by physiology and common sense. Another speaker cited a statement to the contrary effect by Sir Frederick Treves. To all of which the Lord Advocate replied thus: "As for the medical evidence on the subject we must be driven to the conclusion that in this case, as in others, doctors differ. Sir Frederick Treves has said: 'The use of alcohol is absolutely inconsistent with a surgeon's work or with any work demanding quick and alert judgment.' That, surely, is a proposition too extreme to receive acceptance from ordinary reasonable men. And when we hear it stated that alcohol is a poison I wonder if honourable Members are aware that the minority report of the Royal Commission contained these words: 'We must recognise the fact that most people still regard alcohol as an ordinary article of diet which is only harmful if taken in excess.' It is idle to say that alcohol is a poison and nothing else and that the use of it is inconsistent with any work demanding acute and alert judgment."

Small-pox Return.

On Monday, at the instance of Sir John Batty Tuke, a return was ordered to be prepared showing each port or other sanitary district in England and Wales (exclusive of any district wholly or partly in London), in respect of which during the year ended March 25th, 1905, cases of small-pox have been reported to the Local Government Board; the number of such cases; and also, where the number reported has exceeded 100, the estimated amount of the expenditure incurred by the sanitary authority in consequence of the occurrence of such cases.

HOUSE OF COMMONS.

Wednesday, May 3rd.

Affairs of an Irish Asylum.

Mr. Sloan asked the Chief Secretary to the Lord Lieutenant of Ireland whether any change had been made in the arrangement which permitted Dr. Kelly, the Roman Catholic Bishop of Cloyne, to fit out at the public expense a vacant industrial school at Youghal for the reception of insane patients and whether Dr. Kelly was paid a capitation grant for each patient; whether he was aware that the patients were nursed by nuns who had had no previous training in such duties, that there was no resident medical superintendent, and that the medical care of the patients was under the control of a visiting physician who had had no previous training in the diseases of the insane, although visiting physicians had been allowed to die out in all the other Irish and British asylums; that the house built at Youghal for the resident medical superintendent was occupied by a chaplain whose chief duty was to look after the spiritual welfare of the nuns; that the Under Secretary for Ireland had already remonstrated with the Bishop of Cloyne against these irregularities; if so, whether they had the approval of the inspectors; and whether such steps as were necessary would be taken to restore the lunatics now in the charge of the Bishop of Cloyne to proper supervision and control.—Mr. Long answered: In reply to my honourable friend's question of Feb. 23rd last Mr. Wyndham made a very full statement on this matter which substantially covers the ground of the present question. It is only necessary to repeat that the two points connected with the administration of this auxiliary asylum in regard to which the inspectors have raised objection are: first, the appointment of a visiting instead of a resident medical officer; and, secondly, the resolutions of the committee of management relieving the resident medical superintendent of the Cork Asylum from all responsibility for the discipline and domestic management of the auxiliary. In regard to the first the consent of the Lord Lieutenant to the appointment of a visiting medical officer has only been given as a tentative measure which will be open to reconsideration if the arrangement should prove defective; and as to the second, the committee has been informed that the resolutions are illegal and have been called upon to correct the illegality. The Under Secretary has made representations on the subject to Dr. Kelly, Bishop of Ross, who is a member of the committee. The capitation grant is payable to the county council.

Isolation Hospital Accommodation at Wanstead and Woodford.

Mr. Louis Sinclair asked the President of the Local Government Board whether he was aware that Wanstead and Woodford were adjoining urban districts having populations of 9000 and 14,500 respectively; that Wanstead had ample isolation hospital accommodation and Wood- [illegible] inquiry was held in November last under the [illegible]), at the instigation of Woodford alone and in [illegible] onstrance of Wanstead; that His Majesty's [illegible] vour of the Local Government Board making a [illegible] order for the formation of a joint hospital board for the two districts; that a letter from the Wanstead urban council and a petition from the ratepayers had been sent to the Local Government Board against the order being made, Wanstead desiring to ret[illegible] its own hospital and to maintain its own patients; and, if so, wheth[illegible] he would undertake, in the circumstances, that the Board wou[illegible] decline, at the instance of Woodford alone and in face of the oppositi[illegible] of Wanstead, to make a compulsory provisional order (subject to c[illegible] firmation by Parliament) for the formation of a joint hospital board [illegible] the districts of Wanstead and Woodford combined.—Mr. Gra[illegible] Lawson answered. He said: I am aware of the facts of this ca[illegible] which are generally as stated in the question. The matter is n[illegible] under the consideration of the Local Government Board but I cann[illegible] at present state what its decision will be.

Thursday May 4th.

Arsenic in Beer.

Dr. Hutchinson asked the President of the Local Government Boa[illegible] what steps had been taken by the officers of the Inland Revenue to t[illegible] the various materials used in the manufacture of beer, to obtain return of the specific ingredients so used, and to ascertain to wh[illegible] extent, if any, they were found to be contaminated with arsenic, a[illegible] whether any standard of purity in beer had been laid down by t[illegible] Inland Revenue.—Mr. Austen Chamberlain, who replied, said: [illegible] respect to the first three portions of the honourable Membe[illegible] question the procedure of the Board of Inland Revenue in exercisi[illegible] control and inspection over the ingredients which might conta[illegible] arsenic and which are used in the manufacture of beer [illegible] that provided for in the Revenue Act of 1888 as extended [illegible] October, 1901; the revenue officials have caused frequent samples be taken of other ingredients than those immediately specified in the Act named. They have tested not only glucose and invert sugar but also caramel, malt, hops, and a number of brewers' worts, and in cases where beer regenerators and yeast foods have been found arsenical the manufacturer has either been cautioned or sanction to the use of the

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Irish Post office Medical Appointment.

Mr. CONOR O'KELLY asked the Postmaster-General whether he would state if any decision had yet been come to in connexion with the appointment of a medical officer to the staff of the Ballina Post-office, county Mayo, and whether it was proposed to attach a medical officer to the staff in that office when an appointment was made.—Lord STANLEY said: I have the matter under consideration and I hope to make an appointment very soon.

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in every case with satisfaction; and why, having excluded Messrs. Adamson's tenders in several western unions, the Local Government Board has sanctioned their tender in the Ballina union.—Mr. LONG

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Non-Compliance with the Vaccination Acts at Brighton.

Mr. WEIR asked the President of the Local Government Board whether he was aware that the vaccination officer for the borough of Brighton had recently obtained warrants of distress upon the goods of several persons in the borough for alleged non-compliance with the terms of the Vaccination Act, 1898; and whether, seeing that this officer was employed by the Brighton board of guardians and paid by that body, he would state why they were not communicated with before such measures were resorted to.—Mr. GRANT LAWSON answered The Local Government Board has not received any information as to the matter referred to, but in its opinion the application for a distress warrant forms part of the proceedings for the enforcement of the Vaccination Acts. These proceedings the vaccination officer is empowered to take without previous communication with the guardians.

MONDAY, MAY 8TH.

The General Medical Council.

proposed in the question.

The Plague in India.

Mr. HERBERT ROBERTS asked the Secretary of State for India

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it of India to give out
ns to the poorer classes
uilding materials.—Mr.
e the question of con-
actively promoting the
for the poorer classes.
to the habits and pre

dilections of the people rather than to absence of building land or dearness of materials. In plague-smitten localities assistance to move is often offered to the inhabitants but is not unseldom refused.—Mr. ROBERTS further asked the Secretary of State for India what

preventive · are not regarded as
permanent. the expedition will
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of the expe will be determined

by the scientific societies controlling the work. I have no doubt that bacteriological research will be largely resorted to.

Small-pox in Ireland.

Mr. HAYDEN asked the Chief Secretary for Ireland whether he was aware that small-pox was recently introduced into Mullingar and Athlone through two men who had been landed at Southampton from the steamship *Nile*; whether he could state the steps taken by the

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Mullingar was £52 16*s.*; the cost at Athlone has not yet been ascertained.—Mr. HAYDEN also asked the Chief Secretary for Ireland whether he was

As already pointed out the isolation of small pox "contacts" cannot be effected except with the consent of such persons. In ordinary circumstances it is held to be unnecessary to isolate the inmates of dwellings invaded by small-pox in districts in which the sanitary laws are properly administered and vaccination is efficiently carried out. I see no reason therefore for legislation on the subject.

Uncertified Deaths in Scotland.

Mr. WEIR asked the Lord Advocate whether he would state the number of uncertified deaths in Scotland and Ireland respectively for each year since 1900.—Mr. SCOTT DICKSON answered: The number of deaths from uncertified causes in Scotland during 1900 was 2757; during 1901, 2392; and during 1902, 2180. The figures for 1903–04 are not yet available. For information as to the Irish figures the honourable Member will probably apply to the Secretary to the Lord Lieutenant.

The Departmental Committee on Poor law Medical Relief.

Mr. MUNRO-FERGUSON asked the Lord Advocate whether he proposed to take any further action upon the report of the Departmental Committee on Poor-law Medical Relief.—Mr. SCOTT DICKSON said: A Bill is in course of preparation which, as at present proposed, will embody certain of the recommendations of the Departmental Committee on Poor-law Medical Relief.

TUESDAY, MAY 9TH.

The Commission on Tuberculosis.

Mr. CHANNING asked the President of the Local Government Board what was the present position of the inquiry being held by the Commission on Tuberculosis and when the Commission might be expected

An Importation of Small-pox.

Mr. HAYDEN asked the President of the Local Government Board

came in contact with passengers or crew who had taken the disease and whether any deaths had resulted.—Mr. GERALD BALFOUR replied: The local authorities referred to are not empowered to quarantine vessels coming into their districts with small pox cases on board, but if there is a person on board suffering from

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BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Nouveau Traité de
Fascicules, sous la
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BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden, W.C.

Laryngeal Phthisis or Tubercular Laryngitis. By Richard Lake, F.R.C.S Eng Second edition, enlarged and rewritten by Harold Barwell, M.B Lond., F.R.C.S. Eng., Laryngologist, Mount Vernon Hospital for Consumption, &c., Assistant Surgeon, Metropolitan Ear, Nose, and Throat Hospital. Price 6*s.* 6*d.* net.

COTSWORTH, M. B., Acomb, York, England.

The Rational Almanac, tracing the Evolution of Modern Almanacs from Ancient Ideas of Time and Suggesting Improvements. By Moses B. Cotsworth 180 illustrations explaining the Mystery of the Pyramids, Sphinx, Obelisks, Druidical Circles, Mounds, Vertical Stones, &c., erected to record yearly almanac times. Price 5*s.* net, or by post 5*s.* 4*d.*

GLAISHER, HENRY J., 57, Wigmore street, Cavendish square, W. (A. MALOINE, Paris.)

Muco-membranous Enterocolitis. By Paul Froussard, M.D., "Ancien Interne" of the Hospitals of Paris; Consulting Physician at Plombières-les-Bains, Vosges, France. Edited by Dr. Edward Blake. Price 2*s.* 6*d.* net.

GOOSE, AGAS H., 19, Rampant Horse-street, Norwich.

The Ritual of Temperance, and State Hygiene: Contributions towards a Rationale in National Healthiness. By H. Cooper Pattin, M.A., Doctor in Medicine and Diplomate in Public Health of the University of Cambridge, Medical Officer of Health for the picturesque and very ancient City of Norwich. Price 2*s.* 6*d.* net.

VIGOT FRÈRES, 23, Place de l'École-de-Médecine, Paris.

Des Grossesses Tubaires Méconnues. Par le Dr. Henri Bazalgette, Ancien Externe des Hôpitaux de Paris, Médaille de Bronze de l'Assistance Publique. Price not stated.

VOGEL, F. C. W., Leipzig.

Die Pathologisch-histologischen Untersuchungsmethoden. Von Prof. Dr. G. Schmorl, Ober-Medizinalrat und Prosektor am Stadtkrankenhause zu Dresden. Dritte neu bearbeitete Auflage. Price M.8.75.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRETT, EDWARD SEYMOUR, M.B., Ch.B. Edin., has been appointed Assistant Medical Officer to the Mental Hospital at Seacliff, New Zealand.

CHERRY, T., M.D. Melb., has been appointed Acting Director for Agriculture in Victoria, Australia.

COUTTS, D., M.B., C.M. Glasg., has been appointed Assistant at Kingseat Asylum, Glasgow.

DOUGLAS, ALEXANDER, M.B., M.S. Edin., has been appointed a Port Health Officer, Oamaru, New Zealand.

EARLE, ROBERT CHARLES, M.R.C.S., L.S.A., has been appointed Health Officer of the Port of Wanganui, New Zealand.

FARRER, CLAUDE ST. AUBYN, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been re-appointed Clinical Assistant at the Samaritan Hospital for Women.

HINGSTON, CHARLES ALBERT, M.D., B.Sc. Lond., M.R.C.S. Eng., has been appointed Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

JUDSON, J. E., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Assistant Medical Officer to the District Infirmary and Children's Hospital, Ashton-under-Lyne.

KELLY, JAMES PATRICK, M.B., has been appointed Acting Officer of Health of the shire of Wyndham, Victoria, Australia.

MAILER, RAMSAY, L.R.C.S. Edin., has been appointed Medical Superintendent of the Ararat Lunatic Asylum, Victoria, Australia, *pro tem.*

MAKGILL, ROBERT HALDANE, M.B. Edin., D.P.H. Cantab., has been appointed Bacteriologist to the Health Department, New Zealand.

NEIL, J. HARDIE, M.B., has been appointed a Medical Practitioner under the Workers' Compensation for Accidents Act, Auckland, New Zealand.

NEWELL, JOHN ALEXANDER, B.A., M.B., B.Ch., has been appointed Surgeon to H.M. Prison at Lyttelton, New Zealand.

PARKES, W. H., M.B., Ch.M. Edin., has been appointed Honorary Medical Officer to the Veterans' Home, Auckland, New Zealand.

TRENFIELD, GEORGE HENRY, M.R.C.S., L.R.C.P. Lond., has been appointed, *pro tem.*, Medical Officer of the Eighth District by the Bristol Board of Guardians.

WALL, VIVIAN F., L.R.C.P., M.R.C.S., L.S.A., has been appointed Honorary Anæsthetist to the Western Ophthalmic Hospital, Marylebone-road, W.

WATERFIELD, WILLIAM HENRY, L.R.C.P. & S. Irel., has been appointed Chairman of the Children's Committee of the Devonport (Devon) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AUCHTERHOUSE, SIDLAW SANATORIUM.—Medical Superintendent. Salary £250 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and fees.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £135 per annum, rising to £155, with board, lodging, &c.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £60, with board, residence, &c.

BROADMOOR, BERKS, STATE CRIMINAL LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £200, rising to £225 per annum, with quarters, coals, gas, and attendance.

CANCER HOSPITAL, Fulham-road, S.W.—Assistant House Surgeon for six months, renewable. Salary £70 per annum, with board and residence.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance. Also Assistant House Surgeon. Salary £60 per annum, with rooms, board, washing, and attendance.

DARENTH, NEAR DARTFORD, METROPOLITAN ASYLUMS BOARD ASYLUM.—Senior Assistant Medical Officer, unmarried. Salary £250 per annum, rising to £300, with rations, lodging, attendance, and [illegible]

[illegible] HE COLLEGE OF HYGIENE AND PHYSICAL [illegible] Man. Salary £300 per annum.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician. Honorarium of £25 at completion of six months' approved service, with board and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing. Also Eight Clinical Assistants.

EXMINSTER, DEVON COUNTY ASYLUM.—Junior Assistant Medical Office [illegible] 155.

GRIMSBY [illegible]—Resident House Surgeon. Salary accor[illegible] lodging and washing.

GUY'S HO[illegible] Value £100.

HULL, ROYAL INFIRMARY.—Hou[illegible] Salary 80 guineas per annum, with boar[illegible]

LISTER INSTITUTE OF PREVENTIVE MEDICINE.—Assistant Bacteriologist to the Serum Department, Elstree, Herts. Salary £200 per annum, with rooms.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Honorary Assistant Visiting Surgeon.

METROPOLITAN HOSPITAL, Kingsland-road, N.E. — Anæsthetist. Honorarium 25 guineas per annum.

MIDDLESEX COUNTY COUNCIL ASYLUM, St. Albans, Herts.—Second Assistant Medical Officer. Salary £220 per annum, with board and lodging.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Medical Officer for six months. Salary £80 per annum, with board, attendance, and washing.

MUNDESLEY SANATORIUM, Norfolk.—Resident Medical Officer, unmarried.

NORFOLK AND NORWICH HOSPITAL.—House Physician, unmarried. Salary £80 a year, with board, lodging, and washing.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—Two House Surgeons for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer, also Assistant Resident Medical Officer, both for six months. Salaries at rate of £50 per annum, with board, residence, and washing.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Surgeon, also House Physician. Salaries £110 per annum, with board and residence.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Bridge-road, S.E.—Resident Medical Officer. Salary at rate of £100 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—House Surgeon for six months. Honorarium £25. Also Clinical Assistants for six months.

SOCIETY OF APOTHECARIES OF LONDON.—Examiner in Medicine.

SOMERSET, ADMINISTRATIVE COUNTY OF.—Consulting Medical Officer of Health. Salary £150 per annum.

THORPE, NORWICH, NORFOLK COUNTY ASYLUM.—Second Asssistant Medical Officer, unmarried. Salary £150 per annum, with board, attendance, quarters, washing, &c.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium £25, with board and lodging.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, London, W.—Honorary Assistant Physician.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BROOK.—On May 6th, at Fellows-road, South Hampstead, N.W., the wife of J. H. E. Brock, M.D., F.R.C.S., of a daughter.

COLLINGWOOD.—On May 9th, at Ashton-under-Lyne, the wife of Captain Percy H. Collingwood, R.A.M.C., of a daughter.

MARRIAGE.

THOMSON—HENDERSON.—On May 2nd, at Waltham Abbey, by the Rev. F. B. Johnston, vicar of the parish, Wm. Thomson, M.B., C.M., to Jeannie Brodie, second daughter of the late John Brodie Henderson, M.D.

DEATHS.

PAINE.—On May 5th, at Lynwood, Alverstoke, Hants, William Paine, M.R.C.S., aged 68 years.

SPICER.—On May 7th, Frederick Spicer, M.R.C.S., late Colonial Surgeon, South Australia, of Carleton-road, Tufnell-park, N., aged 85 years.

WALKER.—On May 7th, at 54, Maddox-street, London, W., of acute pneumonia, James G. Walker, M.B., C.M. Edin. Funeral service at St. George's Church, Hanover-square, W., on Saturday, May 13th, at 10.30 A.M. Friends will kindly accept this, the only, intimation.

WHITE.—On May 9th, at Carlton-hill, N.W., Charles White, Lieutenant-Colonel R.A.M.C., aged 64 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE WAYS OF THE QUACK

As most of our readers know there is an election to the foundation of Epsom College to be held shortly Details of the candidates for election with requests for votes are being sent out in the usual way One medical man who is canvassing on behalf of a candidate in whom he is interested has been sending out circulars and for this purpose purchased a number of envelopes Incidentally he cut one of these envelopes open and was naturally much surprised to find the interior side of the front of the envelope printed as follows:—

The Secretary,
Drouet Institute,
11, Marble Arch,
London, W

This is, we have no hesitation in saying, an abominable method of advertising In this particular instance anything better calculated to ruin the candidate's chance we cannot conceive for any medical man seeing a circular sent out with the apparent connivance of the Drouet Institute would at once throw it into the waste-paper basket A new terror will be added to life if the unhappy citizen cannot even buy a packet of envelopes without having the claims of quacks thrust upon him and we wonder that any respectable vendor of envelopes should *consent to sell such goods as these upon which we now comment*

MEDICAL MATTERS IN THE LAY PRESS

To the Editors of THE LANCET

SIRS,—I am aware that it is not your practice to take notice of ignorant statements on medical matters by the lay press but it occurs to me that you may be interested to a slight extent on reading the inclosed comment on the Devereux case which appears in one of your contemporaries It will be needless to remind you that in the Chapman (Klosowsky) case antimony was the poison used It is to be hoped that readers with a taste for experiment will not be tempted to use strychnine for "preserving purposes

> *The post mortem —Bodies well nourished Strychnine had preserved them* —The awful contents of the trunk were not laid bare until it reached the mortuary Here the doctors had a surprise No unpleasant odour came from the remains The bodies were frightfully huddled together but were in excellent preservation It was also noticed that both the woman and children were well nourished Absence of bruises indicated the agent employed by the murderer—poison the perfect state of preservation of the bodies pointed to the poison used—*strychnine This is a deadly* poison but it preserves the remains of the victims In the case of one of Chapman's victims, exhumed at Warrington after being buried over a year, it was found that strychnine had kept the body in excellent condition

False information given to an individual may *mislead one person* only but in the case of a newspaper boasting of 1,000 000 readers each error published must be multiplied by 1 000 000 or so One reads a deal about compulsory education in the present day but I read a short time ago that a microbe is 'a minute insect.' A report of an inquest tells me that the deceased died of "serious' apoplexy (a logical if ignorant conclusion) Appendicitis, according to a halfpenny newspaper, is "inflammation of the kidneys' An enterprising weekly, describing a successful operation, gravely asserts that the subject had had his "appendage' removed and is doing well

I am, Sirs, yours faithfully,
April 22nd, 1905. B A. OXON

"LIQUOZONE"

IN response to a number of inquiries which have reached us from our readers as to the composition of 'liquozone we may say *that we have submitted a sample bought in the open market to our* analytical department and the result of the analysis shows that it is simply a weak solution of sulphurous acid gas It contains, also, probably as incidental impurities some free sulphuric acid, hydrochloric acid, traces of iron, and colouring matter The total constituents other than water amounted to 1 per cent, the sulphur dioxide to 0 25 per cent. These results are perfectly consistent with the statement made by the makers that "the gas [in liquozone] is derived solely from the following substances which include the best producers of oxygen and producers of other germicidal gas manganese dioxide, potassium chlorate, sodium nitrate, flowers sulphur, and red sanders None of these substances is put into the product, nothing but the gases derived from them And nothing whatever enters into liquozone save these gases and the liquid used to absorb them, plus a touch of colour There is nothing in the nature of ozone in the liquid and, in fact, neither *ozone nor oxygen could exist long in* an excess of sulphurous acid gas The process above described is, of course a very laborious, not to say wasteful, way of producing a weak solution of sulphurous acid gas, but the long list of superfluous chemicals is no doubt calculated to convey an impression of the mysterious virtues of the precious fluid and besides "a process requiring large apparatus and from eight to 14 days time' is doubtless held to justify the impudent price asked for a large sized bottle—viz, 2*s* 3*d* The vaunted cure-all properties of liquozone are a snare and a delusion

DIFFICULTIES UNDER THE INFECTIOUS DISEASES NOTIFICATION ACT

To the Editors of THE LANCET

SIRS,—The public health and housing committee of the Poplar borough council desire me to reply to the letter under the above heading, signed ' Thomas Marshall, which appeared in THE LANCET of April 29th The committee appreciate the fairness with which the Editors of THE LANCET have made their criticisms on the evidence laid before them on one side, and in justice to the medical officer of health of this borough and themselves they desire me to explain the circumstances and to state the committee take the full responsibility for the

case It is essential that
or their own notifications,
officer to satisfy himself, if

necessary with the aid of an independent medical practitioner, with regard to any such notifications, but it has also been the practice in any case of doubt, after a second practitioner has been called to a case, for the medical officer of health, if desired, to attend and state his opinion I inclose copy of the correspondence in the case, from which you will be able to judge *as to the* accuracy of the statements of Mr Marshall Had Mr Marshall stated the circumstances in his first letter to the medical officer as fully as in his letter to you and explained that a second medical practitioner had been consulted the medical officer would have had no hesitation in seeing the case and advising thereon I am, Sirs, yours faithfully,

Council Offices, Poplar, E, LEONARD POTTS,
May 9th, 1905 Town Clerk

[INCLOSURE]

DEAR SIR,—Would you kindly oblige me by looking at a case I have at ——— *Road? It is in a man 22 years of age, a clerk at* ——— Station It started as typical *chicken pox* but to me it is more than suspicious Yours truly,
(Sgd) THOMAS MARSHALL
Medical Officer of Health Poplar

18th April, 1905.

Dr Thomas Marshall, 82 Devons road

DEAR SIR,—I am in receipt of your note respecting a case in ——— Road If you think the patient is suffering from small pox you must notify the same to me as such, if you have any doubt about the case I would advise you to call in a brother practitioner as my committee consider it no part of my duty to diagnose diseases for medical practitioners

Yours faithfully,
(Sgd) FREDK WM ALEXANDER,
Medical Officer of Health

(The words omitted in above letters have been deleted by us to save any disclosure of the patient's identity —ED L)

Mr Marshall replied to Mr Alexander in unnecessarily strong terms, being incensed at Mr Alexander's refusal of assistance We do not publish the letter but after being addressed in such a manner Mr Alexander could hardly be expected to do more in the matter Speaking generally however every practitioner who seeks the help of the medical officer of health of his district ought to obtain it, and obtain it promptly The following is the resolution of the council of the metropolitan borough of Poplar on the matter It bears the date April 11th, 1905, and has reference to an unfortunate case of mistaken diagnosis —

> "That in the opinion of the council Mr was most improperly notified as suffering from small pox on the 22nd day of January last, that his removal from home was then effected without any valid reason and that his return thereto on the following day after examination by the medical officers of the Metropolitan Asylums Board was amply justified, in consideration whereof, and the frequency and peril of such abortive notifications and illegal removals, the council hereby instructs its medical officer of health in every future case of notification to satisfy himself if necessary with the aid and confirmation of *an independent and reliable medical practitioner*, that such notification is in all respects according to law, and that no reasonable apprehension need be entertained of serious harm resulting (to the patient affected thereby) from isolation by removal also the council orders that whenever such reasonable *apprehension* is entertainable isolation without removal shall be in the best possible manner accomplished"

MOSQUITO NETS

Mr Alan Field the author of a little book called 'Verb Sap on Going to West Africa, writes to us to point out that the catalogues of many firms who cater for members of the public *who are going to* the tropics give illustrations of mosquito nets over a bed which are not only wrong but dangerous. The net is represented as being *outside* the supports not tucked in and reaching nearly to the ground so that it incloses the bottom of the bed and leaves a small open *space between its bottom edge* and the floor Such an arrangement is useless and, as Mr Field points out, the bottom of the net should always be tucked in under the mattress and should be hung *inside the* support. It is a good plan to have the lower two feet of the net all the way round made of thin calico or linen. This not only prevents the tearing of the net by the tucking in but if the sleeper should in his sleep roll over so as to touch the netting he will touch the calico or linen which has no holes in it and a mosquito therefore is unlikely to bite the portion of the body which touches the netting. We do not know the firms to which Mr. Field alludes, but they should certainly revise their catalogues.

TRAFFIC IN MEDICAL PRACTICES.

To the Editors of THE LANCET.

SIRS,—As one of the largest advertisers in your paper for 30 years past of medical practices for sale I presume I may claim the honour of sharing with yourselves the credit of inserting advertisements, 99 per cent. of which are, according to the letter in the *Daily Mail*, swindles. I would simply say in refutation of such a slanderous statement that every advertisement I insert is absolutely *bonâ fide*, and I do not believe for a moment that you or any other respectable paper would insert any advertisement you had any doubt about. The statement that "advertisement columns teem with notices of sale of practices of £500–£2000 a year" is absolutely false. I fail to see in your columns last week a single practice of £2000 a year. Who are we to recognise as the "heads" of the profession? It is common knowledge that many of the leading physicians and surgeons do their best to procure and recommend partnerships and practices for their less fortunate colleagues. Why should not members of an honourable and honoured profession who have toiled for perhaps 30 or 40 years to acquire a valuable connexion be entitled, when compelled by adverse circumstances to retire, to obtain the fair value for their goodwill. Purchasers who are disappointed with their bargain as a rule have only themselves to blame for failing to take precautions before purchase, for, as you justly remark in your annotation, no one but a fool would purchase without an expert examination of books. By kind permission of the *Daily Mail* I hope the medical profession and their representative papers will still be able to exist as before. As regards the question of the purity of all advertisements I venture to ask why the *Daily Mail* is accepting hundreds of pounds for display advertisements booming a certain concoction *guaranteed* to cure almost every disease in existence, and which the owners have spent £20,000 to produce! I am, Sirs, yours faithfully,

Adam-street, W.C., May 9th, 1905. PERCIVAL TURNER.

DISTINCTIVE BADGES FOR CERTIFICATED NURSES.

MISS Dorothy A. Davey, a certificated obstetric nurse, writes to us from Streatham suggesting that every certificated nurse should wear a distinctive badge which "would obviate the necessity for any other registration of nurses or uniform as the public could tell at a glance whether or not the owner of the uniform had earned the right to wear it." Such badges, she says, should only be supplied by Government to nurses on production of their certificates. To show how the badges could be made Miss Davey inclosed a card of coloured illustrations showing six circular silver or bronze bands or rings (which a half-crown piece would nearly cover), four of the bands encircling a coloured St. George's cross, one a white St. George's cross, and one a fine line white St. Andrew's cross. The badges with bronze bands would be for fever nurses. The St. George's crosses are coloured red, blue, and green respectively for four and three years' certificates, two years, and one year. The white St. George's cross is reserved for the midwifery certificate and the fine line white St. Andrew's cross for the obstetric nursing certificate, and where these two certificates are combined the two crosses are combined. For the full training and midwifery the red St. George's cross is superimposed with a small white St. George's cross. Miss Davey adds that each coloured cross could be used in conjunction with the white cross and that on the reverse of the ring should be the owner's name.

A QUESTION OF ETHICS.

To the Editors of THE LANCET.

SIRS,—I have no doubt that it is far better for B to lose a patient than to commit a breach of a rule which admittedly lies at the foundation of consultations between neighbouring practitioners. If C will not employ A and B refuses to take the case he can, of course, employ any other practitioner he may choose, but in all probability, when he finds that B maintains his point, he will rather have A than a complete stranger. I am, Sirs, yours faithfully,

May 9th, 1905. EQUITY.

THE PREVENTION OF CONSUMPTION.

WE have received a copy of the *St. Paul Pioneer Press* of April 2nd, containing a report of an address on "The Great White Plague," delivered by Dr. Reginald B. Leach in St. Paul, Minnesota, U.S.A., on March 29th. The address, which fills 14 columns of the newspaper, is illustrated with several views of sanatoriums. Dr. Leach urges that the State of Minnesota should give much increased support to its sanatoriums. His proposal is that the State should lay out $200,000 for the sanatorium treatment of the poorer class of tuberculous patients and that this sum should be supplemented by a further appropriation of not less than $25,000 for "pay beds," in order that citizens who are able and willing to pay may obtain sanatorium care in Minnesota. He predicts that in the course of time the legislature will provide for the compulsory segregation of tuberculous patients.

LUTON'S ARTIFICIAL SERUM.

To the Editors of THE LANCET.

SIRS,—I should feel much obliged if your readers could give me information as to results obtained in the treatment of tuberculosis when "Luton's artificial serum" is employed.

I am, Sirs, yours faithfully,

F. S. D. HOGG, M.R.C.S.Eng., &c.

Rickmansworth, Herts, May 8th, 1905.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can any reader kindly give the information of a permanent home where a young male adult with impaired motion of his right side could be placed? His friends are small dairy farmers and could contribute a moderate sum weekly for his maintenance.

I am, Sirs, yours faithfully,

May 3rd, 1905. RUSTIC.

MEDICAL TITLES.

To the Editors of THE LANCET.

SIRS,—Is it fair that one man passes an examination in medicine, surgery, and midwifery and gets L.S.A. only after his name and another who passes an examination in the same subjects is enabled to put after his name L.R.C.S., L.R.C.P.E., L.F.P.S.G., L.M.?

I am, Sirs, yours faithfully,

May 2nd, 1905. M.R.C.S., L.S.A.

Surgeon.—In our view a house surgeon, as much as any other gentleman, is bound by any agreement that he makes. We cannot say whether in any particular circumstances the authorities of a hospital would have legal redress for the infringement of a bond not to practise in the neighbourhood. An answer to such a question can only be given by a lawyer after consideration of the particular facts.

B.A.W.—We do not remember the case. Questions of privilege have frequently been debated in our columns, notably on Sept. 12th (p. 767) and 26th (p. 906), 1903; and Jan. 16th (p. 181), Feb. 20th (p. 537), Sept. 10th (p. 800), and Nov. 26th (p. 1513), 1904.

D.—We do not answer anonymous letters.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P. Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P. Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-squ (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P. West London (2.30 P.M.), London Throat (9.30 A.M.), Royal F (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), W minster (2 P.M.), West London (2.30 P.M.), University Coll (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Ma (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Th (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P. Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Che (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University Coll (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing C (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's Coll (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P. National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samari (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. North Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P. London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden squ (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopa (3 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thom (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middle (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-W London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P. Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Ma (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-squ (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Char Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Ma (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Lon Northern Central (2.30 P.M.), West London (2.30 P.M.), Thro Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Soho-squ Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Royal (2 P.M.), Central London Throat and Ear (2 P.M.), Royal (10 A.M.).

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.), Middle (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A. Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P. Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalm (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and t Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

[illegible] DON (11, Chandos-street, [illegible] ersazione. Reception by [illegible] the Fothergillian Medal [illegible] P.M. Oration:—Mr. H. [illegible] between the London Hos- [illegible] and the bearing of these [illegible]

[illegible] —Dr. W. de Korté: Morbid Growth from Angora Ewe.—Mr. S. G. Shattock and Dr. C. C. [illegible] d.—Mr. [illegible] s.—Dr. [illegible] s. Card [illegible]

WEDNESDAY [illegible] : anover- [illegible] Paper:— [illegible] atoms and other Micro- [illegible]

[illegible] ria street, Westminster, [illegible] chan: Measurement of [illegible] Slide-Rule for reducing [illegible]

[illegible] rt: Some Points in the [illegible]

[illegible] DISEASE IN CHILDREN [illegible] (Manchester). Some of the Neuroses of Early Life. (Wightman Lecture.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—MEDICAL [illegible] (22, Chenies street, W.C.) [illegible] (Skin.) 5.15 P.M. Dr. W. I [illegible] Symptoms of Insanity.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Practical Points in the Anatomy of [illegible]

TU[illegible] CLINIC [illegible] nique.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Practical Points in the Anatomy of the Ear (with lantern slides).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. A. Turner: Selected Cases [illegible]

[illegible] ottenham Hos- [illegible] H. W. Carson: [illegible]

[illegible] GE AND POLY- [illegible] M. Collier: [illegible] Hyper secretion [illegible]

[illegible] Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration: Mr. S. Low: Oro and Laryngo-Pharynx.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION (Mansion House).—3 P.M. Meeting.

THURSDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 [illegible] (Surgical.) 5.15 P.M. Mr. A. [illegible]

POST-GRADUATE COLLEGE (Wes[illegible] road, W.).—5 P.M. Dr. Davis [illegible]

[illegible] arylebone road, N.W.).— [illegible]

[illegible] ottenham Hos- [illegible] H. W. Carson: [illegible]

FRI[illegible] AND POLYCLINIC [illegible] ton: Clinique. [illegible] (Eye.) [illegible] nersmith- [illegible] (Queen- [illegible] Horsley: [illegible]

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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One Year	£1 12 6	One Year	£1 14 8
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Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET *Offices, 423, Strand, London, W.C.*

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTICE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 11th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
May 5	30 38	N.E	...	101	61	44	44	47	Cloudy
" 6	30·28	N.E.	...	101	69	41	44	47	Cloudy
" 7	30·11	W	...	109	70	46	49	54	Fine
" 8	30 09	N.E.	...	107	61	44	49	54	Fine
" 9	30 40	N.	...	99	63	43	45	51	Fine
" 10	30 36	N.W.	...	110	70	45	49	53	Fine
" 11	30 20	WNW	...	112	67	43	50	57	Fine

During the week marked copies of the following newspapers have been received:—*Lincolnshire Echo, Devon and Exeter Gazette, Surrey Comet, Reading Mercury, Daily News, Liverpool Post and Mercury, Standard, Hertfordshire Mercury, Morning Leader, Plymouth Mercury, Freeman's Journal, Liverpool Courier, Mining Journal, National Service Journal, Local Government Chronicle, Newcastle Journal, Manchester City News, &c.*

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An Address

ON

THE FINANCIAL RELATIONS BETWEEN THE LONDON HOSPITALS AND THEIR AFFILIATED MEDICAL SCHOOLS; AND THE BEARING OF THESE RELATIONS ON MEDICAL EDUCATION.

Being the Annual Oration of the Medical Society of London, delivered on May 15th, 1905,

BY HENRY MORRIS, M.A.LOND., F.R.C.S.ENG.,

SENIOR SURGEON TO THE MIDDLESEX HOSPITAL; MEMBER OF THE GENERAL MEDICAL COUNCIL; MEMBER OF THE COUNCIL (LATE VICE-PRESIDENT AND CHAIRMAN OF THE COURT OF EXAMINERS) OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. PRESIDENT AND GENTLEMEN,—Until the last decade or so the medical schools in London were practically self-supporting. Year by year, however, the progress of medical sciences, the addition of fresh subjects of study, and the introduction of more exact methods of demonstration into medical teaching, have added to the expense of medical education. At length, despite the increasing personal self-sacrifices of the teachers, it was found that the schools were making annual deficits and that it was no longer possible for them to continue their work without assistance, in one form or another, from the funds of their respective hospitals. Two schemes were put forward for relieving the schools and the hospitals of this burdensome expenditure—one a self-supporting amalgamation scheme; the other the establishment, by an appeal to the public for funds, of an Institute of Medical Sciences in connexion with the University of London. Meanwhile questions were raised as to the justifiability of applying funds given to the hospitals to the purposes of the medical schools attached thereto.

When, in accepting the invitation of the council of the Medical Society to deliver the annual oration I proposed as my subject, "The Financial Relations between the London Hospitals and their Medical Schools," there had been, so far as I was aware, no rumour of the appointment by the President of King Edward's Hospital Fund for London of the "Medical Schools Committee." As this committee, consisting of Sir Edward Fry as chairman, Lord Welby, and the Bishop of Stepney, has made its report and as the information contained therein is far more complete than I could otherwise have obtained, I shall, in addressing you this evening, constantly allude to the report itself and to the evidence on which the report is based.

The terms of reference and instruction to the committee were the following:—

[illegible] may advise the committee will be in operation on Jan. 1st, 1905.

The circumstances which led up to this inquiry were, no doubt, threefold: 1. The Antivivisection League for eight years had been protesting against the hospitals granting subsidies to their associated medical schools, solely and entirely on the ground that the practice of vivisection had been carried on in the medical education given in some of these schools. 2. Certain vague statements and arguments, founded on the increase in the population of London in receipt of hospital treatment, out of proportion to the increase in the whole population of London, and which increase has been attributed to the action of the medical staffs of hospitals with schools attached to them. 3. An appeal from an anonymous donor (who had offered on certain conditions a gift which would have increased the permanent income of the Fund by £4666 a year) to the Prince of Wales asking that, as President of the King's Fund, His Royal Highness would endeavour to prevent any of the Fund being diverted to medical education.

In reply to the first of the three questions submitted to it, the committee has very clearly indicated the intimate and complex relations which have grown up between the hospitals and schools. It points out that in the year 1903—the last year for which the accounts were then complete—eight of the hospitals in its judgment made contributions, either directly or indirectly, or both, to the schools out of the funds of the hospitals. The eight hospitals were Charing Cross, the London, the Middlesex, St. Bartholomew's, St. George's, St. Mary's, St. Thomas's, and the Westminster. In the case of Guy's Hospital and the Royal Free Hospital the committee doubts whether, in consideration of all the circumstances, the schools can be regarded as deriving any pecuniary benefit from the hospitals, but it has no hesitation in saying that no money given or subscribed to University College Hospital or to King's College Hospital was in the year 1903 contributed directly or indirectly by the hospital for the maintenance of medical education.

The committee was not required to justify, to censure, or to condemn such contributions but if we may read between the lines of several of the questions put by the committee to certain of the witnesses the inference is that, in the opinion at any rate of Lord Welby and the chairman, aid given to the medical schools by the hospitals under certain conditions is not a diversion of the funds.[1] Their remarks are in complete accord with one's own experience of the wishes of donors to hospitals, whose object is that as much good as possible should be done for the afflicted poor. The application of the knowledge gained in the wards to the relief of the sick poor beyond the walls of the hospital no doubt appeals as strongly to their charity and intelligent sympathy as the alleviation and restoration to health of the comparatively few who come within its walls. Yet the report makes no allusion to this aspect of the matter in replying to Question 3. It seems to me, however, to be one of the "general considerations applicable to all hospitals having medical schools," which might have been brought forward in justification of devoting some part of the funds of the hospitals to the needs of the medical schools. Hospitals as the arena of medical education minister to the needs of the sick poor to a manifoldly greater extent through the widely scattered medical practitioners who have been trained therein than through the medical and surgical staffs immediately in charge of the wards and out-patients of the hospitals.

The founder of a well-known Paris journal is reported to have said that a carriage accident in the Rue Tronchet is better "news copy" than an earthquake in China. What M. Villemessant meant to imply was, of course, that human nature is much more easily affected and impressed by events which occur near by than by those which happen at a distance; and [illegible] more interested [illegible] than by the mis[illegible] never seen or previously heard of. But we need not take it for granted that every subscriber and donor to a hospital is under the sway of this natural apathy and unconcern for sufferers afar off; yet, unless it be so, we have no right to assume that hospital managers divert the funds intrusted to them for the relief of the sick poor, if they vote some portion of those funds for the maintenance and improvement of medical education.

A very important matter bearing both on the difficulties of the medical schools and the supply of trained practitioners for the sick poor throughout the land, is the necessity of keeping the cost of medical education within the limits of moderate incomes. The medical profession is chiefly recruited from persons of moderate means and moderate expectations; it does not attract many of the richer classes; the remuneration in some districts scarcely repays the qualified medical men and to add to the cost of entry into the profession would tend to encourage irregular practitioners. Suppose the medical schools agreed on raising their fees to a figure adequately to remunerate the teachers after paying all other expenses of upkeep, rent, service, &c., only the richer men could enter the profession. Then this would happen: the very poor and the paupers would be unable to obtain medical aid owing to the reduction in the number of medical men. There would arise the outcry that the poor were allowed to die from curable diseases for want of proper advice and treatment; and the State or the ratepayers would have to subsidise the existing medical schools to induce them to lower their fees, or would be obliged to establish medical schools of their own. Possibly the State would have to educate medical men for Poor-law and club practices just as it provides the professional education of naval and military officers, the training of school teachers, and quite recently the instruction in tropical medicine of Colonial medical officers. The untoward consequences of making the fees for medical education high enough to enable the schools to continue to be self-supporting (even after the remuneration of the teachers had been reduced in many instances to a vanishing point) have never been lost sight of by the committees of the medical schools. None know better than they that "there can be no doubt of the desirability in the largest interests of the public of rendering medical men of high character and of good professional capacity, generally accessible to all classes of the population."[2] Nor could any stronger reason than this be given why the deficits of the medical schools should be made good by external pecuniary aid.

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[1] See Minutes of Evidence, Questions 837, 931, 937, 932, 934, 936.

But the medical schools have been reproached with the statement that competition for fees has reduced them to the position of having to seek assistance from the funds of the hospitals. A keen critic of hospitals has asked: "I am going to put a boy, say, into the medical profession and I want to pay his fees. Why should I not pay his fees? Is it not a dreadful thing to be told that my boy is to be partly educated out of money which was given by the public for the sick poor?"[3] For anyone having this scruple a donation of £100 or so to the hospital funds would put the matter right. But looking at the question from the point of view I have mentioned I can see nothing dreadful in the position. Nor apparently did the chairman of the Medical Schools Committee, whose reply was: "You must bear in mind that the greater part of the higher education in England is eleemosynary."

Medical education, however, until the last few years has been an exception to the truth of this reply. Neither private benefaction nor public bounty has assisted it in London. Medical education is excluded from the list to which grants are made by the State. There is not, I believe, a single endowed chair in any medical school in London except the chair of physiology in University College and this has to be supplemented very largely to make the department effective.[4]

With regard to Question 2 in the "terms of reference" to the committee the answer given in the report is to the effect that the benefits arising out of the connexion between the hospitals and medical schools balance one another. Some of the witnesses, and to one's surprise medical as well as lay, who gave evidence before the committee held this view. It was asserted that the members of the hospital staffs make colossal fortunes and that the students are provided by the public with a "clinical laboratory," abounding in an enormous mass of "clinical material," for which they have nothing to pay and which otherwise would have to be provided in a hospital built and maintained by the medical school itself.

These are astounding statements. The advantages of hospitals to medical schools, of course, cannot be denied but the foregoing argument is none the less illusory. It would be even more to the point to say that the advantages conferred on the Bench and Bar by the High Courts of Justice and those conferred on the Courts of Justice by the Bench and Bar about balance one another; or that the benefits conferred on the army and navy by the country and those conferred on the country by the army and navy are mutual and equal.

It is surely grotesque to speak of the so-called "clinical material" in the light of an asset of the hospital in its account with the medical school—to liken this "clinical material" to a laboratory and, as if it were a chemical or physical laboratory, to pit its value against that of the services rendered to a hospital by medical skill and science The "clinical material" is not in the hospital to be bartered but to be relieved and cured. The reason of the existence of a hospital is to provide the best possible medical and surgical treatment for the sick poor. To this end there must be opportunities for clinical study on the part of those who are to combat disease. That proper use is made of these opportunities is "a matter of the very greatest importance to the public and to the poor. ...... It is an integral part of the mechanism for helping the sick poor."[5]

For years the hospitals had been the gainers by their affiliation with the schools, without having to pay a single farthing in return. Sir Isambard Owen, in his interesting oration last year, said that he had estimated that the existence of the medical schools virtually added no less than £50,000 a year to the charitable resources of London and that he had not been accused of exaggeration. But be that as it may, can one imagine such a state of indifference to the public weal, or such injustice to individuals, on the part of hospital managers as to suppose them capable of closing their doors to medical teaching or of attempting to make something for their hospitals out of the "clinical material" and the fees paid for clinical instruction?

Let us take the case of the fees paid by students attending hospitals supported by rates. What becomes of them? Students have to produce a certificate of having attended a three months' course of practical instruction at a hospital for infectious diseases; candidates for a diploma in public health, a certificate of having attended during three months the practice of such a hospital and of having done so with the opportunity of studying also the methods of administration. These requirements of the General Medical Council are met by the Metropolitan Asylums Board arranging for students' classes in the wards and providing a limited number of resident clinical assistantships. The clinical assistants get their board and lodging free, their services being considered as the equivalent. The fees paid for instruction go as to two-thirds of them to the senior medical officer and as to one-third to the Metropolitan Asylums Board to pay expenses for use of waiting-room, service of porter, printing notices and certificates, &c.

These hospitals being statute-ruled, the Asylums Board has to guard against the possible imputation that any part of the cost of medical education is charged to the rates; but it makes no tax on the use of the "clinical material." This arrangement surely is of itself a practical admission that it is those who do the teaching, not the hospital which masses the "clinical material," to whom the students and the schools are indebted.

Moreover, students go to a medical school, not because of the hospital, but because of the traditions and renown of the school, or because of the repute of this or that member of the staff. Take away from the hospital the distinction given to it by the school traditions and by the reputation of the medical and surgical staff and other teachers and the whole character and importance of the hospital would be changed.

I have said enough, I hope, to show that the report of the committee does less than justice to the medical schools by saying that the mutual benefits of the hospital and school "may be fairly set off the one against the other." But the committee further says: "The evidence satisfies us that the expenses incurred in hospitals with schools are generally in excess of those in hospitals without schools." Figures have been produced by Sir Henry Burdett to show that a medical school adds from 15 to 25 per cent. to the total cost per bed, as compared with the cost per bed in the hospitals without medical schools.[6] It came out, however, incidentally, in Sir Henry Burdett's own evidence before the committee, that a medical school was not invariably or necessarily associated with a higher rate of expenditure;[7] and Mr. Martin White in the *Times* of March 18th last has proved by a comprehensive tabular comparison of 13 Scotch, provincial, and London hospitals that the cost of management is not increased by medical schools but that many of the provincial and Scotch hospitals with medical schools are worked quite economically.

The report of the "Medical Schools Committee," besides replying to the three questions of reference, contains a *recommendation* as to moneys contributed to hospitals in future, and also some remarks on "*certain matters*" which came before it in the course of its inquiries and which it considered to be closely connected with the subjects of reference. The recommendation is:—

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[2] The Times leading article, Feb. 1st, 1905.

[3] Medical Schools Committee, Q. 893.

[4] Report of the Medical Schools Committee, Q. 175.

[5] Sir Arthur Rucker, Report of the Medical Schools Committee, Q. 112.

[6] Year-book, 1905, and the Times, Feb. 1st, 1905.

[7] The Minutes of the Medical Schools Committee, Q. 845, 847, 848, to 853.

> [illegible] every case [illegible] arness that [illegible] o question [illegible] ontributed, [illegible]

As a result of this recommendation the General Council of the King's Fund has notified to the hospitals "that no grants will be made from the King's Fund as from and after Jan. 1st, 1906, to any hospitals which make payments to, or on account of, their medical schools out of general funds subscribed for the relief of the sick poor."[8]

As a matter of fact, the grants from the King's Fund to the hospitals with medical schools are but a very small part of the incomes of those hospitals, and the actual contributions to the schools out of the hospital funds form but a very small fraction of the expenditure of the hospitals. Thus in the case of the Middlesex Hospital the annual grant from the King's Fund is about £2000; the annual expenditure of the hospital is between £34,000 and £40,000, and the largest contribution made in one year out of the hospital funds towards the school is £965 8*s.* 11*d.*,[9] or less than 3 per cent. of the total expenditure. St. Mary's Hospital, with an annual expenditure of about £32,000, receives from the King's Fund about £2000 a year; the amount given to the school out of the general funds of the hospital in 1903 was £652.[10] St. Thomas's Hospital, with an annual expenditure of £62,000, does not receive a grant from the King's Fund every year. The grant in 1903 was £1800; the amount paid for or to the school out of the hospital funds was £1253 3*s.* 11*d.*,[11] or a little over 2 per cent. of the total expenditure.

The hospitals naturally wish to stand well with the King's Fund, and besides it is not only the loss of the grants from the King's Fund with which the hospitals which assist medical education out of their general funds are threatened, but the grants from the Hospital Sunday Fund—which in the case of the Middlesex Hospital and St. Mary's Hospital are somewhat larger than those from the King's Fund—will also, no doubt, be discontinued. At the last two annual meetings of the Metropolitan Hospital Sunday Fund resolutions were moved to the effect that no grants should be made to hospitals which contribute to the support of medical schools or laboratories from the general fund. Although on each occasion the resolution was withdrawn there is every reason to believe that at the next annual meeting the example set by the King's Fund will be followed by the Hospital Sunday Fund.

It is to be hoped, therefore, that those hospitals which have hitherto assisted their medical schools, and which do not feel justified in foregoing the grants from the King's Fund, will at once establish a "Medical School Fund" which can be used, at the discretion of the governing body of the hospital, for the requirements of its medical school; and also that those who are interested in securing the wider range of [illegible] al profession, [illegible] s of a hospital, [illegible] fund.

At the London Hospital a discretionary fund—that is, a fund to be used in part or in whole, at the discretion of the committee of management, for either hospital or school—has, in fact, already been opened, and within a week of its being started the amount transferred to it by the subscribers was more than twice the amount ever contributed to the school by the hospital.[12] There is no reason to doubt that similar generosity towards the other medical schools will be shown by the supporters of the other hospitals and that a response will be made to the claims and the needs of the schools if these needs are made widely known by the establishment of a separate and distinct fund.

The two "*certain matters*" as to which the "Medical Schools Committee" records its impressions are: (1) the broad line of distinction drawn between the studies of the first three years of the medical student's curriculum and those of the last two years; and (2) the effort now being made on the part of the University of London to concentrate the teaching of the preliminary and intermediate subjects of the medical student's curriculum, and as to which the committee expresses its "great satisfaction." The committee considers that "the earlier studies have no real relation with a hospital, and are therefore more properly to be pursued in an institution of a University character." Probably the committee inferred that the instruction to the Senate by the Statutory Commissioners of 1898 is in accord with the views of the whole of the 350-400 members of the Medical Faculty of the University. The committee, however, does not seem to have been informed that the average attendance at the meetings of the faculty is only 45; that only 48 members were present at the meeting when the reply of the faculty to the inquiries of the Senate of Feb. 19th, 1902, with regard to the proposed institute of medical sciences was passed; and that it is doubtful whether one-fifth of the members have ever attended a single meeting, or know what takes place at the meetings, of the Faculty.

It is the teaching of the preliminary science subjects *only* of which the medical schools ought to be relieved. This is the burthen which, especially since the coming into force in 1892 of the five years' curriculum, the schools have found it so difficult to bear—under which, in fact, they have broken down. These are the classes which, as arranged for medical students alone, have never paid, and which even at University College and King's College, where the departments of chemistry, physics, botany, and zoology are departments of the faculty of science as well as of that of medicine, are the most expensive and costly in the faculty of science. Even at these two colleges, in spite of endowments, grants from the Treasury for science teaching, and from the London County Council, it is extremely difficult to make these classes pay their way.[13]

Melbourne and Sydney, I am told, have had the same experience as the London colleges in regard to the unprofitableness of teaching preliminary sciences in medical schools. The proper relief from this burthen is to require that these courses of study should be taken and closed by passing an examination in them before the students are allowed to count the commencement of the medical curriculum.

Huxley, in a memorandum to the Senate of the London University, said "that the student ought to have acquired, as part of his general education, such knowledge of physics, chemistry, and elementary biology as is now demanded of him."[14] The General Medical Council and the two Royal Medical Colleges in London have approved in principle of these subjects being treated as matters of preliminary [illegible] an examination being passed in [illegible] in general education and before [illegible] cal studies proper. The mistake has been in allowing students to count any part of the time spent at a medical school before having passed the examination in preliminary science.

There would be no difficulty in students getting instruction in these subjects if the medical schools gave up teaching them. At present many intending medical students take out their courses in chemistry, physics, and biology before leaving school; most of the good secondary schools in England now have science departments and many have been inspected and found thoroughly efficient by the two Royal Colleges. In fact, the Colleges have given encouragement to secondary schools in this direction. Other places of instruction would soon become available. The Birkbeck Institution has a considerable reputation. At South Kensington and at various polytechnics and municipal institutions the teaching of the preliminary sciences is excellent in its way, and if not at the present moment quite suitable for medical students would no doubt soon become so if the teachers were encouraged to hold special courses for intending medical and dental students, and it would well pay them to do this. Examinations in these subjects could be held at the Examination Hall and elsewhere as now, or as an alternative a "leaving school certificate" might be accepted. For the preliminary scientific examination for the degrees of M.B. and B.S. of the University of London the classes at University College and King's College would still be available. Epsom

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[8] The Times, April 14th, 1905.

[9] These contributions from the several hospitals to the medical schools are the sums in money actually paid over by the hospitals for or towards the school expenses.

[10] Ibid.

[11] Ibid.

[12] The Times, March 24th, 1905, letter from Lord Stanley.

[13] Foster. Medical Schools Committee's Report, p. 31. Headlam: Medical Schools Committee's Report, pp. 81-83.

[14] See Minutes of Evidence "University for London Commission," 1889. Q. 1079, p. 99-100.

College also sends up many boys who pass this examination straight from school.

One important reason why the departments of chemistry and physics and biology have been so great a burden to the medical schools is that they have to be maintained in a thoroughly efficient state with a view to the teaching of those subjects up to the standard of the preliminary scientific examination of the University of London, and whilst the schools thereby incur considerable expense they do not receive the fees of all their students for the teaching of these subjects. This is due to the regulations of the University and of the Royal Colleges which permit of the courses of instruction in chemistry, physics, and biology being taken elsewhere than at a medical school. In a very considerable number of cases this permission is taken advantage of, so that when these students come to a medical school they claim exemption from the payment of the fees allotted to those subjects. This is not the case with anatomy and physiology, in which subjects all students must receive instruction at a medical school and pay the fees for these subjects.

Indeed, it is altogether different with regard to anatomy and physiology. They are the corner-stones of the foundation of scientific medicine and surgery and as such are not to be relegated to the limbo of the neglected or forgotten, after having been studied for two winters and a summer session. The dissecting rooms and the laboratories should be easy of access to the student throughout the whole period of studentship. A conference with the teacher of anatomy or physiology on a difficult or doubtful point is not infrequently of much assistance to a surgeon or physician of the hospital. Whatever may be the case with physiology, it will be quite impossible entirely to banish anatomy from the proximity of the schools attached to hospitals. Provision must always be made thereat for teaching surgical anatomy and for operations on the cadaver; and proper facilities to dissect must be given to senior men who are going up for such examinations as the Fellowship of the Royal College of Surgeons of England.

Those who advocate the concentration of teaching in these subjects at one or more centres away from the clinical schools affirm that "owing to the widening of the scientific basis of medicine and surgery and to the increasing attention given to the teaching of these scientific subjects it has become necessary to intrust these subjects to teachers exclusively occupied with them."[15] This statement contains in itself one of the strongest reasons for not allowing the teaching of anatomy and physiology to pass entirely under the control of pure anatomists and physiologists, as it would do at central schools presided over by professors in these subjects.

There is wisdom in providing for what is essential rather than for what is superfluous. It is possible to have a "basis" so wide as to be out of proportion to the structure reared upon it. It is possible to teach a subject as if the knowledge of it is the end in itself instead of a means to another end. In the teaching of physiology to medical students there has been a great tendency in this direction and the tendency would have become an actual reality had the examining bodies not kept a tight hand on the physiology examiners. But though the professors at centralised schools (who would be also the examiners) would themselves be exclusively occupied with their subject, the demonstrators, who would do the bulk of the teaching, would not be so any more than they now are but would take up the teaching, as they do at present, "as affording temporary occupation prior to entering upon other and more remunerative work elsewhere"—in other words, whilst waiting for hospital appointments. The demonstrators, however, would be under the disadvantage of having to spend the greater part of their time at the teaching centre, miles away from their hospitals, and would not be able to keep so closely in touch with clinical and pathological work as they do now, except at considerable expense and loss of time in travelling to and fro. The distance of the University at Kensington from the hospitals and from the residences of the teachers was considered by the late dean to be an explanation of the scanty attendances at the meetings of the medical faculty—few and far between as they are. What a great drawback, therefore, would the distance be to those who would daily have to go to and fro from one place of occupation to the other.

Concentration, too, has its disadvantages in the case of sciences which have to be learnt largely by the student's own manual efforts and have to be taught by direct demonstration to the individual student, as well as to classes, or by lectures. Moreover, all young men are not alike as to the the conditions under which they can work best. Many prefer to go to, and work better at, a medical school where there are but few students. As to the personal preference of the students themselves there are few, if any, amongst past and present students who are not glad that their own student-days arrived before any scheme of concentration could keep them for three years at a central institute away from the hospital of their selection.

It is said that the present system of teaching anatomy and physiology in 12 centres in London is at once "wasteful and inefficient." I shall be able, I think, to show that neither of these charges is justified. The objection, on the ground of inefficiency, to anatomy and physiology being taught by those who are looking not to teaching these subjects but to practising as surgeons and physicians as their principal work in life ought to be silenced by recalling the names of some of the past teachers. To mention only some few who are deceased, let us take for instance, Moxon and Hilton Fagge, who were demonstrators of anatomy at Guy's; or Kirkes, Savory, and Morrant Baker, who were teachers of physiology at St. Bartholomew's, or George Murray Humphry, the author of "The Human Skeleton" and of treatises on the "Limbs of Vertebrate Animals," &c. One of the best teachers of anatomy of his day was John Hilton, whose admirable dissections, copied in wax by the late Mr. Towne, are some of the chief attractions in the Guy's Hospital Museum and whose classical work on "Rest and Pain" is a monument of anatomical knowledge applied to the elucidation of obscure surgical affections. Sir Charles Bell—of whose work Müller, the great German physiologist, said: "The discovery of the circulation of the blood by Harvey and the discoveries of Sir Charles Bell on the nervous system are the two grandest discoveries that have ever been made in physiological science"—taught anatomy and physiology at a medical school at the same time that he was one of the surgeons of the Middlesex Hospital and was engaged in a considerable private practice as a consulting and operating surgeon. Towards the end of his London career Sir Charles Bell, whose pride, as he said, it ever was "to join the pursuits of science with practice," helped largely in establishing the medical school of the Middlesex Hospital and gave the first series of lectures on anatomy and physiology in that school. Then followed in the same chair Alexander Shaw, Bell's friend and assistant, a good anatomist and the author of some excellent treatises on surgery. Erasmus Wilson came after Shaw. His devotion to anatomical and physiological teaching and to writing "The Anatomist's Vade Mecum"—the popular text-book with students of that day—did not prevent him becoming the leading dermatologist of this country. Campbell De Morgan and Charles Moore, both surgeons to the Middlesex Hospital, have graven their names conspicuously into the history of the modern operative treatment of cancer by work they did whilst teaching anatomy at the same time. De Morgan for 19 years taught also physiology, and, conjointly with the elder Tomes, has left his name indelibly recorded in the Philosophical Transactions (1853) by their memoir on "The Structure and Development of Bone." Sir William Flower, the late conservator of the Hunterian and then of the Natural History Museums, in the earlier part of his career was assistant surgeon to, and teacher of practical anatomy at, the Middlesex Hospital. During this time he produced those excellent charts of the nervous system which have been of great assistance to many generations of students and laid down the foundation of his work on craniology. J. W. Hulke taught physiology and made an important contribution on the "Anatomy of the Retina." The late Arthur Hensman, who for several years demonstrated and lectured on anatomy at the Middlesex Hospital Medical School, was also surgeon to the throat and ear department of the hospital. He was an admirable draughtsman and a most successful teacher of anatomy.

This is no mean list of distinguished teachers at one school, and that one of the smaller ones, since 1835. It would be easy to mention many others, living as well as dead, who have brought renown to their respective schools in the double rôle of teacher of anatomy or physiology and of surgeon or physician to the hospital to which the school is attached.

The arrangements at the University of Cambridge are sometimes urged as an example in support of separating the place of the intermediate science teaching from the medical schools in connexion with the hospitals. But it is an example, in my opinion, not to be followed. Several Cambridge men, as it is, come to London for their anatomy and from what I hear are well pleased at doing so. At any rate, it is quite certain that medical undergraduates at an institute at South Kensington will not reap the advantages attending a residence at Oxford or [illegible] perhaps go some way to com[illegible]ing a medical school imme[illegible] [illegible] h exist in the provinces or in Scotland be compared with those in London. The amalgamation of a Sydenham College attached to the General Hospital, with the Queen's College in connexion with the Queen's Hospital, into a medical faculty of the University of Birmingham, or the combination of the separate hospitals and colleges of Liverpool into a University of Liverpool, is quite a different thing from concentrating the preliminary and intermediate science teaching of the separate schools of medicine in London.

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[15] An appeal by the Senate for funds to endow an Institute of Medical Science.

In the case of the Durham undergraduates in medicine, their instruction in the preliminary sciences, as well as in anatomy and physiology, is given at Newcastle, in College buildings quite close to the Royal General Infirmary of Newcastle, which is the clinical hospital for the medical students of the University of Durham. It would be no less reasonable for the University of Durham to insist on the students of the medical faculty doing their anatomy and physiology and other science courses at Durham, which is 17 minutes by train from Newcastle, instead of at Newcastle, than it would be to require the London medical students to attend these courses, far away from their several hospitals, at South Kensington.

The fact is that London, from its vastness of area and of population, has, and requires, not one medical school but several. The London system differs, it is true, from that of Edinburgh and the provinces, as well as from that of Paris, Berlin, Vienna, and other continental cities. But the educational work it has accomplished, the well-trained practitioners it has turned out, its contributions to science, and its discoveries in diagnosis and treatment, have not been surpassed by those of any medical centre in the world. London has cause to be proud of her medical schools and in the interest of the hospitals, of the sick poor, and of the whole community she would do well to make a great effort to retain them.

Sir Edward Fry's Committee has amply pointed out how great are the benefits which the hospitals derive from the medical schools. This being also universally admitted, why take steps to concentrate the teaching of anatomy and physiology at a few centres when the probable result will be the deterioration, if not the actual extinction, even as places of clinical instruction, of at least three or four of the existing medical schools? It cannot be said that there is a preponderating desire on the part of the schools to be rid of the teaching of these subjects, because in the answers given in reply to a memorandum issued in 1901 by the Faculty of Medicine only four out of the 12 schools gave an unqualified assent to the concentration of anatomy and only five to that of physiology—and this in spite of their financial difficulties.

With regard to the scheme for establishing an Institute of Medical Sciences in South Kensington, it is interesting to recall how the idea of it came about. In the latter half of the "eighties" of last century the medical teachers in London took alarm at the decrease in the annual entries of medical students in London, so they joined University College and King's College in the demand for a teaching university which was to grant medical degrees on easy terms. In their anxiety they quite ignored the fact that, as to its medical faculty, the University of London was, and had always been, a teaching university; that by its Charters (Clause 37) it required evidence of study completed in accordance with regulations determined by the Chancellor, Vice-Chancellor, and Fellows; that the courses of study were laid down by the Senate after communications and conferences with colleges, professors, and examiners; and that these courses had to be taken at certain medical institutions recognised by the Senate. In other words, the University of London only admitted to its degrees in medicine and surgery such persons as had followed a curriculum of its own planning at institutions of its own approval. It thereby [illegible] examinations, and [illegible] constituent parts [illegible] uch a university is no less a teaching university than a boiler-maker living at Greenwich, whose capital is raised by syndicate and whose workshops are scattered at Erith, is any the less a boiler-maker because there is no hammering going on at his home premises. But the Gresham University scheme failed and in its stead the existing University of London was altered in 1898 by statutes. Still, there was no prospect of a London M.D. degree on terms to suit the general run of students, so a sop was thrown to Cerberus by the Statutory Commissioners, who reaffirmed the opinion of the Gresham University Commissioners (1894) that in certain groups of studies concentration ought to be effected; but they did not feel justified, however, in framing statutes to give effect to this opinion, because they found from representations made to them on behalf of the medical schools a want of such consensus of views as enabled them to do so. They therefore laid down the following instruction: "The Senate shall use its best endeavours whenever practicable to secure such common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres." These words are a part of the unfortunate and now notorious Statute No. 80—a statute which threw medical education in London into a state of distraction and has kept the teachers in a state of paralysing uncertainty ever since, and which, because it has been quoted by Sir Edward Fry's Committee "with great satisfaction," is on the eve of causing a considerable crisis.

The same statements which were used to advance the Gresham University as a teaching university granting easily attainable degrees are now being employed to bring Statute No. 80 into being in the form of the proposed Institute of Medical Sciences of the University of London. The institute, we are told, is necessary "for the improvement of medical teaching," to "restore London to the place it once held as a great centre of medical education," and to provide "a really great metropolitan school." The preliminary and intermediate subjects, it is said, are now being better taught in the provinces than in London with better apparatus and by better paid teachers, whilst competition between a great number of little schools is destroying medical education in London and injuring the London hospitals by a clear diversion of the funds.[16]

A fact is not created by affirming that it exists; but experience has shown that it is possible to go on saying the thing that is not so often that at length one actually comes to believe it to be the thing that is; and one may even go a step further and repeat it again and again, until one induces other people to believe it too. But the answer to the above fictitious statements is to be found in the evidence of the Principal of the University of London.[17] Sir Arthur Rucker told the "Medical Schools Committee" that "to compare the Medical Faculty of the University of London with the Med. [illegible] whatever is really to [illegible] different orders of mag[illegible] have more than one [illegible] dispensary. Here we ha[illegible] the principal ones are superior—at least equal—to those in any of the provincial towns."

The real origin of each of these movements (the Gresham University and the Institute) was the desire on the part of the London teachers to bring back, if possible, the medical students to London and, failing that, to be rid of the burdensome expenditure on the teaching of the earlier subjects of the curriculum. The position, however, is not that medical education in London has not been kept up to date but that the education in the provinces has made such great strides. In the beginning of the decline of the London entries it was cynically said "that the medical education of the country was year by year being injured by the drawing away from London of a large number of students who will go where they can get a degree, even if they cannot get the learning, and that that ought to be remedied at almost any cost."[18]

But provincial colleges have become provincial universities; local munificence has richly endowed them;

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[16] Minutes of Evidence, Medical Schools Committee, Q. 834.

[17] Minutes of Evidence, Q. 112.

[18] Quoted in Lord Justice Fry's evidence before the (1888) Royal Commissioners, p. 99.

large hospitals and infirmaries are in their immediate neighbourhood, and thus all the requirements of a good medical school are combined. Rich in the fulness and variety of clinical material they have also ample funds for teaching the preliminary and ancillary sciences as well. These universities can now impart "the learning" as well as give "a degree" and the cynics therefore should no longer wonder that many students, loving country life and finding near at home the opportunity of getting *both* the professional training and the university degree, prefer to enter at the provincial universities. Nor is it surprising that their guardians or parents prefer sending them there rather than to London where they are far away from home influences and surrounded by the distractions and temptations of a great metropolis.

When will the London teachers realise that this condition of things has come to stay? A jealous coquette does not impair the charms of her rival by vainly striving to improve her own. Nor will any efforts to increase the attractions of the London medical teaching detract from those possessed by the provincial universities.

It is a matter for surprise that Sir Edward Fry's Committee should have gone so far beyond the "terms of reference" to them as to express satisfaction at the University of London scheme of concentration. It is a significant fact that the first questions of the Bishop of Stepney to the first witness who came before the committee distinctly postulate the advantages claimed for it. But one's surprise centres around the attitude of Sir Edward Fry. If we refer to the Blue Books of 1889 and 1894 and carefully peruse the evidence given by Lord Justice Fry in 1888 and by Sir Edward Fry in 1892 we find that though favourable to some inter-collegiate arrangement on the part of the smaller medical schools for teaching the subjects of the preliminary scientific examination of the University of London he was a strong and persistent opponent of placing the whole teaching in London under one control; that whilst he desired to maintain competition between the colleges in a university he expressed himself resolutely against the ill consequences of competition between universities; that, though in favour of a university controlling teaching by inspecting and reporting on teaching bodies, he was opposed to the University itself doing the teaching, and he quoted with approval and at great length from an address by Professor Chrystal of Edinburgh as to the drawbacks and dangers of the universities competing with the secondary schools for work which the schools can do as well as, or even better than, the universities can. It was not therefore to be expected that we should find Sir Edward Fry now viewing with satisfaction the proposal of the University of London to do all those things which ten years ago he thought so harmful—namely, to compete not only with the provincial universities, but with the medical schools which stand aloof from the concentration scheme, and with the secondary schools.

Now as to the charge of *wastefulness* which has been brought against the present system, more especially by the enthusiasts of the University of London Institute scheme. It was told in evidence to the "Medical Schools Committee" that in 1901 there were between 80 and 90 teachers for 1250 students of anatomy and physiology at the 11 medical schools of London, and that "the amount of money which was expended in salaries alone for the teaching of those subjects was more than £10,000 a year."[19]

If we compare these figures with those put forward by the University of London we find that the Senate is appealing to the public for £375,000 for building, equipping, and endowing the institute. (The estimate of the Committee of the Senate was £40,000 more—viz., £415,000.) The total annual cost of maintenance is estimated at £23,500. One hundred thousand pounds are to be spent on building and equipping the anatomical and physiological work-rooms. The salaries of the teachers of anatomy are set down at £5000 a year, those of the teachers of physiology at £5500 a year—i.e., £10,500 for the teachers of these two subjects. The proposed numbers of teachers of anatomy and physiology are nine professors and 24 assistant professors and demonstrators. The number of students to be provided for is 500. We see, therefore, that 33 teachers and £10,500 a year for salaries are the requirements by the University for 500 students. Now 33 teachers for 500 students are in the same proportion as 83 for 1250 students and £10,500 as salaries for teachers for 500 students are in the same proportion as £26,250 for the teachers of 1250 students; so that whilst the proportion of teachers is practically the same the amount paid in salaries for instructing 1250 students at the 11 separate medical schools is at the rate of £16.250 a year less than the salaries proposed to be paid for 500 students at the University institute. If to this be added the interest on the £100,000 sunk in buildings and equipment for the anatomical and physiological sections of the institute and the dead loss to the existing schools if buildings, plant, and ground space now covered by the present dissecting rooms and laboratories be thrown out of use, there is no difficulty in seeing that the charge of wastefulness recoils with greatly added force upon those who have made it.

The University of London as yet has neither the site for the buildings nor more than a fraction of the sum wanted to build and to endow. Even if both these needs were satisfied four or five years at least must elapse before the institute could be in working order; and if the existing medical schools, or some of them, should find it necessary to close their doors from and after 1906 when the decree of the council of the King's Fund comes into force medical education in London will be cast between the devil and the deep sea. The lot of the students will be like that of the children whose governess, thinking they ought to have a change of playthings, threw away the old toys before she could provide the new, with the result that the poor children were left with nothing to play with.

Any system which keeps a medical student away from the hospital for three years out of the five ought to be absolutely condemned. When the four-year curriculum was lengthened the intention was to add a year for clinical work but somehow the preliminary science teachers and the physiologists have been allowed to appropriate it. The final two years are consequently overladen; the students complain that too much of their time is given up to preliminary studies and too little to acquire a knowledge of the main work of their lives, and medical practitioners all over the country complain that the recently qualified assistants are very badly up in their practical work. A long experience as a lecturer and an examiner has convinced me that these complaints are well-founded.

In Germany, where the students commence to follow the "clinics" in the latter half of their second year, the authorities have become convinced that the teaching under the five years' system is not adequate to the needs of medical practice. Since 1900 loud voices have been raised pointing out that the education was too theoretical, and in 1902 the matter was taken up by the Prussian Minister of Education with the result that new regulations coming into force in 1906 require a sixth year which is to be spent entirely in clinical study and in holding hospital appointments. Hospitals with over 100 beds not previously connected with medical schools or universities are to form "academies" for this purpose.

With us in London the remedy is not exactly to add a sixth year to the medical curriculum but to relieve the curriculum of subjects which ought to be required as part of a liberal education before entrance on special medical studies. If the preliminary sciences were made to form part of school education the whole of the last three years or more could be devoted to clinical work and the other advanced medical studies; and the University of London could withdraw with grace from an attitude of rivalry with the secondary schools, and from the attempt to run a day-school at South Kensington for teaching medical undergraduates in their first year the elements of chemistry, physics, and biology.

There would still, however, be room for an institute of medical sciences in connexion with the University of London; for University courses of lectures on important subjects not taught elsewhere; and for post-graduate instruction in the higher grades of medical and non-medical subjects.

Courses of lectures and professorships might well be established in the subjects specified by the Statutory Commissioners—namely, (*a*) law, as a science and as a part of a liberal education; and (*b*) the theory, practice, and history of education. The philosophical study of the principles which underlie all systems of law would, as the Commissioners pointed out, be of great value not only to the professional lawyer but also to diplomatists, colonial governors, magistrates, and others who have to administer the law, whilst a course or courses of lectures on pedagogy would be of the greatest service to those engaged in secondary teaching, as well as to those in training to teach in elementary schools

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[19] Minutes of Evidence, Q. 684.

The subjects which come within the purview of an institute of medical sciences in connexion with a university in which professorships and courses of lectures are wanted, are comparative anatomy and biology, biology of living organisms known to cause disease—i e, biology in relation to pathology, the more advanced branches of general physiology, physiological chemistry, and experimental psychology, tropical diseases, and the application of bacteriology to testing articles of food and to the micro parasitic diseases of domestic animals Medical men and others going to the colonies or to the tropics would be glad of some knowledge of Texas fever tsetse fly disease surra, and African horse sickness, &c, and those at home and abroad would like to know more about the organisms swarming around us and which affect the health of man and cause devastation amongst cattle But the most pressing need is adequate provision for scientific research and adequate accommodation for training future research workers Men are required who possess the technical skill necessary to make independent investigations in any part of the empire There are many important problems waiting to be unravelled by investigators efficiently trained

The field for research is wide enough and varied enough but the opportunities of learning technique and gaining skill therein are insufficient and in consequence the skilled labourers are few The University of London could do nothing of greater scientific usefulness nothing likely to be more beneficial to the public, nothing more becoming its own position and reputation as the greatest medical university, than found an institute of medical science for training research workers This might be done by the University alone or conjointly with the two Royal Medical Colleges, and either by means of State aid, and help from the Royal Society, or by means of funds raised through private liberality and patriotism There would thus come to be a supply of trained workers whose services would be available when required by Government or by commercial and industrial companies for original research work either abroad or at home The professors at the institute would conduct research work both of an independent and of a check or corroborating character, to them would no doubt be referred questions of difficulty, doubt or differences of opinion They might also initiate assist or coordinate researches conducted elsewhere with the consent and goodwill of the authorities of institutions as, for examples, at hospitals having specially favourable or extended fields for observation or study of special diseases Questions concerning tubercle, cancer infectious diseases, tropical diseases mental diseases and diseases of the general nervous system might thus be helped to a solution Such an institute for scientific research would be a crowning distinction to our University and would serve as a training ground and indirectly as a source of future income for many of the ablest and most scientific members of the profession, whilst the discoveries to which it would lead would be a means of improving the health and increasing the prosperity of those living in disease infested regions and would in this way prove a blessing to the whole empire and even to the world at large

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NORTH EASTERN HOSPITAL FOR CHILDREN,

to the *Times* a
ospital, which is
in the midst of
000 to pay off a mortgage on its new building completed in 1903 and £6000 to make up the required income of £11,000 for the year With the object of obtaining these sums, the Lord Mayor, at the suggestion of H R H Princess Henry of Battenberg, president of the Ladies Association, has consented to preside at a luncheon at the Mansion House on May 22nd The Duke of Argyll adds that having been associated with the hospital from its earliest years he can testify to its deserving character and that the fact that King Edward s Hospital Fund gives the hospital an annual subscription of £500 and has, in addition, made grants to
), is sufficient evidence
Cheques made payable
and crossed "Barclay and Co, Lombard street," may be sent to the Lord Mayor at the Mansion House or to the secretary at the hospital

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The Lumleian Lectures

ON

NUTRITION AND MALNUTRITION.

Delivered before the Royal College of Physicians of London on March 28th and 30th and April 4th, 1905,

BY W. H ALLCHIN, M D LOND, F R S EDIN,

FELLOW AND CENSOR OF THE COLLEGE SENIOR PHYSICIAN TO THE WESTMINSTER HOSPITAL

LECTURE III [1]

Delivered on April 4th

MR PRESIDENT AND GENTLEMEN —I have attempted to put before you in my previous lectures a general conception of what may be meant by nutrition and in so doing I have endeavoured to bring forward the most important of the recent work that has been done in connexion with the various processes which the function embraces It may be objected that in a course of lectures such as these and before such an audience as I have had the honour to address I was scarcely fulfilling my duty by devoting such a disproportionate share of my time to the consideration of the normal living I must confess, however that I am impenitent and that I have erred, if error it be, with intent For, believing as I do and as every physician I should think must do that however successful one may be by patient observation and inquiry in acquiring a knowledge of the clinical manifestations of disease and by due reasoning thereon arrive at what we call a diagnosis, or venture on a forecast and fortunate as we may be in devising means of relief and methods of treatment, there still must remain a constant desire to get deeper to the bottom of things and to form some idea however provisional however imaginary, of the actual changes that are taking place in the living elements themselves I do not believe that to indulge in such speculations provided always that they be held with proper reserve and subordinated to the ever accumulating facts that physiology and pathology teach, impairs in the slightest the physician s claim to be regarded as a practical man whilst that it confers an added interest to his work is indisputable The mere accumulation of facts so called often to be upset as more precise and extended observation becomes possible finds after all its chiefest value in furnishing the data whence may be ascertained the general principles of relationship which obtain amongst them and it is such principles which form the basis of our science and our art I must admit also that I was largely prompted to my choice of subject, apart from the great interest I have always taken in it, by the opportunity that these lectures offered of placing before you some of the results of the labours of that increasing band of workers at the problems of bio chemistry whence I feel assured physiology and pathology as well as rational therapeutics will receive the surest and most important assistance for their advancement Such results are not, in my opinion sufficiently often placed before those of us who are more actively concerned in the practice of our profession, are not made sufficiently accessible, not set forth with adequate indication of their bearing and significance even so far as scientific caution might permit [2] That I have occupied so much of my time as I have done in discussing the conditions and stages of nutrition appeared to me to be desirable and even necessary if I were to approach the subject of perverted nutrition on anything like a scientific basis as without a knowledge of the normal, imperfect though it be any conceptions as to the nature of the morbid states must be fundamentally vague and uncertain

I have considered nutrition as that series of changes which the ingesta undergo in the body to fit them for use by the living matter in the maintenance of its own integrity and

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[1] I were pub-
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ral papers
have been
summarised some of the later work done in connexion with the problems of nutrition

as the material from which energy is liberated. In the course of those changes the food-stuffs exhibit alternate disintegrations and integrations, finally to be excreted in a far simpler chemical condition than that in which they originally entered the body. In the first group of changes which comprise the function of digestion the proteids, carbohydrates, and fats to become capable of absorption into the blood undergo hydrolytic decomposition with the formation of products of less chemical complexity and this with but little loss of potential energy. During absorption by the intestinal epithelium some of these analytic changes are continued, more particularly by the proteids whilst the fats are in parts synthesised. Arrived at the liver a further synthesis takes place in the sugars and fats and perhaps also, though less probably, in the case of the proteids. Between this stage and the ultimate assimilation by the living protoplasm, these food-stuffs are in varying degree stored up in an insoluble form in different organs, liver, muscle, and adipose tissue especially, there to be made soluble by the same kind of agents with which they were dealt with in the process of digestion. Carried in the blood and lymph currents they may again be stored up, again to be converted into diffusible form. Among, also, these three groups of substances interchanges occur, whereby much of the starch foods is converted into fat, and proteids by decomposition set free a hexose group of atoms which may in its turn become fat. I pointed out that we had good reason to attribute these marvellous changes, comparable as they are to the ordinary chemical reactions which take place in our laboratories, but there only effected by reagents and temperatures that would be destructive of the living tissues, to the katalytic action of ferments which are themselves the specialised products of living matter. To bodies of this nature also it seems probable that the oxygen owes its ability to take part in the various syntheses and also to effect the katabolic changes which follow from oxidation; since at the body temperature the mere juxtaposition of oxygen and fat or sugar would be unable to bring about either oxygenation or oxidation results. Foremost among the capabilities of these wonderful enzymes are their adaptibility to the requirements made upon them and their reversibility of action, determined as these are by the conditions of the medium in which they are at work, on the presence or absence of the products of their activity and the degree of concentration of these products. Nor is it only outside the living cell that these ferment bodies effect their results; the intracellular processes whereby the protoplasmic molecule is enabled to synthesise the substance of its own composition from the comparatively simpler amido-acids and similar bodies, each variety of protoplasm manufacturing its own peculiar quality from, so to say, a common raw material presented alike to the nerve cell, to muscle fibre, and the secreting cell, all this I say, which is at the very centre of life itself, appears to be the resultant of ferment action. Although it is not contended that to express the problem in these terms is to offer a complete explanation of it, it is at least a step further towards the final solution and arguing from the known to the unknown, the hypothesis is not inconsistent with what is well ascertained and such a conception furnishes at least a coherent and intelligible basis from which to proceed further, provisional and tentative as it may be. Even more theoretical, though not wholly without grounds, is the reference of this vital activity of cells to ionic action, a view, be it observed, that really for the first time indicates the rôle that is played by the inorganic constituents of the ingesta and in showing the fundamental importance of these simple substances in the economy, links up the complex activities of the living cell with bodies that whilst suffering no chemical change are the carriers of that electrical energy which is more and more becoming recognised as the universal power.

This enumeration of the factors concerned in the maintenance of a normal nutrition suggests the directions in which we must look when endeavouring to comprehend the real nature of those perversions of the processes comprehended within the function which constitute disease. But it is seldom that a state of malnutrition is ever attributable to one cause only. Even when the primary error is comparatively simple and single the complicated relationships of the human organism are such that a disturbance, however slight at first, is liable so to interfere with the closely correlated functions of the body as to produce effects over a wide range and thus tend to obscure the real origin of the perversion.

MALNUTRITION DUE TO ERRORS IN DIET.

The first and the simplest causes of malnutrition are those connected with a deficiency of aliment leading to a condition of inanition. The pathology of this condition has long been known with tolerable accuracy due to the investigations of Voit. Careful observations have also been made not only upon animals placed under experimental conditions but also upon the several fasting men who have been before the public within recent years. Briefly the sum of these observations shows that there is a steady loss of body weight, after the first day or two the daily loss being fairly regular up to death—if the experiment be pushed so far. The total loss in a vigorous adult has been computed at four-tenths of the body weight but the young die much sooner and quickly succumb to the withdrawal of food. As is well known, the loss affects the different organs and tissues of the body to very different degrees, the heart and organs of the nervous system suffering least, indeed, the proteid nutrition of these structures is maintained at the expense of those of the systemic muscles and possibly of the glandular tissues, all of which with the fat are the first to be used up and suffer the greatest total loss. Investigation of the composition of the excreta shows that there is a steady breaking up of the body proteids, as may be measured by the urea, and that this goes on with a coincident destruction of the fats and to a less extent of the glycogen; when the last of the fats has been used up the amount of urea excreted is much increased since then the tissue proteids are the sole source of the body energy. "The carbon dioxide exhaled from the lungs during starvation continues to be given off in proportion to the weight of the body, to the work done, and in inverse proportion to the temperature of the environment" (Schäfer). At first the temperature of the fasting animal keeps about normal but later, as the metabolism is lessened in amount and the heat-governing centres are damaged from inanition, it falls and death takes place when the thermometer registers about 30° F. below the normal, which is incompatible with the continuance of the necessary protoplasmic interchanges.

In dealing with that form of malnutrition which is directly due to a deficient intake we have to remember that the average amount of food ingested by inhabitants of this country very considerably exceeds the quantity which is absolutely required to maintain metabolic equilibrium. And although the experiments of Chittenden previously alluded to may show that under certain selected conditions of satisfactory surroundings and regular exercise a metabolic equilibrium may be maintained on a diet which amounts but to a third or a half of what the average man eats with at the same time the performance of an average muscular work and the keeping of good bodily vigour it remains a question to be decided how far this reduction would be satisfactory under the ordinary conditions of civilised life. General experience would seem to be against it, and it is still to be shown that those individuals who live on such a restricted diet live longer or healthier or more vigorous lives than those whose diet is that of the ordinary person. So far as my observation goes they do not. Moreover, too, the element of habit requires to be considered, for this is apt to be most important in connexion with many of the circumstances of our being, and in such matters as the amount of food or of sleep that individuals find to be necessary for themselves it is of the greatest moment. At the same time certain general conditions should regulate the quantity of food taken, foremost among which are the age of the individual, or, perhaps one should say the period of life, of growth, maturity, or senility, and the character of the daily life so far as it manifests a lessened, average, or excessive energy. A neglect to observe these circumstances may contribute very actively to the establishment of malnutrition by failing to regulate the supply according to the demand and this not only in the normal state but also in the presence of existing disease where the food is not adapted to the needs and possibilities of the organism.

It is to be remembered also that the measure of malnutrition from insufficient—or assumedly insufficient—nourishment is not altogether to be estimated by the body weight, for there are not a few individuals whose weight is much below the average for their age and height and whose appearance is almost one of emaciation, but whose general well-being, as well as muscular and mental *activity* and powers of endurance, are quite up to the standard. So long as the individual remains in nitrogenous equilibrium and does not lose weight he cannot properly be regarded as underfed. Possibly our tables require revision in this respect. But what is more to the present purpose is that the intake of such persons may be by no means deficient and there are those who, feed them how we will, we are unable to add to their weight. On the other hand, that mere weight is not to be taken as a measure of nutrition is obvious, since the very obese are usually but poorly nourished, their nitrogenous tissue being weak and flabby and their capacity for exertion as also for resistance to morbific influences much diminished. That emaciation itself is not the sole index of malnutrition may be also seen by comparing the conditions presented by an advanced case of malignant disease or of certain grave nervous affections with the condition known as anorexia nervosa, when along with the extreme loss of weight the former are marked by muscular debility and general malnutrition in the fullest sense, whilst the last-named state is compatible with considerable muscular power and very often with a restlessness that is quite remarkable. Similarly, an increase in weight is not necessarily to be regarded as a sign of health, for whilst some people whose body weight is above the average owing to an excess of adipose tissue are active and energetic, hampered only by the impediment of bulk, others of like build are dull, lethargic, and quite incapable of exertion.

It is not very often that we are called upon to deal with actual starvation, with an intake, that is, which is obviously and gravely deficient. Those conditions of œsophageal stricture or of gastric disease which mechanically interfere with the necessary ingestion and are commonly due to malignant disease are less conclusive than those due to simple stricture, inasmuch as the morbid process may be responsible for the production of some material which influences prejudicially the metabolism of the tissues and thereby induces wasting apart from that due to deficient intake of nutriment. Whether this be so or not we frequently notice in such cases that the patient goes on, gradually it is true, getting worse, but yet without any very marked difference from day to day, until almost suddenly, without any very particular change in condition, he sinks and dies rapidly, having used up, as it were, the last available material or has ceased to secrete those enzymes without which the material is of no avail. The association of typhus and relapsing fever with famine is well known, as also the greater liability of phthisis in the underfed. Recovery from illness is also more difficult and protracted, and disease when present is likely to take a more serious course in such persons.

If now we turn to a deficiency in special ingredients of the food, too little, that is, of one or more of the requisite alimentary principles, it seems to be pretty clear that very serious states of malnutrition may be induced from this cause. It is generally supposed, and no doubt rightly, that the underfed person is less resistant to the ill-effects of pathogenetic organisms. Perhaps this may be explained in great part by the absence of those protective materials which in a perfectly normal state circulate in the blood current or may be readily developed therein, and among these there is some reason to include the proteids of the blood serum which, as I have said in my last lecture, are probably not destined to the nutrition of the proteid tissues, but which nevertheless depend for their maintenance in the blood on the proteid food.

There is another direction also through which a deficiency of proteid food may make itself felt. The influence of the alimentary principles of this class in stimulating metabolism is clearly recognised in the increased consumption of the adipose tissue on a meat diet, and the method of treating obesity in this manner is well known. They would seem to be a normal stimulus to protoplasmic metabolism, and that from this is to be explained the general impairment of vigour and enfeebled tone which are associated with a dietary which is deficient in proteid constituents. Exactly how this is brought about our present information does not allow us to state. But at least it must be recollected that the all needful ferments, not only those of the digestive secretions but those of the tissues themselves, to the activity of which we have seen reason to believe the manifestations of living tissue are so largely due, depend for their formation upon the nucleo-proteids of the cell, which depend again for their nutrition upon the intake.

In yet another, and possibly closely allied, manner the proteid ingesta appear to exert a very direct influence on nutrition apart from their constructive and fuel value. I have previously referred to the fact that the process of digestion is accompanied with a lymphocytosis and some recent observations by Dr. Galbraith[3] show that in pulmonary tuberculosis this lymphocytosis and also the hæmoglobin percentage are much increased by a raw meat diet. Now both the lymphocytes and the hæmoglobin play important parts in tissue nutrition, the former if in no other way by becoming agents for the transfer of fat from the intestinal epithelium into the commencement of the lacteals and the latter by the share it takes in bringing about the processes of oxidation. But since there is also found to be an increased nitrogen absorption and retention it is suggested that the lymphocytes give rise to some body which "links the nitrogen to the tissue cell."

In infants and very young children, more particularly among those fed upon many of the patent foods, a very distinct failure in nutrition is to be recognised as being due to proteid starvation, and that is in most cases quickly recovered from on an adjustment of the diet and the administration of a larger proportion of nitrogenous aliment. Whether, as is most probable, the proteid deficiency first of all affects the blood-forming tissues, the red marrow and the adenoid structures, cannot, so far as I know, be precisely affirmed, but certain it is that the blood in such children as I am referring to is of a deteriorated character and they exhibit the general features of anæmia, among which listlessness and obvious want of tone and energy are perhaps the most striking. Certain cutaneous rashes are also of frequent occurrence. Although such children are obviously ailing they need not by any means be thin; on the contrary, they are frequently fatter and of heavier weight than the average. But their condition is best expressed by the term "flabby" and the adipose tissues generally are hydræmic, a state that has been called "hydroplasmic obesity." It is clear, therefore, that for various reasons a deficiency of proteid ingesta—and included therein the all-important nucleo-proteids—will prejudicially affect the nutrition of the organism.

It is seldom, if ever, that we meet with a condition of malnutrition which can be attributed to a deficiency of carbohydrate ingesta but in respect to fats the case is different. Here, again, it is in the growing period of life, and particularly in the earliest months, that a lack of fats is the cause of a serious perversion of nutrition. After the conclusive results of the feeding of rickety lion cubs which had been brought up on lean meat there can be no doubt that a deficiency of fat in the dietary of children is the essential cause of rickets. Most probably the condition is intensified by a want of proteids and, of course, by a want of lime salts, but these two constituents of a proper aliment are not nearly so often lacking as fat is in the numerous prepared foods upon which rickety children have almost invariably been brought up. Probably no such complete illustration could be given of the direct relation of meat-nutrition to a defect in the ingesta as is the case of the connexion of rickets with a fat deficiency, for it is so clearly demonstrated by the relief of the morbid state by an improvement in the dietary. In speaking of rickets it must not, of course, be forgotten that the bone changes constitute but a part of the disease, for the muscles, the nervous centres, the mucous membranes, the blood, and, indeed, the tissues generally, exhibit in varying degrees structural imperfections and functional defects. A more particular relationship of deficiency of fat in the food has been thought by some to obtain with certain nervous diseases more particularly as occurring in infancy, or at least that the foundations of the affections were laid then, but of this I have been able to obtain no precise information. A deficiency of fat has also been associated by some with an impaired power of resistance to microbic invasion, particularly of the bacillus tuberculosis. Until recently scurvy has been almost universally regarded as a disease due to deficiency of certain food constituents and by many these were supposed to be the potash salts of citric, malic, and tartaric acid. Recent observations have, however, rendered it very doubtful whether this is really the essential cause of the malad[illegible] tion of fre[illegible] salts goes [illegible] assist materially in its cure when it is established, though the salts given as *such are ineffectual.*

Passing now to malnutrition, the result of over-feeding, the question at once arises, At what point can this condition be said to occur? As provocative of disease it certainly cannot be supposed to exist when any excess, however slight, is taken over and above what is exactly required to balance the expenditure of material. Such a view would allow no margin for reserve, the presence of which in the body is a necessity to meet the fluctuating and irregular demands of ordinary living. Although it is notorious that a large number of persons daily consume more food than is physiologically required, even with such overplus as may be regarded as primary or necessary reserve, it is difficult to regard this as over-feeding, especially if a fair amount of muscular exercise be taken, if the weight remains uniform, and there is no evidence of disease. The effects of an excessive diet upon healthy adults living ordinary lives have been studied experimentally by Dr. F. W. Goodbody, Dr. N. D. Bardswell, and Mr. J. E. Chapman[4] and with very interesting results. A careful balance-sheet was drawn up of the ingesta and excreta of each of a series of normal individuals subsisting on an ordinary diet such as they were accustomed to and upon which they maintained good health. When this was obtained the quantity of food was very much increased, in some cases the amount of the alimentary constituents being doubled or nearly so, and another balance-sheet was prepared in the altered circumstances. One striking result was the considerable increase in body weight, notwithstanding that the forced feeding could only be continued for a very few days, since in all cases, though in somewhat varying degree, the change in diet set up a marked disturbance in the general health. The appetite became lost, a sense of weight at the epigastrium was experienced with distension of the abdomen, and diarrhœa set in with colicky pains. The gain in weight was lost in the course of a week after the forced feeding was discontinued, but it was several weeks before the individuals regained their health. The quantity of urine passed on the excessive diet was increased and very much in proportion to the increased intake of fluids and at the same time the specific gravity was much increased. The quantity of nitrogen in the form of urea, uric acid, and ammonia, and the amount of inorganic salts were much in excess of the normal, but the nitrogen in the fæces was not increased, showing that the proteids had been digested and absorbed and excreted by the ordinary channel and not simply passed through the alimentary canal. But this was not the case with the fat which was largely in excess in the stools, offering thus a marked contrast to the proteid intake. A similar inquiry was undertaken by Dr. W. Hale White and Dr. E. I. Spriggs,[5] but in this case the subject was a woman who had neglected her meals under the stress of anxiety and sleeplessness and though 38 years of age only weighed 6 stones 2 pounds. The diet upon which she was placed was nearly three times in amount that of a normal individual and this was perfectly well tolerated without any of the discomforts and symptoms manifested in the previously mentioned cases. She gained weight considerably—13·256 kilogrammes in 56 days—and the analysis of the fæces showed that she retained 96 per cent. of the ingested fat. In comparing the beneficial result of an excessive dietary observed in this case with the less satisfactory consequences which characterised the experiments of Dr. Goodbody and his colleagues it must be noted that the woman started on the feeding from, so to say, a lower nutritive level than did the male subjects who were healthy. That the general condition of the individual on commencing a largely increased intake does affect the character of the result is further illustrated by the observations made by Dr. Goodbody and his colleagues on metabolism in phthisis.[6] Among the conclusions they arrived at were, that "while comparatively large diets were well borne by those much below their weight, they were not so well tolerated by, nor did they give such satisfactory results in, patients up to weight and with arrested disease."

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[3] The Practitioner, February, 1905.

Very definite consequences are likely to ensue from an excessive ingestion of the individual alimentary principles. When this takes the form of a much increased proteid intake there is found to be a corresponding increase in the nitrogenous excreta chiefly in the form of urea and some increase may also occur in the amount of the other products of proteid cleavage. Of these, most attention has been directed to uric acid in consequence of the relationship of this substance to the complex condition known as gout. Since, however, it has become known that this material is an excretion product of nuclein metabolism derived from cellular tissues, especially leucocytes and gland cells, and only partly and in uncertain quantity from the proteid intake, its interest in relation to the food is of less moment. With further knowledge, which is much to be desired, concerning other members of the purin[7] group such as xanthin, hypoxanthin, guanin, &c., as well as of the derivatives of proteid decomposition other than urea, such as creatin, creatinin, the amido-acids, &c., we may hope for a clearer conception of the inter-relations of these bodies and their connexion with morbid states, whether as causes or results. Meanwhile, however, it is certain that no ratio of production exists between urea and uric acid and their formation and consequent excretion in all probability are quite independent. When the excessive proteid ingestion is accompanied by a diminution in the amount of fats and carbohydrates there is a general increase in tissue metabolism as seen by the increased consumption of the body fat. How this is brought about is far from certain.

Although, no doubt, fat makes fat, this is only true to a certain extent, for a very large fat intake is followed by a considerable increase of fat in the stools, in great part in the form of fatty acids, showing that though a splitting has taken place in the alimentary canal the absorption has been deficient. The experiments before referred to on metabolism in phthisis show, however, that even when the temperature of the patients was raised the fat assimilation with a much increased ingestion was very complete, over 96 per cent. being absorbed. The carbohydrate intake, however large, appears to be capable of absorption, and provided an indigestion be not established the greater part is stored as fat. When the excess is taken in the form of sugar, and perhaps also sometimes as carbohydrate, the amount may be more than can be converted into glycogen or fat and is excreted at once as sugar constituting the condition of alimentary glycosuria.

MALNUTRITION DUE TO MALDIGESTION AND MALABSORPTION.

Having thus dealt with the nutritional defects consequent on improprieties in the quantity and quality of the ingesta we have now to consider such forms of malnutrition as may be referred to disturbances of those processes which are concerned with dealing with the food, with, in fact, maldigestion. I need do no more on this occasion than refer for one moment to the far too frequent misapplication of the terms indigestion or dyspepsia, with, as I believe, the effect of adding thereby to the confusion which already attends a difficult subject. Used in reference to this or that group of symptoms which thus tend to be raised to the position of separate diseases it is too often forgotten that such symptoms are but the expression of some flaw or flaws in the performance of one or other phase of the entire process of digestion, or it may be of the subsequent stages in the progress of the ingesta, to the recognition of which every effort of the clinical observer should be directed and without which treatment becomes wholly empirical and fanciful.

The various factors concerned in the carrying out of the digestive function offer almost innumerable opportunities for its mal-performance. Thus, apart from the structural integrity of the organs concerned, which, of course, is a fundamental requisite, there must be a sufficiency in the quantity and the composition of the several secretions, together with a proper tonicity and activity of the gastro-intestinal musculature, whereby the different stages of the digestive act are enabled to take place without either undue delay or undue haste. As a most necessary preliminary also must be an effective mastication for which sound teeth are essential. Now the motor and secretory phases of digestion are directly controlled by the nervous system, the healthy condition of which becomes another requisite. That the chemical stages of digestion should be completely carried out in the stomach and intestines it is needful that the digestive products so soon as formed should be removed lest their accumulation arrest further action of the ferments, hence the ready absorption of these digesta becomes a necessity. For the efficient occurrence of this, as indeed for a normal motility and secretory performance, a proper blood-supply is postulated, which introduces another source of possible defect. Since the extent and character of the chemical changes in the alimentary tract are so largely conditioned by the nature of the food that is present, the composition and quantity of the secretions varying with the digestive requirements of the ailment, it is impossible to exclude the ingesta in this purview of the whole process, apart from any prejudicial effect they may have in their indigestible or even toxic qualities. Concerning the mutual effect of the coincident digestion of numerous alimentary principles at different stages of the process we know but little, though it must be of importance in bringing about the final result, whether this be normal or the reverse. Pawlow has shown in some cases that a beneficial influence is exerted by the presence of certain ingredients of the food upon the digestion of others, but it is equally sure that a harmful influence is exerted in others. The richer quality of the gastric juice which is secreted when bread is mixed with the meat and the inhibitory effect of fat on proteid digestion are comparatively simple illustrations of this statement. The progressive interdependence of the successive phases of digestion has already been dwelt upon, but that the interference with one stage is hence not only harmful in itself but further harmful in the interference with subsequent stages may again be emphasised. Nor does this complete the category of opportunities for maldigestion to occur. We know very little about the bacterial action on the intestinal contents but sufficient to show that some of their action is beneficial if not absolutely necessary, whilst on the other hand a large mass of evidence indicates that many conditions of intestinal indigestion are due to micro-organisms. Lastly, there is to be reckoned with the excretory function of the gastro-intestinal mucosa. That various substances may be excreted from the blood into the alimentary canal, urea, morphine, &c., is known but to what extent this occurs in health, if it do so at all, or what the effect may be, we do not know, but it is at least a possible if not a probable source of digestive disturbance. In such a complexity of conditions it is hard to trace the primary fault but it should be accomplished if we are to arrive at the real nature of any case of indigestion or of a malnutrition which is referable to digestive disturbance. Undoubtedly the simplest, as they are the most obvious, cases in which an error in digestion is responsible for malnutrition are to be found in those patients who are suffering from an exclusion of one or other of the digestive secretions from the alimentary canal. Such a condition occurs in those diffuse carcinomatous infiltrations of the stomach [illegible] by an occlusion of the [illegible] reaching the duodenum. [illegible] general malnutrition in such cases are notorious, more particularly in the pancreatic affection; and when the obstruction in the duct is non-malignant in nature the result is plainly due to the grave disturbance in the digestive process without the added harmful influence that characterises malignancy.

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[4] Journal of Physiology, vol. xxviii., p. 257, 1902.

[5] Ibid., vol. xxvi., 1901, and Guy's Hospital Reports, 1902.

[6] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxiv., 1902.

[7] Purin bodies are those containing a nucleus C_3N_4 termed by E Fischer "purin." They are closely connected with the nucleins from which in the body they are mainly derived. The best known of the group is uric acid.

Of the effect of the absence of individual constituents of the digestive juices we know but very little. The condition within this category most familiar to us is the deficiency of hydrochloric acid secretion in the stomach with the marked amelioration of the resulting dyspepsia that follows the artificial administration of the acid. But in this connexion it may be observed that defects in gastric digestion are far less likely to affect the general nutrition than are perversions of the processes that should take place in the intestine, for these are the most important in relation to the digestion of the food and appear to be able to compensate to a very considerable extent for deficiencies higher up in the canal. It is true that gastric indigestion is responsible for many [illegible] but apart from a malig[illegible]ith a very fair standard of [illegible]ay be estimated by body-weight and by bodily and mental activity.

Imperfections in the motor activities of the digestive process may lead to malnutrition if sufficiently long-continued but only indirectly. Thus a constant diarrhœa or [illegible] from any serious [illegible] chemical changes [illegible]sting and general functional impairment, but this effect is clearly due to the too rapid ejection from the canal of the ingesta without their having the opportunity of being either fully digested or absorbed and brings the result akin to that which follows from an insufficient administration of nutriment. When the error in gastro-intestinal motility is of the opposite character and the propulsion of the gastric contents into the duodenum is unduly delayed or the waste residue in the colon is unduly retained the materials are apt to undergo abnormal decompositions and by the production of toxic substances interfere with the health of the individual. But here, again, it is less a condition of malnutrition that commonly becomes established but rather a number of symptoms of a more or less discomforting character with which the general nutrition and bodily ability may be well maintained. Such lesions of the intestinal mucosa or of the lacteal vessels and lymphatic glands which drain that membrane as cause an extensive structural change are likely to lead to serious malnutrition for obvious reasons. A widespread denudation of the epithelium of the mucous surface of the small intestine and atrophy of the membrane were long ago described by Nothnagel as the commonest cause of marasmus of infancy and early childhood and the persistent wasting with loss of energy sometimes seen after typhoid fever is attributable to a similar cause.

MALNUTRITION DUE TO PERVERTED METABOLISM.

As might be expected, the more profound disturbances of nutrition, and those most clinically interesting and pathologically obscure, are those connected with perversion of the synthetic stages of metabolism. It is here, also, that is to be sought the real explanation of those conditions which are primarily to be referred to a faulty dietary or a maldigestion. For however important defects in the several factors of nutrition as just enumerated may be in the production of malnutrition they can seldom be regarded as the essential cause. If for no further reason, it might be pointed out that deficiencies in quantity or quality of the food-supply or imperfections in the digestion of the food may take place to a considerable extent and yet be unaccompanied by any such change in bodily condition as can be termed malnutrition, whilst, on the other hand, very grave malnutrition can occur with no apparent perversion of either the food-supply or of its digestion or absorption, as witness the cases of diabetes mellitus, the malignant cachexia when the new growth is unconnected with the alimentary tract, or extreme obesity. It is not until the essential factor of nutrition is involved that any serious deterioration in the function can really be said to occur. Now this essential factor we have seen to be ferment activity and the actual causation of malnutrition is to be found in such circumstances as prejudicially modify enzyme action.

I pointed out in my last lecture how dependent these bodies are for their activity and, what is even more important, the particular kind of their activity upon the nature of their surroundings. It is only within a comparatively narrow range of temperature that they will act, each having its own optimum point and all being destroyed at or about 100° C., though in a perfectly dry heat capable of maintaining their power to a much higher temperature. It is not, however, that such temperatures as are met with in the living body affect to any appreciable extent the enzyme action and can scarcely be considered as in any way responsible for defective action and consequent malnutrition.

Another condition upon which the very production of the enzyme or its precursor appears to depend in many cases is a due supply to the cell protoplasm of certain ingredients chiefly nitrogenous in character. Long ago Schiff showed that the secretion of pepsin depended on the ingestion into the stomach or injection into the blood of such material as solutions of peptones, or gelatin, or meat extracts, or even of dextrin. The relation of secretin to trypsinogen formation is an example of this dependence. Though I am not aware of any work that could show a defective ferment action and an impaired nutrition as being due to such a cause as this, [illegible]e a possibility that should [illegible] these "stimulants to enzyme secretion," as they may be called, are probably very numerous and differ to some extent for each ferment.

I pointed out in my last lecture also the very important discovery of Croft Hill that the direction of intracellular ferment action, whether synthetic or anabolic, or analytic or katabolic, was in great measure conditioned by the degree of concentration of the products respectively of anabolism and katabolism, and it is easy to see with what facility this degree of concentration may be affected by the inhibition or exudation of ever so without it. Among such bodies, it will be remembered, are to be ranked the ferments. But this is not all. Loeb found that the unfertilised ova that had proceeded to a certain degree of segmentation might by a careful addition of certain salts to the sea water in which they were situated develop a further segmentation and ultimately proceed to the formation of a perfect embryo, such as would result from impregnation and this without the spermatozoon—a veritable parthenogenesis. Differences in the time occupied alone seemed to distinguish this artificial from the natural course. As I have before said, the effects of these simple saline solutions, whether in favouring segmentation or in arresting it, he attributed to ionic action, and whether the spermatozoon conveys to the segmenting ovum a ferment or ferments it is to the ions which it carries that he ascribes its effects. Whilst not claiming that these experiments disclose the origin of life they at least show that, given the living ovum, its future development may be made to depend on the artificial adjustment of its environment. But the point is that without such artificial influence or without impregnation the mature ovum will die; fertilisation therefore, whether natural or artificial, prolongs its life. If, then, it is possible by the application of certain electrolytes to avert from a living ovum what may be termed its natural death, similarly to avert the degeneration and death of the tissue cells of higher organisms may be looked upon no longer as a hopeless quest.

GENERAL CYSTIC DISEASE OF THE KIDNEYS IN BROTHER AND SISTER; NEPHRECTOMY.

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GENERAL cystic disease of the kidney in the adult is probably less rare than we suppose. The following two cases, however, are worthy of publication, partly because of the fact that the patients were brother and sister, partly because of the difficulty we still have in recognising the disease, and partly because of the value it may be to others in the treatment of similar cases in the future.

CASE 1.—The patient, a female, aged 38 years, single, a district nurse, was admitted to the General Hospital, Birmingham, on Sept. 1st, 1901, complaining of abdominal pain and frequency of micturition. There was no evidence of tuberculosis or syphilis in the family history. In 1893 the patient was seized with severe pain in the left loin which lasted a few days. The pain was accompanied by frequency of micturition, the passage of dark muddy urine, and of three small urinary calculi, the largest of which was of the size of half a hazel nut. During the last five years she had been subject to intense attacks of migraine which lasted one or two days and completely incapacitated her from work. These attacks occurred at first during menstruation only but latterly they had occurred several times in the month. For the last three years she had, for economical reasons, lived on almost a starvation diet and a few months ago she experienced a very keen domestic disappointment. In these circumstances she rapidly lost weight and suffered more frequently from headaches. It was whilst in this lowered physical condition that the present attack supervened. About a month prior to admission to hospital under the care of Mr. H. G. Barling she began to suffer from frequency of micturition. A week before she was seized with acute cutting pain in the left loin which radiated down the left leg. The pain remained agonising for two days and then somewhat abated. The frequency of micturition became intensified during the attack of pain.

On examination a large mass was found projecting from the left costal margin and occupying part of the left hypochondriac, left lumbar, epigastric, and umbilical regions. Its lower end reached as low as the level of the anterior superior iliac spine and anteriorly to within two inches of the umbilicus. The mass measured nine and a half inches in length and five and a half inches in breadth. Its surface was very irregular; its shape was reniform; though generally giving the impression of a firm, solid mass, there were distinct areas of fluctuation scattered about its surface. It was moderately moveable and could be projected backwards and made to bulge in the loin. It moved slightly with respiration and was somewhat tender on manipulation. On percussion the descending colon appeared to be in front of the tumour. The right kidney could be readily palpated and appeared to be about twice its normal size.

The urine on Sept. 22nd, 1901, had the following characters. Quantity per diem, 24 ounces; specific gravity, 1026; reaction, acid; there was a faint haze of albumin. Microscopically it showed a few red blood corpuscles but no pus cells or tube casts. On the 26th: quantity of urine per diem, 48 ounces; specific gravity, 1015; reaction alkaline; a faint haze of albumin. Microscopically there were triple phosphate and oxalate of lime crystals in scant numbers; no blood cells, pus cells, or tube casts were present. The blood gave a leucocyte count of 8000 per cubic millimetre and films that were characteristic of a mild form of secondary anæmia. The liver was not enlarged. There was no obvious cardiac hypertrophy. The aortic second sound was slightly accentuated, the arterial tension was normal, and there was no vascular sclerosis. There was no œdema of the feet or legs and a careful vaginal bimanual and rectal bimanual examination revealed nothing abnormal in the pelvis. The bowels were regular. In considering the diagnosis it was felt that the result of the vaginal and rectal examination quite excluded the uterus and ovaries as a possible source of origin of the mass and that the blood examination practically dismissed the spleen. We were thus universally led by the shape, position, and associated symptoms of the tumour to regard it as of renal origin. Cystic degeneration was mentioned by virtue of the irregularity of outline and apparently bilateral enlargement, but the prevailing opinion was that it was either a hydronephrosis or a pyonephrosis arising probably from a calculus. The history of previous calculi and the absence of tubercle in the family tended to confirm this view. The normal leucocyte count, temperature, and pulse-rate were points against its being a pyonephrosis. Mr. Barling himself regarded the case as one of hydronephrosis.

Operation was performed on Oct. 7th, 1901. The usual oblique lumbar incision was made. The tumour was found to be an enormously enlarged kidney in a state of advanced cystic degeneration. On aspirating, some of the fluid it was found to be of a dirty amber colour suggestive of urine containing pus. This fact, together with the advanced stage of degeneration, induced Mr. Barling to perform nephrectomy. The operation was successfully completed without wounding the peritoneum or damaging the capsule of the tumour. The artery, vein, and ureter of the kidney were ligatured separately by catgut, a large drainage-tube was inserted, and the wound was stitched up. The patient left the table in a good condition without manifesting any marked evidence of shock. The fluid drawn off from several of the larger cysts during operation contained urea.

Pathological appearances.—The kidney removed was a magnificent specimen of general cystic disease, weighing 2 pounds 14 ounces (1300 grammes) and measuring in length nine inches (22·5 centimetres), in breadth five inches (12·5 centimetres), and in thickness three and a half inches (7·75 centimetres). The kidney was studded on the surface with thin-walled cysts varying in size from that of a pea to that of a Jaffa orange. So thin were the walls of some of the cysts and so large in size that on holding the organ up to the light it was possible to see from one side of the kidney to the other. The larger cysts showed evidence of multilocular development. The capsule of the kidney was preserved intact and was purposely stripped from one-half of the tumour in order to show that the cysts were in the kidney tissue and not merely subcapsular. At various points of the surface the capsule presented thickened cicatricial areas, due probably to the rupturing of cysts and subsequent inflammatory reaction. The contents of the cysts show all gradations from clear, serous-looking fluid to dark brown gelatinous substance. The ureter and pelvis of the kidney showed a moderate degree of thickening. There were, however, no dilatation, no evidence of calculi, and no congenital abnormality visible to the naked eye. The renal artery and vein were considerably hypertrophied.

Microscopical sections of the kidney showed that the cysts were for the most part lined with a single layer of epithelium which varied from simple squamous to columnar cells, the greater number being lined by a low cubical type of cell A few of the cysts were entirely devoid of epithelial lining Outside the epithelial lining was a more or less condensed part of the interstitial connective tissue of the kidney The contents of each cyst were generally homogeneous, staining a brilliant yellow by van Gieson s stain A few of the cysts contained catarrhal cells and polynuclear leucocytes scattered amongst the homogeneous substance There appeared to be every gradation in size from a healthy kidney tubule to the largest cysts and there were large numbers of what resembled normal *and slightly dilated tubules* which contained a homogeneous substance identical with that found in the larger cysts Many of the kidney tubules showed catarrhal changes similar in all respects to those seen in interstitial nephritis There were, however, large tracts of kidney tissue situated between adjacent cysts in which the tubules appeared to be almost normal and, on the other hand there were similar tracts of loose fibrous tissue in which kidney tubules were quite absent One of the most striking changes in the kidney tissue was the widespread destruction of Malpighian bodies This appeared to have resulted from a process of thrombosis beginning in either the efferent or afferent vessels which was followed by round celled infiltration Finally the body probably shrivelled and was replaced by a knot of fibrous tissue arranged in a concentric manner The interstitial tissue of the kidney was more or less increased everywhere and there were large areas of round celled infiltration indicative of inflammatory reaction The walls of the blood vessels of the kidney were enormously hypertrophied

After history —The wound healed by primary union and the convalescence was uninterrupted On examining the abdomen *on Oct 12th, five days after* the operation it was found that the right kidney had rapidly increased in size and could now be felt to be irregular and of firm consistency The daily amount of urine passed began to increase a few days after operation and the urine maintained a good specific gravity Towards the end of the patient's sojourn in hospital the amount of urine diminished until it reached a fair average standard The patient left hospital on Nov 2nd with a perfectly sound wound and one kidney enlarged to about four times the normal size,

to general

performing

On her dismissal from hospital she was advised to take a diet and to live a life similar to those suitable for a person suffering from interstitial nephritis Most of us however, including Mr Barling, took a very gloomy view of her expectation of life which we put down at something like 12 months The after history, therefore is one of considerable interest For 12 months she remained under the care of Dr T M Tibbetts of Cradley for whom she nursed Writing to one of us on Sept 6th, 1903 Dr Tibbetts says of her "For some months after her operation *she was as would be* expected weaker and paler than usual and there was a certain flabbiness and muddiness of complexion with puffing

, but her strength

ached almost the

— not quite so good

as formerly She has been nursing cases for some months now and has never complained to me of anything unusual in the urinary functions and she has not had an attack of migraine since her operation During the last month the patient has gone to take a permanent post as matron of a residential home One of us has kept in communication with this patient during the whole of her stay there and has received samples of her urine from time to time

On Sept 12th the patient reported herself as feeling perfectly well and able to perform her duties without the slightest discomfort The urine at this time had the following characters colour pale straw, reaction slightly alkaline, specific gravity 1010, amount 80 ounces per diem, albumin present, 0 75 per cent, urea 1 2 per cent, deposit very small on standing consisting of pus cells and epithelial cells, no crystals, tube casts, or blood cells being present *On Oct* 31st a 24 hours specimen was examined with the following result colour, of a hazy straw reaction, neutral, volume, 3800 cubic centimetres, specific gravity, 1010, albumin, 0 75 per cent, urea, 26 grammes, uric acid, five grammes no creatinin, no hippuric acid Microscopically there were pus cells in considerable quantities, red blood corpuscles in scant numbers, epithelial cells, round cubical, and squamous, and uric acid crystals in scant numbers

On Jan 22nd, 1904, the patient, being in the Midlands, consulted one of us just to report herself She looked robust and well, having put on about two stones in weight since her operation She was slightly anæmic and had a little palpitation after going upstairs Since her operation two years and four months ago she had experienced three mild head aches, each lasting one day only Her feet occasionally became swollen at night time but there was no œdema of *the legs or ankles at the time of consultation Her heart* was apparently a little hypertrophied, the apex beat being best felt in the nipple line in the fifth interspace the upper part of the left margin reaching as high as the second left cartilage The aortic second sound was distinctly accentuated and the arterial tension appeared to be increased but there was little or no arterial sclerosis The ocular fundi were normal The patient expressed herself as feeling better than she had done for five or six years She had never had any pain in the right kidney which had increased to a length of seven inches and a breadth of three and a half inches It was distinctly moveable, reaching as low as the tip of the iliac crests in the erect posture It was irregular in outline and quite free from tenderness The patient was performing her duties with ease and comfort As the kidney was so moveable she was advised to get an abdominal belt

On Feb 5th the whole of the urine passed in 24 hours was obtained and carefully examined with the following result —

Analysis of Urine

Volume 3100 cubic centimetres; specific gravity 1005, reaction, neutral sediment pus Organic solids 1 12 per cent inorganic solids 0 54 per cent total solids 1 66 per cent water, 98 34 per cent.

	Per cent	
Albumin and globulin	0 06	(derived from the pus)
Urea	0 43	
Uric acid	0·0025	
Hippuric acid	0 0157	
Creatinin	0 0043	
Phenol	Absent	
Chlorine	0 107	
SO_3 (inorganic)	0 0380	Total SO_3 = 0 0419 per cent
SO_3 (ethereal)	0 0039	
Phosphoric anhydride	0 11	

Cammidge s pancreatic reaction was tested upon this urine with a negative result, in both A and B reactions no crystals were found

On Sept 6th, 1904 the patient wrote to say that she had for three days had a good deal of pain in her right side accompanied by hæmaturia She further complained of dimness of sight in the right eye A specimen of urine presented the following characters colour, dark red, obviously from blood, specific gravity 1012, reaction, alkaline, albumin 2 per cent urea, 2 75 per cent, and quantity of urine per diem 80 ounces (2240 cubic centimetres The deposit contained red blood corpuscles in large numbers pus cells in large numbers, epithelial cells (cubical and squamous), and triple phosphates Tube casts were not present With rest the blood and pain disappeared within a day or two but on Sept 18th the hæmaturia again returned in greater quantity, when she consulted Dr Bruce C Kelly of Wells who *kindly furnished us with the following report* on Oct 30th ' There is much blood in the urine The right kidney is nine inches long, four inches broad and three inches thick The quantity of urine passed per day averages 80 ounces or more A fortnight s rest in bed caused the blood to disappear from the urine There is considerable cardiac hypertrophy, *the apex being rather more than* an inch outside the nipple line The aortic second is accentuated and the arterial tension is high There is no albuminuric retinitis but there is swelling and woolliness of both discs in which the vessels are lost

On Nov 21st the patient wrote as follows "I have not had any of my old attacks of sick headache since I saw you in January Recently, however, I occasionally suffer from slight pain at the back of my head, which comes suddenly and as *suddenly disappears* I do not suffer from palpitation now unless I hurry very much In the months of April, May, and June of this year my feet and legs swelled a good deal, but I attributed that to the fact that I was compelled to stand for long hours, they are better now that I can rest more. The pain in my back and side which I had two months ago has disappeared since Dr. Kelly made me rest in bed for a fortnight. I have usually a heavy tired feeling in my back which I can hardly describe as a pain. I am feeling much stronger now, though easily tired on exertion. I am quite able to perform my present duties."

CASE 2.—The patient was a male, aged 43 years. During the last ten years he had been subject to attacks of severe abdominal pain. These attacks came on at any moment, often whilst at work. Each attack laid him up for a fortnight. The pain would commence in the right hypochondriac region and pass round to the back, often being very severe between the shoulders. It did not tend to shoot downwards towards the inguinal regions. The pain was very severe, causing him to break out into a cold sweat. These attacks occurred on an average about twice every year. None of the previous attacks had lasted so long as the present one. None of them had been attended by jaundice, shivering, polyuria, hæmaturia, or vesical irritation. The case was first seen by one of us in an emergency in the temporary absence of his regular medical attendant, Mr. H. W. Freer of Stourbridge, late in December, 1903. The patient was then in great agony, ascribing his pain to the right hypochondriac and right half of the epigastric regions. He was jaundiced and excessively tender in the right upper abdomen. He presented superficially a typical picture of biliary colic, with which diagnosis Mr. Freer agreed on his return. As the condition did not improve he was again seen in consultation with Mr. Freer on Jan. 17th, 1904. The jaundice, though still present, appeared to be slightly less. The pain still continued with occasional acute exacerbations. On palpation a semi-fluctuating mass was felt projecting below the right costal margin and it could be felt extending into the lumbar region. The mass moved with respiration and was very tender to the touch. On percussion it merged with the hepatic dulness and the right kidney could not be felt apart from the mass. His temperature was 101° F., at which point it had kept during the past fortnight. The pulse was 104 per minute and the respirations were 26 per minute. There was no vomiting, diarrhœa, melæna, or loss of flesh. The urine was alkaline, was of specific gravity 1015, but was free from albumin or sugar. A chance word concerning the continuity of the dulness of the tumour with that of the kidney was overheard by the patient's sister (Case 1), who was also present at the bedside. She therefore made mention of her own case, saying that she had suffered from cystic kidneys, one of which had been removed. Three possible diagnoses suggested themselves—viz.: (1) subhepatic abscess arising from the gall-bladder, stomach, duodenum, or appendix; (2) cholecystitis; and (3) enlarged kidney, possibly general cystic disease, suggested by the patient's sister. In these circumstances it was decided to take the patient into the Corbett Hospital for an exploratory operation. He was admitted the same evening (Jan. 17th) and operated upon on Jan. 19th, 1904.

Operation.—An incision was made over the gall-bladder in the right linea semilunaris. The gall-bladder and bile-ducts were found on digital examination to be healthy and quite separate from the swelling. It was then ascertained that the mass which projected below the costal margin was behind the peritoneum and that it was in the position of the right kidney. Before closing the anterior abdominal incision the left kidney was examined and was found to be slightly enlarged but perfectly smooth on the surface. A second oblique incision was made in the right lumbar region and the kidney was exposed and was found to be enlarged enormously and the seat of general cystic disease. As the organ appeared to be functionally useless and the origin of his agonising pain it was deemed advisable to remove it, especially since the left kidney showed no irregularities upon the surface. Nephrectomy was performed without producing any great shock to the patient. The artery, vein, and ureter of the kidney were secured separately by silk ligatures.

Pathological appearances.—The excised kidney on removal weighed 1 pound 9 ounces (708·5 grammes) and had the following measurements: length, five and a half inches (13·75 centimetres); breadth, three and a quarter inches (8·75 centimetres); and thickness, two and a half inches (6·25 centimetres). It was quite soft to the touch and its surface was studded with thin-walled cysts varying in size from that of a pin's head to that of a small Tangerine orange. The cysts were situated in the kidney substance and were not evacuated on removing the capsule. The contents of one of the large cysts was aspirated and examined in order to ascertain if it contained urinous substances. The following is the result of the examination. Microscopically, epithelial cells and cholesterin crystals; chemically, urea 0·18 per cent. and proteid 0·42 per cent. Into one of the branches of the kidney pelvis was injected a solution of methylene blue at considerable pressure. On making a section of the kidney eight hours afterwards it was found that several of the cyst contents corresponding to that division of the pelvis were stained with the methylene blue showing that there was a continuity between the kidney pelvis and the interior of some of the cysts. After making a section of the kidney it was found that the cysts were present in both cortical and medullary portions of the kidney, but that they were more numerous in the medullary portion and that a distinct layer of normal kidney tissue could be recognised by the naked eye on the surface of the kidney, whilst no normal kidney tissue could be seen in the deeper parts. The contents of the cysts varied from clear fluid to dark-brown gelatinous substance. There was no contraction or dilatation of the kidney pelvis or of the ureter and no calculi were found in any portion of the kidney substance or pelvis.

Microscopical sections.—These showed that the cysts were situated in both cortical and medullary portions. The cysts were usually lined by a single layer of epithelium varying from the simple squamous to the high columnar type. Occasionally a cyst was devoid of epithelial lining but there was no evidence of Malpighian bodies attached to any of the walls of these cysts as have been described in other cases. Many of the cysts were surrounded by a fairly dense layer of connective tissue, whilst others had no such fibrous support. The contents of the cysts largely consisted of homogeneous substance, staining a deep yellow with van Gieson's stain. Many cysts, however, contained catarrhal cells, polynuclear leucocytes, and even concentrically laminar bodies, very similar to those found in cysts of the prostate gland. Several of the cysts in this kidney presented beautiful dendritic intracystic projections lined by cubical cells similar to the lining of the cyst. As in Case 1, there appeared to be every gradation in size between the ordinary tubules and the larger cysts. There were large areas of perfectly healthy tissue, there were still larger areas in which the tubules showed the typical appearance of a chronic parenchymatous nephritis, and there were areas of loose fibrous tissue in which the tubules seemed to have disappeared altogether. As in Case 1, there was widespread destruction of Malpighian bodies apparently due to a process of thrombosis with subsequent cicatricial overgrowth. The connective tissue of the kidney was generally increased and there were large tracts of round-celled infiltration indicative of inflammatory reaction. The degree of cystic change in Specimen 1 was much more advanced than in Specimen 2, and despite the absence of macroscopic evidence of healthy kidney tissue there were large tracts of normal kidney tubules in each specimen that appeared to be capable of performing excretory functions with a varying degree of efficiency.

After-history.—The patient rallied from his operation very satisfactorily. His temperature remained normal for three days, after which it began to fluctuate, rising in the evening to 101°, 102°, and 103°, and falling in the morning to 98°. This fever was due probably to phlebitis which began in the right femoral vein and later spread to the left femoral vein. The lumbar wound remained healthy for about a week after operation when it was opened up in the hope of finding retained suppuration to account for the fluctuating temperature. No pus was found but the wound now became infected and continued to discharge up to the time of death. This long-continued discharge was doubtless due to infected silk ligatures. The wound in the linea semilunaris healed by primary union. A faint haze of albumin was discovered in the urine for the first time on Jan. 24th, five days after operation. Pus was discovered in the urine for the first time on March 4th, six weeks after the operation. This was accompanied by tenderness over the left kidney; tube casts were noticed in the urine shortly after this, which facts strongly suggest that the left kidney became the seat of pyelonephritis about this date. The left kidney was carefully watched during his stay in hospital and it was felt gradually to increase in size, becoming palpable about three weeks after the operation and later becoming irregular on the surface, suggestive of general cystic disease. Although the amount of urine was increased, for a time its specific gravity was maintained. Towards the end of his sojourn in hospital, however, the renal secretion diminished in quantity and deteriorated in quality, as shown by the specific gravity. The reaction of the urine varied considerably; though generally alkaline there were days, and even weeks, when it was acid. On April 12th, 1904, a careful microscopical and analytical examination was made with the following result:—

Analysis of Urine.

Volume, 1215 cubic centimetres per diem; specific gravity 1012; reaction, alkaline; sediment, triple phosphates, tube casts, and an enormous amount of mucus. Organic solids, 2 03 per cent.; ash, 0 93 per cent.; total solids, 2 96 per cent.

	Per cent.		Per cent.
Urea...	1·25	Ethereal sulphates (SO_3)	0 013
Uric acid	0 0042	Phosphoric anhydride	0·22
Hippuric acid	0·0098	Mucus, pigment, &c....	0 8814
Creatinin	0 0097		
Phenol	0·0079	Solids	2·96
Chlorine...	0·425	Water	97·04
Inorganic sulphates (SO_3)	0·139		100·00

Cammidge's pancreatic reaction was tested upon this urine with a negative result. In both the A and B reactions no crystals were deposited. Whilst the patient remained in hospital there was no cardiac hypertrophy but there was some accentuation of the aortic second sound. There were little or no arterial sclerosis and no increased vascular tension. He had slight swelling of the feet, due partly to the femoral phlebitis. There was never any œdema of the lungs and his ocular fundi were perfectly normal. He left hospital on May 18th with a small discharging sinus, able to walk and to get about. After leaving hospital his strength did not return, owing to which he was compelled to spend a large part of the day lying down.

Seen by one of us in the middle of June in consultation with Mr. E. Fryer of Cradley the patient was then very anæmic and complained of great pain in the left kidney and of difficulty in getting about owing to weakness and breathlessness. His feet and legs showed œdema and there was œdema at the bases of both lungs. There was no ascites. The left kidney was much enlarged, irregular in outline, and tender on palpation. In length the kidney measured seven inches and in breadth three and a half inches; its lower end reached to the anterior superior iliac spine and anteriorly as far as the linea semilunaris. There was now some cardiac dilatation but the blood pressure was not, to all appearances, increased. The urine contained a large quantity of albumin and pus. Mr. Freer, who attended him just previously to his death, gives the following account of him. "The left kidney was as large as the right one previous to its removal. The patient became more and more emaciated and anæmic. The heart was dilated, the apex beat being felt outside the nipple line. The pulse gradually became quick, feeble, and irregular. There was considerable œdema in the lower extremities and a mild degree of ascites. The upper extremities and face were free from œdema. The sinus in his right side failed to heal up. Up to the very end the patient suffered severe pain in the region of the left kidney. A week before his death the urine became scanty and almost suppressed and contained a considerable amount of albumin. Death occurred in August, 1904, seven months after his operation."

Summary.

[illegible]

1904. January: Three slight attacks of migraine. September: Right [illegible]

[illegible]

1903. [illegible] jaundice; [illegible]

1904. Ja[illegible] infection [illegible] Rapid enla[illegible] June: Failure of general health, increasing cardiac weakness. August: Increasing cardiac and renal inefficiency; partial suppression of urine; death.

Remarks.—The occurrence of this rare disease in two members of the same family is a point of unusual interest. The patient in Case 1 suspects that another brother of hers is also affected with general cystic disease of the kidneys because he suffers from severe headache, pain in the loin, and occasional attacks of frequency of micturition. A specimen of the urine of this third member is, however, perfectly healthy, but as he refuses to submit himself to medical examination there has been no opportunity of ascertaining if the sister's suspicion is correct or not. Carl Beck[1] records a case of multiple cysts in the kidney upon which he performed nephrectomy and in this instance no less than three sisters suffered and died from the effects of this disease. This family tendency is not mentioned amongst the collected cases of Ritchie[2] and others, yet it is quite certain that such occurrences are not accidental and that they point to a constitutional tendency which is, at least, a predisposing factor in the etiology of the disease. The age at which this disease was noticed in the foregoing cases is almost identical with the average of general cystic disease of the kidney in the adult—viz., 45 years. The history in each case points to renal mischief extending over nine or ten years, so that the onset of the disease was very slow. There is probably a period of years of gradual development in which symptoms exist more or less severely, but during which a physical examination is either never made and thus a possible enlargement is undiscovered, or, if such an examination is made, the enlargement is not sufficiently marked to call for special attention. Several cases, however, in our own experience have never consulted a medical man until one or both of the kidneys had assumed enormous dimensions, showing that the disease is occasionally symptomless for some considerable time.

The two cases under discussion present some clinical features worthy of notice. It is impossible to say whether the calculi passed by Case 1 in 1893 had any causal relationship to the onset of the disease or were secondary to its establishment. For five years the same case was subject to severe headaches which were entirely relieved, for three years at least, by nephrectomy. These headaches can scarcely be similar in nature to those which occur in Bright's disease, otherwise the removal of one kidney would not have cured them seeing that the opposite kidney was also affected. It is more than likely that this migraine was due to mobility of the left kidney and that the removal of this organ cured them as nephropexy or nephrectomy does in cases of ordinary moveable kidney who have previously suffered from severe headaches. Two and a half years after the operation there was a slight recurrence of migraine, due, no doubt, to mobility and dragging of the enlarged right kidney. The attacks of severe lumbar pain which so frequently attend the development of this rare disease have been explained in various ways, as, for example, by mobility of the kidney, sudden tension of the cyst contents, hæmorrhage into cysts, or the passage of blood, mucus, crystals, or calculi down the ureter. We are convinced, however, that sudden lumbar pain is occasionally due to rupture of cysts and the extravasation of their contents into the loose tissue around the kidney. This is borne out by the cicatrices seen on the surface of some of the specimens of cystic kidney. The thin wafer-like walls in some of the cysts in Specimen 1 clearly indicate how easily such a rupture could be produced. The jaundice of Case 2 was probably due to the rupture of a cyst at the inner and upper pole of the right kidney, the extravasated contents of which pressed upon the common bile-duct and so produced obstructive jaundice. In another case of general cystic disease well known to one of us the following development occurred. The patient was suddenly seized with an attack of acute lumbar pain. On examination a fluid swelling was found in the lumbar region which ran forward into the muscles of the abdominal wall. The swelling was regarded by an eminent surgeon as a possible dissecting aortic aneurysm. Subsequently this swelling disappeared of itself and six months afterwards at the patient's death it was found that he had been suffering from general cystic disease of both kidneys. There was little doubt in this case that a superficial cyst had ruptured, accounting for the sudden attack of lumbar pain and the production of the fluctuating swelling.

The diagnosis of this disease may be in advanced cases a matter of comparative ease, or, as in the case just referred to, even to the last it may remain very obscure. Although this case had been seen by many specialists both in London and Birmingham cystic kidney was never diagnosed, chiefly because the huge kidneys were well anchored under the costal margin, so that they could not easily be palpated. When the organ falls below the costal margin there is a much better chance of palpating its surface and of discovering the highly characteristic irregularities and possibly fluctuating areas. Bilateral enlargement is very suggestive of general cystic disease. In Case 1 sufficient importance was not attached to the slight enlargement of the right kidney, as the physical characters of the left renal enlargement were absolutely typical of general cystic disease. The pathological characters of the urine are not sufficiently striking to help us much in the diagnosis of the disease. The urine is generally increased in quantity, often considerably so, but deficient in quality, showing a low specific gravity and a deficiency of solids. The reaction is generally alkaline but for short periods it may be acid. There are generally pus, red blood cells, and epithelial cells present in varying quantities. The urine contains albumin or globulin which, however, is generally derived from the pus, blood cells, or epithelial cells, since the filtered urine is proteid-free. Peptone and reducing substances like sugar are absent. Nitrogenous metabolism, as indicated by the excretion of urea, uric acid, hippuric acid, and creatinine, is for the most part sluggish. Intestinal putrefaction, as shown by the small percentage of ethereal sulphates and the absence of phenol, is low. Phosphates and chlorides vary considerably in amount according to the special diet taken. Hippuric acid is sometimes absent, in other cases it appears in the urine in larger quantities than normal. Tube casts are not as a rule present in this disease; they were met with in Case 2 which, however, was complicated with a nephritis. We have never seen any of those granulated cylinders in the urine which are described by certain observers. It is evident, therefore, that the renal secretion in general cystic disease is almost identical with that found in hydronephrosis and in some cases of pyonephrosis of calculous origin. One is therefore compelled in making a differential diagnosis to rely upon physical examination and especially to look out for such characters as irregularity of outline, a general solid firmness with fluctuating areas and a bilateral tendency which occurs in this disease. The method adopted by Hoehne of puncturing the cysts in order to discover whether the rosette bodies described by him are present or not is a procedure of very doubtful value and is fraught with some danger. These rosette bodies, which correspond to the concentrically laminar bodies described by us, are not present in every cyst. It is difficult to puncture cysts at such a depth, for, obviously, it can only be done safely through the loin. Cysts may become very superficial when the kidney passes out anteriorly below the costal margin but if an attempt is made to puncture them in this situation there is a great danger of fouling the peritoneal cavity either by accidentally puncturing the colon or by infecting it with contents of the cysts which are not always sterile. A much safer and more scientific procedure in all such cases, whether the diagnosis of cystic disease is certain or not, is to expose the mass by the usual lumbar incision. In this way alone can the surgeon in many cases make an absolute diagnosis and, at the same time be in a position to treat the case as he finds it.

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[1] Annals of Surgery, vol. xxxiii., p. 147.

[2] Laboratory Reports, Royal College of Physicians of Edinburgh, 1892.

In perusing the literature of this obscure disease one realises how scanty is the material which can be of service in determining which is the best line of treatment to adopt. The dread of post-operative suppression and uræmia in this disease seems to have acted as a paralysing agent on the minds of physicians and surgeons. It is natural, perhaps, to imagine that a large cystic kidney like that of Case 1 is functionally useless and that the opposite one is doing all the work. If this were the case the remaining kidney would not rapidly increase in size after operation as it did in each of the cases just described. Furthermore, when careful microscopical examinations are made of these large cystic kidneys large areas of perfectly healthy, and still larger areas of partially healthy, kidney tissue are found, which, however, are not visible to the naked eye. It is quite certain that the ever-increasing pressure of growing cysts must slowly strangle and render functionless the areas of secreting tissue around them, but it is impossible by superficial inspection to estimate when that destruction has become complete. For this reason it is questionable whether the operation of nephrectomy is ever justifiable in general cystic disease. Several surgeons imagine that if one kidney is cystic and the other is apparently normal to the touch it is good treatment to remove the cystic organ on the supposition that it will prevent cystic development in the other. In the first place, one cannot detect early cystic changes by simple palpation of the kidney through an exploratory wound into the peritoneal cavity; and, in the second place, cystic disease is not infectious in the same sense as tuberculosis of the kidney is. It is more than likely, even if one kidney is healthy, that the increased demand made upon it when its less fortunate partner is removed must augment its tendency to cystic disease. One realises, of course, that severe symptoms such as were present in both of these cases must call for serious attention on the part of the surgeon. The operation of nephrectomy was justified in Case 1, in so far as it has given the patient three years of comfortable and useful life, though it will in all probability shorten her existence. Nephrectomy is too extreme a remedy to adopt in a disease which is probably constitutional and not local in nature. It always means the removal of excretory tissue the functional capacity of which one can never accurately estimate and the throwing of the entire work of urinary secretion upon the opposite kidney, which is, in all probability, in an earlier stage of the same disease.

The operative measure which has so far given the best results is that of free incision of the diseased kidney. A case so treated by Curtis[3] was alive and well ten years after operation; another by Kammerer[4] was alive and well three years after operation; in both these cases the affection was bilateral at the time of operation. This mode of procedure consists in the free incision of the cortical substance and the systematic opening of all the larger cysts which are then packed with gauze in order to secure their entire obliteration. In this way the size of the organ and the pressure within its capsule are enormously diminished. The compression of the more or less healthy tubules is thus relieved. The kidney is thoroughly anchored in the loin and the symptoms dependent upon mobility disappear. This free incision does not appear to be attended by the formation of permanent fistulæ unless there is some contraction of the kidney pelvis, in which case the establishment of a fistula would be an advantage to the sufferer. There is also very little risk of severe hæmorrhage. Such a method of operative procedure, when applied first to one kidney and then to the other as they increase in size, must best preserve for a longer or shorter time the functional capacity of the diseased organs and thereby prolong the life of their unfortunate possessor. Suppression and uræmia are less likely to follow the operation of free incision than when complete nephrectomy is performed, simply because the increased nitrogenous elimination occasioned by operation is shared by both organs. Among the indications for operation in cystic disease of the kidney the following may be mentioned—attacks of severe lumbar pain, vomiting, hystero-epilepsy, migraine, and threatened suppression or uræmia.

We purposely avoid discussing the pathological significance of these specimens at the present time as one of us intends to publish shortly a paper bearing specifically upon this subject.

The after-history of these two cases is somewhat different. Case 1 is still in fairly good health and able to perform the duties of housekeeping with comfort. We gave her, in our own minds, about one year of life after her nephrectomy; she has obviously outstripped that expectation by several years. It only shows how functionally active these large cystic kidneys are and how slow we should be to condemn such diseased organs as useless. In Case 2 the chances of the patient's recovery became hopelessly handicapped when sepsis and pyelonephritis set in. He never really regained anything like his normal health and he eventually succumbed to a combination of renal and cardiac inefficiency. It is thus obvious that although nephrectomy was performed in each of the cases just related with a varying degree of success we would after careful consideration advise in future cases free incision rather than removal of the kidney.

In conclusion, we wish to thank Mr. Barling for permission to publish his case and Dr. Tibbetts, Dr. Kelly, and Mr. Freer for their willingness and courtesy in supplying us with some of the facts concerning the cases.

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[3] Annals of Surgery, vol. xxxiv., p. 419.

[4] Ibid.

SOCIETY OF APOTHECARIES OF LONDON: UNVEILING OF ST. LUKE'S WINDOW.—Owing to the visit of the King of Spain to the City on June 7th next the unveiling will take place on Monday, June 5th, instead of June 7th, as originally arranged.

TWO CASES OF GANGRENE WITH SPONTANEOUS AMPUTATION.

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CAPTAIN, I.M.S.; RESIDENT SURGEON, MEDICAL COLLEGE HOSPITAL, CALCUTTA.

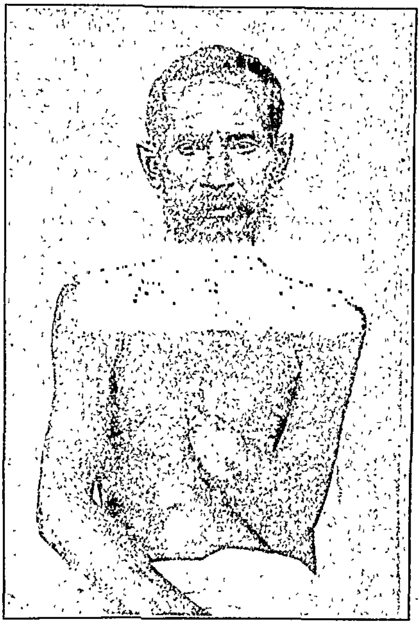
THESE two cases show to what an advanced stage natives of India will allow disease to progress before applying to a hospital for relief. The first case was under the care of Major D. M. Moir, I.M.S., to whom I am indebted for permission to publish it; the second was under my own charge when officiating as professor of surgery at the Medical College Hospital.

CASE 1.—The patient, a Hindu male, aged 50 years, was admitted to hospital on Sept. 12th, 1904. In January of the same year he noticed that the tips of the fingers of the left hand had become insensitive; the anæsthesia spread upwards to about the middle of the forearm. A week later he suffered from fever and 15 days from the commencement of the anæsthesia a small bleb was noticed in the cleft between the thumb and forefinger which broke down and ulcerated, more blebs appeared, and the soft tissues of the hand and forearm gradually sloughed away until by April (four months) only the bones of the hand and wrist were left. During this time he suffered a good deal of pain and there was continuous fever, a large quantity of pus was discharged, and he became weak and emaciated. In the same month he had a fainting attack and a local practitioner was called in who administered stimulants and soon afterwards amputated at the wrist. Towards the end of April a line of demarcation formed in the upper part of the forearm; the soft tissues and finally the bones dropped off while he was applying a lotion made from "*nim*" leaves. The fever which had been continuous up to that date ceased after the separation of the gangrenous part.

On admission the following history was obtained. He had suffered from syphilis 30 years ago but had never had rheumatism or any heart trouble, nor was there any history of injury. On examination of the heart reduplication of the second sound was detected down the right side of the sternum, otherwise the physical signs were normal. The peripheral arteries were not markedly atheromatous. The urine contained no albumin. The left forearm had spontaneously separated about the middle with the formation of a conical ulcerated stump. Major Moir amputated through the condyles of the humerus with a posterior elliptical skin-flap on Sept. 21st; the arteries were found to be thrombosed. A portion of the end of the flap sloughed and the bone protruded, but in spite of this the wound shortly healed. Convalescence was retarded by an attack of pneumonia in the beginning of October. He left hospital completely cured on *Dec. 5th.*

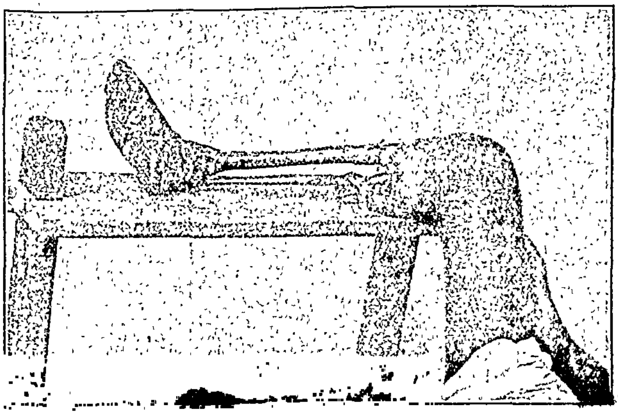
CASE 2.—The patient was a Hindu male, aged 40 years, and was admitted into the Medical College Hospital on May 7th, 1904, with gangrene of the right foot and leg. Four months before admission he suffered from fever, probably malarial in origin. On the tenth day of this attack he suddenly felt a burning sensation in the right leg accompanied by severe pain which was shooting in character and referred mainly to the distribution of the sciatic nerve. Within 24 hours the limb became insensitive and cold and then gradually began to swell and to assume a reddish appearance. The pain increased for some days and then gradually diminished. The fever ceased about ten days from the commencement of the leg trouble. One month later he noticed that some small blisters appeared over the leg and foot; these persisted for about three weeks, accompanied by the discharge of thin serous fluid; the leg at that time became more painful and there was much itching in the limb. About one month before admission sloughs appeared, at first just above the heel but later extending up the leg, and the foot became mummified. The sloughs gradually separated, the patient himself removing them when loose, until finally only the bones remained from the ankle to the level of the tubercle of the tibia.

FIG. 1.



On admission no *history of syphilis or other previous* illness was obtained; the patient appeared to be fairly

FIG. 2.



healthy. The heart sounds were weak, giving one the impression that the muscle was flabby; no murmur could be detected. No atheromatous changes were found in the peripheral arteries. The urine was of low specific gravity but contained no albumin or other abnormal constituents. The right foot was mummified and black; above it with the exception of the ligaments of the ankle-joint only the bare bones of the leg remained up to just below the level of the tubercle of the tibia and here the bones had been deeply eaten into by the granulations of the stump. On the day following admission the fibula and, shortly after, the tibia separated. The thigh was amputated by a modified Stokes-Gritti's method on May 13th, the posterior flap being made longer than usual on account of there being more skin available on this aspect of the leg. The patella was small; its cartilage was only partially removed and it was fixed in position by silk sutures passing through the periosteum of the femur. There was a little suppuration and the patient was discharged with a small sinus on July 9th, the patella being firmly adherent to the femur and the stump satisfactory.

Captain Leonard Rogers, I.M.S., examined the specimen and reported that "the lumen of the artery was nearly blocked by partly organised blood-clot with a small canal through it. Microscopically the inner elastic lamina was clearly seen and no atheromatous changes found."

These two cases in conjunction seem to be worth reporting as they show an advanced stage of gangrene which is rarely seen at the present day. The first case from the slower onset was probably due to thrombosis, the second to embolism from a thrombus forming in a weak heart during an attack of fever. Unfortunately, in the first case the arteries were not examined.

Calcutta.

EPIDEMIC CEREBRO-SPINAL MENINGITIS AND POSTERIOR BASIC MENINGITIS.

By O. HILDESHEIM, M.D. Oxon.,
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There is a widespread belief—more particularly outside England—that posterior basic meningitis is a sporadic form of the epidemic disease. Koplik, for example, in his recent work on the Diseases of Children deals with the epidemic disease briefly and dismisses posterior basic meningitis with the remark that it is considered a separate disease in England and that it runs a protracted course.

Posterior basic meningitis accounts for one-third of all the cases of meningitis amongst the in-patients at Great Ormond-street Hospital (133 out of 396 consecutive cases). By the kindness of the staff of that hospital I have recently had the opportunity to investigate the histories of over 100 cases of posterior basic meningitis and the present seems an opportune time to record briefly and as far as our present knowledge permits in what points this disorder stands out and apart from epidemic cerebro-spinal meningitis as a disease *sui generis*.

No doubt the ultimate decision rests with the bacteriologists, but the bacteriology of the cerebro-spinal fluid is just now at a very perplexing stage. For example, Hunter and Nuthall in nine cases of posterior basic meningitis found a diplococcus identical with the meningococcus. In three cases the culture was pure, in three it was associated with the influenza bacillus, in one with the tubercle bacillus, and in one with staphylococci. Mya described three cases of fibrino-purulent meningitis in breast-fed infants in which the Pfeiffer bacillus was present. Gleon obtained these bacilli from the fluid yielded by lumbar puncture in a child eight months old. Schultze mentions a number of instances in which the pneumococcus has been found "in the so-called sporadic cerebro-spinal meningitis," and adds that it is found not seldom ("*nicht selten*") in the epidemic form. Osler says: "The pneumococcus has been found frequently in association with the diplococcus of Weichselbaum in cerebro-spinal fever." The pneumococcus, indeed, appears to be almost ubiquitous. "No organism is more variable than the pneumococcus in its virulence and pathogenic results. ...... The form of primary meningitis set up by the pneumococcus may in every detail apparently resemble the post-basal form described by Lees and Barlow, or the epidemic cerebro-spinal form." (Leith.)

It is very important to realise that one has not necessarily found the cause of the disease because one has shown the presence of a potentially pathogenic organism in a case of meningitis. I had under my observation a case which the physician in charge considered an example of pneumococcus meningitis. I performed a lumbar puncture and the pathologist reported that he obtained a pure culture of pneumococcus. Nevertheless, the necropsy revealed a typical tuberculous meningitis.

Clinically the epidemic disease shares many features in common with posterior basic meningitis. To those who consider the two diseases identical the differences are comparable to those which are found when two separate epidemics are contrasted. As Osler says, "The clinical features of the sporadic form present interesting variations which are worthy of additional study."

1. Although it proves nothing, it is a very interesting fact that our knowledge of the sporadic disease antedates the earliest descriptions of the epidemic fever by several years. Nothing was known of the epidemic disease before the nineteenth century and there was no description of its occurrence in the British Isles before 1830. Nevertheless, that one type of posterior basic meningitis was common enough in 1827 is shown by the description which Alexander Monro (the third generation of that family of great physicians) gave in his work on the Morbid Anatomy of the Brain, published in that year. Dealing with chronic hydrocephalus he remarks that the 14 cases which he himself had seen were *all born with* large heads and continues: "But according to some authors the disease appears soon after birth or even a few years after it. The child seems dull. This dulness is accompanied with headache and fever, which is much more severe at times and is attended by sickness and vomiting. The appetite is impaired and the food is apt to excite nausea. The headache becomes more severe and constant and is *accompanied by pain and stiffness in the neck* and with frequent and irregular pulse, but in some cases is slower than natural. The eye is dull and the vision is indistinct; the skin is hot and the pulse frequent and irregular. The urine is discharged with pain and difficulty. After the above symptoms the head expands." No one familiar with the disease would deny that this is a very succinct account of one form of posterior basic meningitis which results in hydrocephalus.

2. There is a very definite difference in the age incidence of the sporadic and epidemic diseases. Osler says that more than half the cases of the latter are in persons under ten years of age. More than half the cases of posterior basic meningitis are in infants under one year of age.

3. The protracted nature of many of the cases of posterior basic meningitis has no parallel in the epidemic disease. The significance of this difference which is generally recognised is difficult to gauge. Most of the sequelæ of the former disease are associated with internal hydrocephalus. For this reason and on account of its altogether insidious nature it is very difficult to give any general pronouncement on the duration of the disease. But there is every reason to suppose that the inflammation of the meninges not infrequently endures for several months.

4. I find nothing in the accounts of the epidemic illness of amaurosis without optic neuritis which is so remarkable a feature of posterior basic meningitis and which occurs in one-third of all the cases of that disease (27 out of 78 of my cases).

5. On the other hand, optic neuritis seems fairly common in epidemics (six out of 40 cases—Randolph). It is very rarely met with in posterior basic meningitis. There was only one undoubted instance in the whole of my series of cases.

6. "Moos found in 64 cases of recovery from cerebro-spinal fever that 55 per cent. of the persons were deaf." Only three of my cases complained of subsequent deafness. In one of these it was very slight and associated with large tonsils and adenoids and in another it was after three operations for subdural drainage. So that in only one case did it follow directly from the primary disease and it must be concluded that deafness is a rare sequel of posterior basic meningitis.

7. Skin lesions, although they occur, are much less common in posterior basic meningitis than in the epidemic fever. In my series herpes, which is so characteristic of cerebro-spinal fever, is only described twice. I know nothing of petechial rash in the sporadic disease. Osler, in his

description of cerebro-spinal fever in the Encyclopædia Medica, says: "A petechial rash, which was so common in the early epidemics that the disease had the name of spotted fever, was present in more than one-third of our cases."

8. There are further minor yet significant symptoms in posterior basic meningitis, such as retraction of the upper eyelids, which I do not find mentioned in the accounts of epidemics. How far these differences are dependent upon the earlier age incidence of posterior basic meningitis it is impossible to say. It is noteworthy that in that disease amaurosis is less common in older children.

[illegible] Hunter
an [illegible] Diseases
of [illegible] i., 1827.
M [illegible] Cerebro-
sp [illegible] othnagel's
Specielle Pathologie und Therapie, 1901.
Northwood.

A SECOND CASE OF PNEUMOCOCCUS ENDOCARDITIS TREATED BY ANTI-PNEUMOCOCCUS SERUM.

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AND
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IN THE LANCET of June 4th, 1904 (p. 1561), one of us (T. J. H.), with Dr. A. E. Garrod, reported a case of pneumococcus endocarditis treated by anti-pneumococcus serum. *The disease was very acute and the whole duration* of it probably not longer than three weeks. The pneumococcus was cultivated from the blood three days after the patient was first seen. A case has recently come under our observation which was of longer duration, lasting more than two months. But a bilateral pneumonia, followed by a double empyema, occurring in a child convalescing from rheumatic fever constituted a very serious condition from the first. And the presence of pneumococci in the circulation was not demonstrated until quite late in the course of the illness. Nevertheless, seeing that during the present state of probation of bactericidal sera accurate diagnosis in the cases treated by them is of the utmost importance, it is considered advisable to publish a brief account of the case.

The patient, a boy, aged ten years, suffered from enlarged tonsils and slight sore throat at the beginning of November, 1904. On Nov. 18th he was taken suddenly ill with headache, pains in the back and limbs, and a rise of temperature (101° F.). On the third day the joints were painful and swollen. He was seen by one of us (H. C. L. S.) and the disease was diagnosed as acute rheumatism. On the fourth day a mitral systolic murmur was heard. Sodium salicylate was given; the pains in the joints passed off and the temperature fell to normal on the eleventh day. On the thirteenth day the temperature rose to 102° and signs of [illegible] ng appeared. On [illegible] the left side; the [illegible] nd oxygen inhalations became necessary. Defervescence took place by lysis, the temperature becoming normal again on the twenty-first day; but thenceforth it rose daily to from 100° to 101° until the twenty-seventh day. The signs in the lungs remaining, the right pleura was explored; pus was discovered; a portion of a rib was resected and an empyema was drained by Mr. T. Crisp English. The intermittent fever continued. On the thirty first day the left pleura was explored with a similar result, a second empyema being opened and drained. The intermittent fever still persisted (102°–103°) despite efficient drainage of both empyemata. The mitral murmur was still heard and the pulse averaged 140. On the fifty-first day the patient was [illegible] C. B. Lockwood who found no [illegible] us of suppuration but suggested [illegible] The *patient was also seen in consultation* by one of us (T. J. H.) on the same day and a blood examination was made. A blood count showed a leucocytosis of 11,600 and a blood culture grew pneumococci in considerable numbers in each of six culture tubes. By this time loss of flesh had become very marked, the patient being quite emaciated. Anæmia was also marked. The heart murmurs pointed to the presence of mitral obstruction and incompetence. Both empyema wounds were discharging freely; the pus contained pneumococcus together with staphylococcus albus and bacillus coli communis. The urine was natural. On the fifty second, fifty-third, and fifty-fourth days respectively ten cubic centimetres of Pane's serum No. 2 were injected subcutaneously. This was repeated on the fifty-eighth and sixtieth days. On the sixty-second day signs of nephritis appeared: œdema, albuminuria with blood and epithelial casts, and severe headache. On the sixty-fourth day the urine became very scanty; on the sixty-fifth day the temperature became subnormal and the patient died comatose on the sixty-sixth day.

No good result seemed to follow either of the two periods of administration of the serum. The patient was so much exhausted by his disease at the time the serum was used that its failure seemed inevitable The fact that the leucocyte count amounted to 11,600 only in a pneumococcal infection in a patient aged ten years showed that the resistance was much lowered. If, as recent researches seem to prove, we are dependent upon the patient's tissues for their reaction to the stimulus provided by a bactericidal serum, that is, the *action is not a direct but an indirect one, it is easily* understood why failure should follow the serum treatment in this case. The importance of early diagnosis of the existence of septicæmia, and the nature of it, becomes obvious. Death with the symptoms of a terminal nephritis is a common event in malignant endocarditis, and the occurrence of these symptoms is always a matter of the utmost gravity in such cases.

CONGENITAL ELEVATION OF THE SCAPULA.[1]

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JUDGING from the number of recorded cases this deformity is rare and as I have recently had the opportunity of observing one I have put together a few facts concerning this malformation in the hope that they may be of interest to the members of this society. The patient was shown at a meeting of the society on Jan. 22nd, 1904.

The patient, a girl, aged nine years, was taken to the Victoria Hospital for Children on Dec. 17th, 1903, because of deformity of the left shoulder-blade, which had been noticed for one month. There was no history of accident or infantile paralysis No other member of the family had a similar or any other deformity. The patient had always been "delicate" but had had no definite symptoms. On examination the left scapula was found to be two and a half inches higher than the right but the bone was of the same size as its fellow. Movement of the arm, both active and passive, was normal. There was no osseous bridge to be felt between the vertebral border of the scapula and the spine, nor was there any lateral curvature of the spine. The spinous process of the third dorsal vertebra, however, felt thicker than normal and was apparently displaced slightly to the left. The inferior angle of the scapula *was on a level with the interval between* the sixth and seventh dorsal spines. There was no paralysis of any muscle. The x rays showed nothing abnormal and the two arms were of the same length. The child's head was rickety in appearance but there were no other signs of rickets or of any other deformity. The teeth were slightly notched and ridged, as is generally the case in ill-nourished children. As the child suffered absolutely no pain or inconvenience from her condition no active treatment was adopted, especially as the deformity was barely visible, except when the patient was undressed. In the only other similar case with which I am acquainted, where operative measures were adopted in order to correct the deformity, very little, if any, benefit followed a very severe operation.

Cases of congenital elevation of the scapula may be classified into four groups: (1) where there is a bridge of bone between the vertebral border of the scapula and the spine; (2) where there is absolute absence of one or more muscles forming the shoulder girdle; (3) where there is a long and everted supraspinous portion of the scapula; and (4) where there is no osseous bridge and the scapula is normal or smaller than usual, with short or otherwise defective muscles. The great majority of recorded cases fall under the last group. Cases falling under the second group are very rare, only five instances having been met with. The most interesting cases are those where there is an osseous bridge between the scapula and the spine, as it is still undecided how this piece of bone is formed. Moreover, it can be dealt with surgically with most gratifying results. When present it is usually triangular in shape, the base being attached to the vertebral border of the scapula and the apex to the spinous process of either the seventh cervical or the first dorsal vertebra. In many instances the actual union to the scapula and spine is by cartilage which allows a certain amount of movement. The arm, however, can rarely be raised beyond a right angle. Various theories have been brought forward to explain the presence of this abnormal bridge of bone, the chief of which are that it is formed in connexion with the vertebræ and afterwards becomes attached to the scapula, or that the reverse of this is the case, or that it is independent of both.

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[1] A paper read before the Clinical Society of London on Nov. 11th, 1904.

Mr. A. Willett and the late Mr. W. J. Walsham described the first two cases, records of which are to be found in the Transactions of the Royal Medical and Chirurgical Society for 1880 and 1883 respectively. In the first of these there were multiple deformities present besides that of the scapula. The clavicles, the ribs, and the sternum were all abnormal and in addition there were 12½ vertebræ missing. The left scapula, which was fixed by a broad ridge of bone to the spine, was much shorter than normal and was in appearance more like a scapula at birth. The osseous bridge was partially united by cartilage to the scapula. The second case was that of a girl, aged eight years, whose left scapula was one inch higher than the right. A triangular bridge of bone between the scapula and the seventh cervical vertebra was present which caused much impairment of movement of the arm. The osseous bridge was removed and was found to be connected to both the spine and scapula by a layer of cartilage. Similar cases have been recorded by Mr. Goldthwaite and Mr. Painter,[2] by Mr. H. S. Collier,[3] and by Mr. Hibbs and Mr. Loewenstein.[4] Maydl[5] has related two similar cases; in both the left scapula was affected and a bridge of bone was present, and both the patients were girls. Removal of the osseous bridge restored the normal movements of the arm in both instances. In The Lancet[6] there is a report of a case which Mr. H. J. Stiles showed at the Edinburgh Medico-Chirurgical Society. The left shoulder was affected and a mass of bone was found growing from the upper border of the scapula and was wedged against the transverse processes of the vertebræ. Abduction of the arm was impossible until the osseous bridge was divided.

In discussing the formation of this osseous bridge Mr. Willett and Mr. Walsham regarded it as an "abnormal development of the suprascapular epiphysis, which normally exists as a narrow ridge of bone along the posterior border of the scapula, and consequently as homologous to the suprascapular bone of some of the lower vertebrates. The suprascapular epiphysis in man may actually present an abnormal backward development comparable to that, say, of the rabbit. It is advancing, therefore, but one step further to compare the bridge of bone in our specimens to the distinct suprascapula of the frog, and but one step further still to conceive it united to the spine, as in the skate. This means that the shoulder girdle in these cases has reverted to that of a lower type."

Cases similar to mine, where no osseous bridge is present, have been recorded by Mr. H. B. Robinson,[7] by Mr. Goldthwaite and Mr. Painter and by Mr. Hibbs and Mr. Loewenstein. Mr. H. A. T. Fairbank also showed two cases of this deformity at a meeting of the Clinical Society of London on Oct. 28th, 1904.[8] It has been noticed that the deformity is unilateral and is more often present on the left side than on the right. The neck muscles are usually shortened and other congenital malformations, such as spina bifida, shortness of the arm on the affected side, &c., are frequently present. The deformity has been said by some to be caused by intra-uterine rickets, accident at birth, or an intra-uterine anterior poliomyelitis. The theory, however, which seems to account for the elevation of the shoulder in the most satisfactory manner is that suggested by Sprengel in 1891. He came to the conclusion that the arm became fixed in utero behind the back and thereby caused elevation of the scapula.

Wimpole-street, W.

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[2] Transactions of the American Orthopædic Association, 1901.

[3] Transactions of the Society for the Study of Disease in Children, 1902.

[4] New York Medical Record, August 1st, 1903.

[5] Sbornik Klinicky, 1904.

[6] The Lancet, May 28th, 1904, p. 1505.

[7] Transactions of the Society for the Study of Disease in Children, 1902.

[8] The Lancet, Nov. 5th, 1904, p. 1286.

IS MAN POLTOPHAGIC OR PSOMOPHAGIC?

By HUBERT HIGGINS, M.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.,

LATE DEMONSTRATOR OF ANATOMY TO THE UNIVERSITY OF CAMBRIDGE AND ASSISTANT SURGEON TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

During the last four years an entirely new light has been thrown on the problems of human nutrition by the initiative of Mr. Horace Fletcher and Mr. E. H. van Someren. The following is quoted from a report by Sir Michael Foster, made after their visit to Cambridge in the autumn of 1901: "The adoption of the habit of thorough insalivation of food was found in a consensus of opinion to have an immediate and very striking effect upon appetite, making this more discriminating and leading to the choice of a more simple dietary, and in particular, reducing the craving for flesh food. The appetite, too, is beyond all question *fully* satisfied with a dietary which had a total considerably less in amount than with ordinary habits is demanded." Mr. Fletcher's persistence and generosity were responsible for the remarkable work carried out by Professor Chittenden at Yale University. Its importance can be judged from the following extract: "Confining our conclusions to general statements, it may be said that our results, obtained with a great diversity of subjects, justify the conviction that the minimal proteid requirements of the healthy man under ordinary conditions of life are far below the generally accepted dietary standards, and far below the amounts called for by the acquired taste of the generality of mankind. Expressed in different language the amount of proteid or albuminous food needed daily for actual physiological requirements of the body is not more than one-half that ordinarily consumed by the average man. Body-weight (when once adjusted to the new level), health, strength, mental and physical vigour, and endurance can be maintained with at least one-half of the proteid food ordinarily consumed; a kind of physical economy, which, if once entered into intelligently, entails no hardship but brings with it an actual betterment of the physical condition of the body. It holds out the promise of greater physical strength, increased endurance, greater freedom from fatigue, and a condition of well-being that is full of suggestion for the betterment of health."[1] Since Christmas, 1901, I have personally practised thorough mastication and have had many opportunities of observing the result of its practice in others. My interest in the subject has been two-fold: (1) to endeavour to ascertain the explanation of the phenomena presented during thorough mastication, both from an anatomical and physiological point of view; and (2) to make observations in its application of chronic disease.

In Gegenbaur's "Anatomie der Wirbelthiere," p. 90 (Vergleichender), is found: "The bifurcation of the alimentary canal below the soft palate does not depend only on its relations with the epiglottis but also on the condition of the food. The exclusive use of this means of swallowing is only possible with very finely divided food. ...... I have called this way of taking food poltophagy (poltos=masticated, finely divided) and the other psomophagy (psomos=biting)." I believe that this observation of Gegenbaur gives the clue to the explanation of these phenomena. It will be seen that the classical explanation of the first part of deglutition is the description of that part of deglutition in a psomophagic animal. I propose to try to show that though man has obviously a psomophagic faculty he has the "evolution education" and the necessary anatomical structures to enable him to be poltophagic.

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[1] Physiological Economy in Nutrition, by Russell K. Chittenden, Ph.D., Sc.D., LL.D., p. 474. New York: Fredk. Stokes and Co., 1904.

1. *Some observations on the prominent characteristics of poltophagic and psomophagic animals.*—The horse is a typically poltophagic animal. The soft palate is thick and muscular. Looked at posteriorly (by removal of the vertebræ and opening the pharynx) it will be found to extend downwards centrally well in front of the epiglottis. The opening of the fauces is comparatively small. The epiglottis is conspicuously large with rounded and everted edges. The soft palate forms with its lateral and posterior surfaces a grooved passage on either side leading by the laryngeal furrows to the pharynx, thus very clearly showing how the divided current of food is passed into the pharynx. It may be noted that the horse does not cover its nostrils with water when drinking and that the respirations are not synchronous with movements of suction and swallowing. The œsophagus can be readily felt and exposed by a simple incision. The food (hay or oats) is swallowed in long fusiform semi-fluid masses. A horse is unable to breathe through its mouth, so closely is the soft palate in contact with the tongue and epiglottis.

The dog is an equally good example of the psomophagic type. The soft palate is a thin translucent membrane, consisting of little else than the two layers of mucous membrane, showing a few scattered muscular fibres in the position of the azygos uvulæ, the soft palate apparently only serving as a valve to prevent the passage of food into the nasal fossæ. The opening of the pharynx is comparatively large. The epiglottis is small, pointed, thin, and pliable, being closely in contact with the tongue. The laryngeal furrows are not well marked. The well-known fact that the dog laps water shows that it lacks the power of suction by the soft palate.

2. *A brief description of the human poltophagic apparatus.*—It will be better to divide the mouth cavity into three parts for convenience of description: (*a*) an anterior buccal cavity; (*b*) the buccal passage leading into (*c*), the posterior buccal cavity. (See Fig. 2A, B, and C.)

(*a*) The anterior buccal cavity is the portion of the mouth between the tongue and the parietes of the mouth.

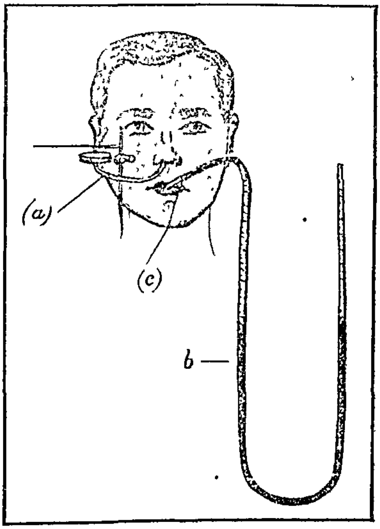
(*b*) The buccal passage, when the tongue is in contact with the hard palate while the mouth is closed, is bounded laterally by the molars of the upper jaw and the pillars of the fauces, below by the tongue as far as the circumvallate papillæ, and above by the hard and soft palate. It will be seen that the passage is long and semilunar in cross section, opening forwards between the tongue and the hard palate and posteriorly into the posterior buccal cavity. The musculature of the tongue is conspicuous for the remarkable complexity of the intrinsic and extrinsic muscles. Their arrangement permits of an extraordinary number of complex movements and changes of shape; thus, parts of the organ are able to execute independent movements. For example, if one lies on one's back it is possible, while holding water in the mouth, to block up the hinder part of the buccal passage and at the same time to move the fore part of the tongue freely in the mouth as in masticating without exciting a swallowing impulse. The central part of the tongue can be depressed either wholly or in parts or gradually from before backwards, making with the tongue and hard palate a sort of valvular opening from the anterior to the posterior buccal cavity. The presence of the taste buds in the immediate neighbourhood of the circumvallate papillæ would afford a means of determining whether a sample of semi-liquid food is in a fit state to pass on to the posterior cavity.

(*c*) The posterior cavity communicates anteriorly with the buccal passage and can be closed posteriorly by the soft palate. It is therefore bounded anteriorly by that portion of the tongue posterior to the circumvallate papillæ, posteriorly by the soft palate, and laterally by the junction of the soft palate and the tongue. In the soft palate is found an arrangement of muscles permitting a variety of movements; thus, the contraction of the palato-glossi, palato pharyngei, and the tensores palati would cause the soft palate to tend to become flattened and the lower border to be applied to the posterior surface of the tongue. The contraction of the levatores palati (while the border is applied to the tongue) would cause the soft palate to be more concave anteriorly and to act as a suction pump.

3. *Some experiments illustrating the functions of the soft palate.*—The most simple illustration of poltophagic and psomophagic deglutitions in man is afforded by two ways in which water can be swallowed; (*a*) it can be swallowed at once by pushing it against the soft palate by the tongue (psomophagy); and (*b*) it can be swallowed more slowly by employing movements of mastication; as soon as the water is warmed it is swallowed by a series of short deglutitions. This is more distinct if anything if the head is held downwards (poltophagy).

The following experiments were made with a view of analysing these movements and especially to demonstrate the functions of the soft palate. In each case one of the nostrils was closed and the other was connected by means of a nosepiece with a Marey's tambour and lever (Fig. 1, *a*) which readily records respiratory movements. A U tube (Fig. 1, *b*) filled with coloured water was used, one of the limbs being provided with an indiarubber tube and a mouthpiece (Fig. 1, *c*).

FIG. 1.



(1) A positive pressure can be produced and maintained (about from 20 to 25 cubic centimetres of water); (2) a negative pressure can be produced and maintained in the same way; (3) rapidly alternating positive and negative pressures can be produced; and (4) from 45 to 50 cubic centimetres of water can be sucked up into the mouth. Note: When the tongue is protruded only from 15 to 20 cubic centimetres can be sucked up.[2] These experiments can be produced: (*a*) During slow inspiration; (*b*) during slow expiration; (*c*) during cessation of respiration; (*d*) during hurried respiration; and (*e*) when the tongue is protruded. The movements of the soft palate consequent on the production of positive and negative pressures were recorded by means of the apparatus shewn in Fig. 2. An instrument of the size and shape of a Eustachian catheter, jointed at (*a*), the moveable portion (*b*) being attached to a thread (*c*), which passes through (*d*) a hollow handle. The instrument is then introduced into the nostril and fixed therein by a clamp. The head is fixed firmly. The thread is attached to a vertically disposed [illegible] a horizontal [illegible] movement of [illegible] movement of

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[2] When water is sucked up by the lips one can continue hurried respirations till deglutition takes place when it appears to be inhibited till the act of deglutition is completed.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

LIVERPOOL INFIRMARY FOR CHILDREN.

A CASE OF MULTIPLE FRACTURES IN AN INFANT.

(Under the care of Mr. R. C. Dun.)

A boy, 15 days old, was taken to the Liverpool Infirmary for Children on account of "crooked legs and a want of power in the arms." He was the first child of a young mother and had been born at full time after a normal labour. Both parents were healthy and there was no history of syphilis or congenital defects on either side. The mother had been in good health and had met with no accident during her pregnancy. She appeared to be very careful with the baby and was positive that he had not fallen or received any injury since birth.

The child was small, pale, and delicate in appearance. On examination of the lower extremities the thighs showed distinct antero-external curvature, most marked upon the left side. A sharp, almost rectangular, inward bend of both legs was present midway between the knee- and ankle-joints causing the soles of the feet to face directly inwards. A hard and apparently bony swelling was felt encircling the shaft of the right femur slightly above its centre. The left femur showed three similar enlargements, one at the middle of the shaft, the others rather more than one inch above and below the first. Both femora were intact. The right tibia was markedly thickened just above the point of bending of the shaft; no abnormal mobility was detected. A slight thickening occurred at a corresponding situation on the left tibia and mobility was elicited at the point of curvature. The upper extremities hung listless by the sides. There was no attempt at voluntary movement and the infant did not appear to suffer pain during their examination. A bilateral club-hand of the ulnar-palmar type was present. The right forearm was normal in appearance but definite antero-posterior movement was obtained at a point opposite the centres of the radial and ulnar shafts. No bony thickening was present. The left forearm showed a slight angular curvature at its mid-point, with similar abnormal mobility, and no callus formation. The radius and ulna on both sides were apparently well developed. Slight inward bending of the right upper arm was evident. The left was straight. Abnormal mobility was present at the centre of both humeral shafts but no thickening was detected. Both clavicles were enlarged and slightly bent forwards at their mid-points. In none of the bones examined was crepitus elicited. No skin cicatrices occurred over the sites of deformity. Examination of the head revealed a soft and yielding condition of the cranial bones with all the sutures widely open. There was no tension suggestive of hydrocephalus and the circumference of the head was only 13 inches. Nothing abnormal was detected about the ribs, the spine, the pelvis, or the small bones of the hands and feet.

An x ray photograph of the trunk and extremities was taken by Dr. Thurstan Holland. It showed bony thickening of both clavicles at their centres, with slight forward curvature. There was an oblique fracture of the right humerus slightly below the middle of the shaft, the line of fracture passing from above and within, downwards and outwards. No callus formation was present. A transverse fracture of the shaft of the left humerus with no thickening or deformity was evident. Transverse fractures of both bones of both forearms at their centres were seen with no callus developed, and there was slight angling at the seat of fracture on the right side. The radius and ulna on both sides were completely formed and all the small bones of the misplaced hands were present. On the right femur an encircling ring of bony callus was evident just above the centre of the shaft. The left femur showed thickening of the upper third of the shaft with a projection of bony callus from its inner aspect. Slightly above the centre of the shaft a ring of newly formed bone similar to that on the right side appeared and below this, again, a second well-developed ring of callus occurred. The lower third of the shaft of the femur from this point down to the lower epiphyseal line was distinctly enlarged. In the leg bones the sharp inward bending of the lower halves of the shafts was evident. On the right side bony callus was present just above the angle of curvature; on the left side an incomplete transverse fracture of both bones was seen with early callus formation.

Definite evidence of the occurrence of 12 fractures was thus obtained. In seven of these firm bony union had taken place 15 days after birth. In four the process of repair had not started and in one it was only slightly advanced. From this it may be inferred that the majority of the fractures took place during birth, or possibly in the uterus before labour commenced, and that the remainder occurred during extra-uterine life. With suitable local splints the fractures of the bones of the upper extremity and the left tibia and fibula united rapidly and without deformity. The curvatures of the bones of the lower extremities remain and will demand subsequent correction. The ossification of the cranial bones progresses slowly. The child has been kept on the breast and has thriven well. He has been under observation for ten weeks and no further fractures have developed. No drugs were given.

Remarks by Mr. Dun.—Such cases of multiple fractures in the newly born are rare. They cannot be placed in the same category with those in which one or more bones are broken, usually at the epiphyseal lines, as a result of severe traumatism during labour or from accidents met with after birth. In the present case the labour was normal and no injury occurred afterwards, while all the fractures involved the shafts of the long bones. These facts, taken in conjunction with the imperfectly developed state of the cranial bones, would indicate the probable existence of some general congenital defect in bone formation. Such a condition has been described under the name of osteogenesis imperfecta or osteopsathyrosis. It is characterised by the occurrence of multiple and comparatively painless fractures of the shafts of the long bones which take place without definite traumatism. Delayed ossification of the cranial bones is a common feature. Under treatment the fractures readily unite, as in the present case. The cause of the imperfect development of bone is not definitely known. It has been ascribed to congenital syphilis, rickets, and nerve disease, but no evidence of any of these conditions was found in the present example, nor was any history of a hereditary tendency to fractures ascertained, although this has been noted in some of the recorded cases. Associated congenital deformities have frequently been present. Whatever may be the cause giving rise to this condition of congenital fragility of bone it is certain that very slight traumatisms are sufficient to produce fractures in those cases in which it is present. As examples may be mentioned such slight forces as normal uterine contraction, the passage of the fœtus through the maternal passages during normal labour, muscular action on the part of the fœtus or infant, and the ordinary careful handling of the child.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

A Fatal Case of Typhoid Fever with Lobar Pneumonia due to the Bacillus Typhosus.—The Operative Treatment of Cases of Fracture of the Astragalus.

A meeting of this society was held on May 12th, Dr. Frederick Taylor, the President, being in the chair.

Dr. Sidney P. Phillips and Mr. B. H. Spilsbury recorded the case of a patient, aged 20 years, who came under observation on Dec. 2nd, 1904, suffering from typhoid fever at about the tenth day. The temperature was high—105·6° F.; the cutaneous eruption was just commencing to appear; and there were evidences of a patch of pneumonia at the right apex and of hepatisation of the whole of the lower lobe of the left lung. Four days later there were signs of resolution of the pneumonia of the right apex but the patient's condition did not improve The abdominal symptoms of the typhoid fever were moderate in severity and tended in due course to decline but the pneumonia at the base of the left lung showed no signs of resolution The tubular breathing persisted and the fever, cyanosis, and dyspnœa became extreme Toxæmia and failing pulse supervened and death occurred on Dec 11th The necropsy showed numerous typhoid ulcers in the small intestine in various stages, but none perforated, and a few small ulcers in the ascending colon The lower lobe of the left lung was in a state of red hepatisation and scattered throughout it were small white nodules which to the naked eye appeared to be tubercles They were found by Mr Spilsbury in the pathological laboratory of St Mary's Hospital to be minute abscesses, in which were large masses of organisms—in some minute cocci retaining Gram's stain, and in others bacilli which had the morphological appearances and staining reactions of the bacillus typhosus The remainder of the lung showed the microscopical characters of delayed resolution of a croupous pneumonia No pneumococci or tubercle bacilli were to be found in the lung The lung and the microscopic slides were exhibited at the meeting Dr Phillips, in commenting upon the case, pointed out that pneumonia occurring in typhoid fever at any period in its course was almost always due to the pneumococcus or the staphylococcus Very few cases were on record where it was due, as in this case to the specific bacillus of typhoid fever Polguère of Paris had described a very similar case In its clinical manifestations the case now recorded bore more the general characters of a case of pneumonia than of a case of typhoid fever, the pulmonary symptoms predominating The onset of the pneumonia was early in the course of the typhoid attack, its development was rapid, and its resolution was very much delayed These were points which were said by Polguère to be characteristic of typho pneumonia —Dr E W GOODALL referred to the large amount of labour necessary in working out such a case as that just described Lobar pneumonia was not common in the course of typhoid fever and generally occurred late in the disease He thought that a typical lobar pneumonia was rare in the early stages of typhoid fever The question of the primary infection of the lung or the kidney by the typhoid bacillus was one of great interest and he asked Dr Phillips whether he had ever seen the lungs primarily affected by the bacillus typhosus —Dr HERBERT S FRENCH said that although he was not able to add to Dr Phillips's any other case in which typhoid bacilli had actually been found in the lung, perhaps the following notes might be of interest in that they recorded the pneumonic onset of typhoid fever in several members of the same family The early diagnosis was pneumonia in all the cases, whilst the ultimate [illegible] fever The notes of the cases [illegible] different persons it was onl[illegible] came to be indexed that their [illegible] A woman was taken ill with a malady which was regarded as influenza at first and then as lobar pneumonia She was treated at home by her own medical man The duration [illegible] was [illegible] out [illegible] the end of October, 1901 During her illness she was ministered to by her eldest daughter, aged 11 years On Oct 25th, 1901, the daughter was taken ill with what seemed to be acute pneumonia Her chest was poulticed and three days later she was sent to Guy's Hospital as a case of lobar pneumonia She was under the care of Dr G N Pitt until she went out cured on Nov 26th Her lung signs were bronchial breathing, consonating râles, and pectoriloquy all over the left lower lobe, together with rhonchi over the rest of her lungs On admission her respiration rate was 68, her temperature was 105° F, and her pulse was 124 No crisis came Some days later her spleen, not palpable at first, became enla[illegible] enteric fever suggested itself and was confirmed [illegible] Widal's test There was no leucocytosis, the count [illegible] 14,000 per cubic millimetre The course of the pyrexia was typical of uncomplicated typhoid fever and she recovered completely On Nov 21st, 1901, four weeks after the daughter had been taken ill her brother, aged nine years was admitted to Guy's Hospital under the late Dr J W Washbourn, with a precisely similar condition to that of his sister The left lower lobe was dull and on auscultation bronchial breathing, pectoriloquy, and crepitations were heard over it, whilst there were rhonchi scattered over the rest of the chest There was no leucocytosis (7187 per cubic millimetre) The respiration rate was 52, the temperature was 103° F, and the pulse rate was 120 There was no crisis The lung signs abated but the pyrexia continued The spleen was subsequently palpated, typhoid fever was diagnosed and confirmed by Widal's test The boy got well The course of the disease was exactly like that of uncomplicated typhoid fever On Nov 29th, 1901, a sister to the above, aged four years, was admitted to Guy's Hospital also with crepitant râles all over the left lower lobe The condition and the course were precisely similar to those in the brother and the sister Widal's test was positive The child got well It would appear probable that the mother's "pneumonia and acute phthisis" were also pneumonic typhoid fever The pneumonia in these cases was not proved to be due to the typhoid bacillus, but even in 1901 when these cases occurred, Dr Washbourn gave it as his opinion that, had the patients died, typhoid bacilli would have been found in the pneumonic lung Fortunately, the three hospital cases lived, being children, there was no sputum, there was no clinical ground for needling the chest, so that there was no means of investigating the bacteriology of these lungs Nevertheless, the occurrence of four consecutive cases of pneumonia in one family, in three of which typhoid fever was proved by Widal's test, at least suggested that they might have been pneumonia due to the typhoid bacillus The temperature charts were those of typhoid fever pure and simple, and not of pneumonia and typhoid fever, such as was sometimes seen When ordinary lobar pneumonia occurred in a patient who [illegible] e [illegible] d [illegible] e [illegible] chart, the point of onset of the pneumonia and the crisis a pneumonia chart superposed, as it were, upon a typhoid fever chart This was not the case in the present instances To judge by the charts alone they could not detect anything but typhoid fever In none of the three cases examined in the hospital was there leucocytosis, a point which was also, perhaps, suggestive of the entire affection having been typhoidal —Dr F H HAWKINS expressed the belief that pneumonia was uncommon in cases of typhoid fever and in 100 cases recently investigated it had only been present in 1 per cent —Dr W PASTEUR said that the evidence that a pneumonia was due to the bacillus typhosus could only be obtained by careful examination of the lung in fatal cases His impression was that acute pneumonia in the course of typhoid fever was rare He referred to a case in which a meningitis was due to the bacillus typhosus —Dr PHILLIPS replied

Mr J HUTCHINSON, jun, and Mr HUGH LETT, in a paper on the Operative Treatment of Cases of Fracture of the Astragalus, stated that in various instances of impacted fracture of the astragalus the foot remained in equinus combined with varus so that its functions were greatly impeded, the patient being unable to walk with the heel and the toes touching the ground Where manipulation under anæsthesia failed to correct the impaction (proved by the x rays) Mr Hutchinson and Mr Lett advocated excision of the fractured bone At the same time they rejected the teaching of M Ombrédanne that all cases of fracture of the astragalus should be treated by excision, which could only be required in the exceptional instances of persistent deformity It was suggested that in cases of dislocation of the astragalus the external malleolus should be chiselled through at its base to facilitate the reduction A series of eight cases of fracture of the os calcis was discussed, the x rays proving that comminuted fracture of the body of the bone was the most common form, due to falls from a height Widening of the os calcis, a band of deep ecchymosis beneath the malleoli, and the appearance of flat foot were the chief signs apart [illegible] Although several [illegible] t could walk well, [illegible] the cases up after [illegible] nce, operative interference in [illegible] —Mr W G SPENCER said that [illegible] of the very greatest service in [illegible] had led to a falling off in the [illegible] res which was so important [illegible] supervened He thought that there should be no delay in putting up a fracture and too much stress was laid on the importance of getting a skiagram

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Word Blindness.—Treatment of Disease by Intravenous Injections.

A MEETING of this society was held on May 3rd, Professor JOHN CHIENE, the President, being in the chair.

Dr. BYROM BRAMWELL exhibited two cases of Leukæmia after treatment by the x rays. 1. The first occurred in a woman, aged 28 years, who had been admitted to the Royal Infirmary two months previously. She suffered from well-marked spleno-medullary leukæmia, the spleen being much enlarged and the white blood corpuscles increased to 450,000 instead of the normal 5000 to 10,000 per cubic millimetre; 41 per cent. of these were myelocytes. Her temperature was normal but this underwent a notable rise after application of the x rays. Later, however, it slowly fell. For some days subsequently to this treatment nothing was noted but gradually a marked improvement in the patient's condition occurred. At the present time her spleen had undergone a distinct diminution from its former hypertrophied condition, the white blood corpuscles had fallen in number to 28,000, and her general health had much improved; 48 per cent. of the white corpuscles were still of the myelocyte variety. 2. The second case occurred in a boy the subject of lymphatic leukæmia; the white blood corpuscles amounted to 300,000 and the majority were large lymphocytes. After application of the x rays there was also a rise in his temperature accompanied by inflammatory reaction over the spleen. The number of leucocytes fell to the normal (8000 per cubic millimetre) under x ray treatment but a general improvement did not take place (although the spleen underwent a reduction in size), and the patient died. The prognosis of such cases under x ray treatment could not be stated. In many of the recorded cases an injurious inflammation took place over the spleen and had even resulted in death.

Dr. BYROM BRAMWELL also exhibited a most remarkable case of Gout. The patient, a man, aged 52 years, had been under the care of Sir Dyce Duckworth for some time. The patient's habits had never been such as to lead him to contract gout. On the other hand, he had developed the disease 28 years ago while living in the wilds of Australia. His first acute attack began at that time and he had suffered from two to three of these every year since. The urine had been albuminous ever since the disease commenced. The number of tophi was quite remarkable and Sir Dyce Duckworth stated that he had never seen so striking an example of gout. There were enormous masses over the metacarpals, the olecrana, the patellæ, and over the heads of the tibiæ and the fibulæ. Discharging ulcers were present on the hands and the feet, yet the patient's general condition was good. Surgeons did not recommend any operative interference in such a case.

Mr. J. M. COTTERILL showed a male patient, aged 40 years, suffering from Multiple Chondroma and Chondro-sarcoma. In early life the chondromata began to grow from the ends of the long bones. The majority had now either ossified or calcified. A very large one over the left scapula had existed for 20 years. It grew from the ribs and left the scapula freely moveable. The tumours were mostly symmetrical. An enormous tumour had, however, grown during the last five months from the right ilium and was undoubtedly sarcomatous. As operative measures were impossible x ray treatment was being given to this chondro-sarcoma and the patient thought that already the tumour was softer and more moveable.

Mr. H. ALEXIS THOMSON showed a case of Extroversion of the Bladder after Transplantation of the Ureters into the Rectum (Peters's Operation). The patient was a boy, aged nine years. The absence of the symphysis pubis made him waddle in walking. The ureters were transplanted extra-peritoneally and he had made remarkable progress, being now able to hold his urine for eight hours. The urine was rarely free from fæcal matter but no symptoms of ascending septic infection had shown themselves.

Mr. J. V. PATERSON and Dr. EDWIN BRAMWELL communicated a paper on two cases of Word Blindness. In the first case, that of a man, aged 63 years, there were complete word and nearly complete letter blindness. Numerals were read much more readily than letters. Writing was greatly interfered with, the patient being able to write correctly only about one-half of the letters of the alphabet. Right homonymous hemianopsia was present as well as some rigidity of the right arm and leg following a hemiplegia. Sensation was unimpaired, intelligence remained good, and speech quite unaffected. Blocking of the left posterior cerebral artery was thought to be the most probable explanation of the symptoms which had existed for two and a half years. The second case was that of a man, aged 64 years, who was under treatment for cirrhosis of the kidney and chronic bronchitis when it was found that he had a right homonymous hemianopsia and word blindness. The patient was an intelligent man, although his memory was very defective. He was right-handed. He understood perfectly everything said to him and spoke fluently. There was very pronounced word and letter blindness. He was able to read figures very much better than letters. Writing was very little interfered with. There was no hemiplegia or hemianæsthesia. The patient died with uræmic symptoms. At the necropsy a large area of softening was discovered corresponding to the distribution of the posterior cerebral artery. The cortex in the region of the angular gyrus was not involved.

Dr. THOMAS W. DEWAR (Dunblane) read a paper entitled "A Plea for the Recognition of the Treatment of Disease by Intravenous Injections." He said that the honour of first imagining such a thing to be possible rested with Sir Christopher Wren and detailed his first attempts, in 1665 or 1669, at which the Hon. Robert Boyle and Wilkins assisted, mentioning that to Boyle belonged the honour of having first suggested its application to human beings. The work done in the following centuries was then narrated. About the last quarter of the nineteeth century a change came over the method owing to the manufacture of fine hollow needles and improvement in the apparatus. This enabled the operator to administer with certainty, safety, and practically no injury to the vessels 100, 200, or 300 injections, whereas formerly two or three might end in obliteration of the lumen, phlebitis, thrombosis, or suppuration. Dr. Dewar's experience of intravenous injections convinced him that obliteration of the tube was due to the solutions introduced to a much greater extent than to the wound of puncture; that if a large volume was to be introduced the needle must have a considerable calibre and the pressure be great. In no case should the needle after loosening the tourniquet fill the lumen of the vessel unless the injection be very small. In 1890 Baccelli injected with quinine 30 patients who were suffering from severe malaria and all recovered. In 1893 Landerer injected cinnamate of sodium and claimed good results in pulmonary tuberculosis. This treatment seemed to be powerful in early cases but was inapplicable in cases with vomicæ or mixed infection. In 1899 Gautier injected cacodylate of sodium and in 1896 Ernest Lane injected 76 syphilitic patients with a 1 per cent. solution of cyanide of mercury with an apparent cure in 50 cases. Such diseases as malignant pustule, erysipelas, ulcerative endocarditis, pneumonia, cerebro spinal meningitis, and so on, were reported as having yielded to this method of treatment. The most impressive feature in the whole history of the subject was the extraordinary vitality of Wren's original idea. For 250 years it had possessed the minds of medical men. Despite difficulties, failures, and opposition it had held its own and had steadily gained in power. The main grounds alleged against this treatment were (1) its restriction to the venous distribution; (2) injury to veins (Dr. Dewar had never met with embolism and rarely with thrombosis and had patients with good veins after 200 and 300 injections); and (3) the negative results of laboratory experiments on inoculated animals. In this department Baccelli, Behring, Cash, Washbourn, Fortescue-Brickdale, and others had worked and their results were incontrovertible for the animals all died. Dr. Dewar, however, did not think that they had any right to argue that the results obtained clinically were inaccurate or that there was no future for intravenous work in the human subject. A case of marked oral sepsis was narrated. Streptococci were present in large numbers in the discharge and antistreptococcic serum was administered but this, as well as large doses of quinine, had no effect on the condition. A single intravenous injection of formic aldehyde in physiological solution cured the patient almost immediately. A second instance was a case of tuberculous abscess of the lung in a patient with acute pulmonary tuberculosis. The cure by intravenous injection was absolute and rapid. Tubercle bacilli, sputum, and cough all disappeared. In a disease so varied as

pulmonary tuberculosis, so merciless in its progress, so defiant of all treatment, it was permissible to try anything and to cling to any method which seemed to impart a sense of control, even although the results were neither rapid nor brilliant Dr Dewar took exception to two statements frequently made 1 "The constant phenomenon of the self-limitation of tubercle ' He did not know of any such benignant quality clinically If tissue resistance were strong progress was arrested or slow, if weak, progress was rapid 2 That the presence of apical scars or nodules was proof of the curability of pulmonary tuberculosis In a former paper Dr Dewar had given his experience of the progress made in arresting pulmonary tuberculosis by intravenous injection of iodoform and he stated that tubercle bacilli had now disappeared from the expectoration in Cases 3 and 4 and that Case 4 had passed a medical board Of the nine cases reported in the second paper four were now free from tubercle bacilli and the others were all doing well As regards the *modus operandi* of iodoform in such cases three suggestions might be made 1 That it acted as a germicide It might act powerfully when introduced in very fine division to the minute capillaries of the lung and deposited at the very *seat of the disease* 2 *If this directly destructive effect* was not likely, and he admitted that it was difficult to imagine
one quarter or one h
a human body doing
the cells, the micro
phagocytosis at the
Iodoform might eve
3 It was possible t
and resulted in the production of bodies even more powerfully destructive to germs Iodoform in solution of ether or chloroform was easily oxidised by oxygen in the air in the presence of sunlight, x rays, or radium A natural change would be that two atoms of iodine in iodoform would be substituted by one atom of oxygen, so producing iodo formic aldehyde, a body as yet not isolated chemically but theoretically more powerful than formic aldehyde If this iodoformic aldehyde parted with its atom of iodine and took up hydrogen nascent formic aldehyde would be formed *in situ* and so a germicide of enormous power would act on the tubercle bacilli The liberated nascent free iodine in the circulation was also a valuable asset It could produce new organic iodo substitution compounds with other bodies from which the iodine could be liberated again by a similar cycle of operations, so that the iodine would be alternately free and combined It was therefore possible that the iodine (which formed $\frac{3}{3}\frac{3}{4}$ths by weight of iodoform) might exert its bactericidal action at the seat of disease If iodoform was not all oxidised when in ethereal solution the oxygen in the red blood cells was able to do as much as the free oxygen + radiant energy The iodoform molecule was still capable of being transformed by reduction into methylene iodide (CH_2I_2 + HI), giving again HI which might act upon organic iodo substitution products, setting free iodine The methylene iodide might react upon water or be itself oxidised to produce formic acid
mical cycle
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the action
of iodine in weak alkaline solutions might take place In such circumstances it formed iodides and iodates, which being acidulated would again liberate free iodine That excessively minute quantities of certain bodies are capable of profoundly changing other bodies was now well known Thus one part of sulphate of copper to 100 000 parts of water would destroy completely the organisms of cholera or typhoid fever in three or four hours Such an infinitesimal dose would be absolutely innocuous to the human system if administered orally or intravenously Dr Dewar acknowledged that the treatment of pulmonary tuberculosis by intravenous injection was not easy at first nor was the improvement always immediate It required care, patience, and a constant self restraint It was impossible to estimate the number of injections which might have to be given, thus success depended on preserving the veins It was Dr Dewar s custom to continue treatment for some time after the disease had become quiescent and the patient apparently well To arrest the pernicious activity of the tubercle bacillus well established in its host must of necessity be a slow and laborious proceeding but when the issue at stake was considered the minute observance of detail and weary monotony of treatment sank into insignificance —Dr R W PHILIP, Dr V SHAW, Dr T M BURN MURDOCH, Dr G LOVELL GULLAND, and the PRESIDENT took part in the discussion which followed

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EPIDEMIOLOGICAL SOCIETY —A meeting of this society was held on May 5th, Dr B A Whitelegge, the President being in the chair —Dr A Newsholme opened the adjourned discussion on Dr G S Buchanan's paper on the Spread of Small pox around Small pox Hospitals in Relation to Aerial Convection He criticised the conclusions as to the outbreaks at Purfleet, &c and challenged the denial of communication between the ships and the shore as incapable of proof He showed that, as regards Liverpool, circles drawn around the centres of greatest aggregation of spots gave results in no way corresponding with those of circles drawn round the hospitals He disputed the value of Dr Buchanan's method of calculating incidence by the percentage of houses invaded and showed that by taking cases it would appear to be safer to reside within a quarter than half a mile, and within than beyond a mile, of a hospital, and so taken Dr J C Thresh's figures showed the like absence of gradation save in the converse of what it was sought to prove Nor could he admit *the contention that negative evidence was of no value* even if all the same conditions were present 20 per cent of the consumers of a suspected milk would be a minority, but their contracting scarlet fever would be deemed positive evidence, unaffected by the negative evidence of the remaining 80, and in 80 per cent of small pox hospitals the Local Government Board could find no evidence of aerial convection On Dr Buchanan s hypothesis the wind carrying the infection must have always been east in the case of one hospital and west in that of the other He did not deny the fact of aerial convection of small pox any more than of scarlet fever or other infectious diseases, but it was in respect of small pox only that it was claimed as the dominant factor Personal infection, direct or by means of fomites, should be excluded before its spread was ascribed to aerial conveyance and Dr Thresh admitted the occurrence of surreptitious communication, though Dr Buchanan denied it Negative evidence must always be rigidly tested and secondary cases need not be in the same house Looking at the distribution of small pox on the eastern borders of the metropolitan area it would have been quite possible for the epidemic at Purfleet and Grays to have broken out had there been no ships in the river If personal communication must be invoked to explain the spread at great distances why not in the vicinity also The areas of the zones and *cæteris paribus* the populations were as the squares of the distances, if therefore the incidence decreased directly it would be relatively greater However conveyed, the same laws would govern the gradation of incidence so that this proved nothing, and in no case had the personal mode been excluded or the aerial proved Dr. Buchanan insisted on the constant detection of cases at Purfleet and the paucity of missed ones but if found these were not missed Dr Buchanan alleged as evidence of aerial convection the fact of the epidemic around the hospital but the first cases occurred before the hospital was opened and the subsequent ones appeared around the
origin where there was no hos-
pital r Newsholme s circles as
mere uite needless to prove that
hospitals spread the disease At Oldham he found the proportion of houses attacked in the successive zones around a common lodging house in the centre of the town where a case had occurred to be 4 7 1 5, 0 35, and 0 42 and around the hospital 0 42, 0 43, 0 53 and 0 22 While there were many acute cases in the hospital two outbursts of untraced cases were observed in January and February numbering respectively six and 21 During the former the wind was variable but prior to the latter it blew for a fortnight from the hospital towards the locality of the outbreak which could not be traced to any other source At Manchester there was on one side of the Monsell Hospital a brook not crossed by traffic but a number of cases of untraced origin appeared simultaneously on the other side after the wind had been blowing in that direction, and both there and at Oldham the removal of acute cases
ion from the hospitals —Dr
e doubted the influence of
s whether it was due to aerial
t operated elsewhere It had
been ascribed to 'acute" cases but all were acute at first, and the unvaccinated were *highly, in fact most, infectious*

during scabbing and convalescence. Small-pox was intensely infectious, and, according to Mr. W. H. Power, the mildest cases and concealed cases contributed largely to its spread. Dr. Buchanan had given the evidence on both sides, though insisting most strongly on aerial convection, but Dr. R. J. Reece had from first to last absolutely ignored all other factors and conditions, otherwise his report would have been convincing. He admitted the accuracy of Dr. Reece's maps but not his conclusions, for if zones were drawn round a hospital that had not been used for small-pox for many years the district would be seen to have suffered more severely and the gradation to have been more marked than around the small-pox hospitals. In Liverpool concealment was practically unknown, false information being penal under local Acts. According to Dr. Reece, the small-pox incidence was heavier around the Fazakerly Hospital than around that of Priory-road, though the former site, consisting of an open space of 130 acres to which further additions had been made, was pronounced by three Local Government Board inspectors to be the best possible, but Dr. Reece suppressed all evidence against his contention. Priory-road was the least desirable but one case only occurred in *the quarter-mile zone with a population of 500. In the* vicinity of Park-hill hospital 12 distinct outbreaks occurred before the hospital was opened and nine after the reception of patients. Why, he asked, should these be ascribed to the influence of the hospital, while the 12 were evidently independent of it? Besides, four of the nine were proved to have been infected elsewhere. In fact, considerably more than half the cases occurring within a mile of one or other of the hospitals were traced to infection in other places, 54 had been treated as chicken-pox, others travelled in trams, worked in shops and factories, attended the out-patient departments of hospitals, or roamed the streets, but all who resided within a certain distance of a hospital were referred by Dr. Reece to its influence and ascribed by him to aerial convection, even when his attention had been called to the fact that they had been clearly proved to be members of groups or series of cases of simultaneous or consecutive infection from known sources. His maps of the Fazakerly area showed a maximum of cases several months after the maximum occupation of the hospital, and, indeed, when it had been for some time empty and aerial convection could no longer be entertained.—Dr. J. C. McVail remarked that even Dr. Newsholme agreed that small-pox hospitals should not be placed in thickly peopled districts but he (Dr. McVail) argued that negative instances did not disprove the fact of hospital influence any more than the occurrence of cases of small-pox or scarlet fever in slums without the diseases spreading proved them not to be infectious. Referring to Dr. C. B. Ker's experience of Edinburgh, he pointed out that the inmates of schools and asylums were not fairly comparable with the general population, being most recently vaccinated or of an age at which susceptibility was greatly lessened. Fever hospitals had rarely been found a danger to the locality, nor did small-pox appear to spread when a hospital was occupied by convalescents only; indeed, where the cases were of the ordinary character aerial convection did not always follow. Dr. G. Reid had been unable to prove it in any one of the 17 hospitals in Staffordshire.—The President said that all were agreed as to aerial convection at short distances, for all infection other than by inoculation or ingestion was through the air, but every outbreak in the crowded quarters of towns afforded instances of aerial convection, of personal infection, and of the non-extension of the disease even from virulent and concealed cases. It was most reasonable and safest to admit and to provide for every form of communication, of which aerial convection was one, in all diseases, though perhaps playing a more important part in small-pox than in others and, judging from the analogy of other particulate matter, by no means confined to comparatively short distances.—At the suggestion of Dr. McVail it was agreed that members who had been unable to take part in the discussion might send in writing any remarks which they might wish to make, with a view to their reproduction in the Transactions.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting *of this society was held on May 11th, Dr. William Alexander,* the President, being in the chair.—Dr. George H. Burford showed a specimen of Ectopic Gestation occurring simultaneously in both Fallopian tubes removed at the end of the second month of pregnancy from a multipara, aged 33 years. There was a clear history of regular menstruation for three years antecedent to the present gestation. Examination showed the parts removed to consist of two tubal sacs, each with the corresponding fœtus, from the right and left side respectively. The patient made a good recovery.—The President remarked that the condition was a very rare one and that he did not remember having seen a similar specimen.—Dr. H. M. Macnaughton-Jones showed: (1) specimens of Double Salpingo-ovaritis, the result of gonorrhœa; and (2) the Contents of a Uterus removed for Suppurative Endometritis, the result of gonorrhœa.—Dr. Burford and Dr. James Johnstone communicated a paper on Transfusion, Subcutaneous and Intravenous, in Gynæcological Practice. Dr. Johnstone dealt with the question from the historical, physiological, and pathological aspects. He said that when a large quantity of blood was withdrawn from the circulation the blood pressure fell but might soon regain its normal height owing to increased peripheral resistance due to the action of the vaso-motor centre. It was only after very severe hæmorrhage that the pressure fell rapidly and death would follow unless means were taken to prevent failure of the circulation. *Both hæmorrhage and shock were marked by a* fall in blood pressure, due in the former case to depletion of blood and in the latter to diminished peripheral resistance. The objections to using blood in transfusion were (1) the difficulty of obtaining it quickly and in sufficient quantity and (2) the difficulty of preventing it from clotting. Normal saline solution, on the other hand, was readily prepared, the process of transfusion was free from danger, the quantity might be varied at will, and the process might be repeated if necessary.—Dr. Burford then gave a report of 25 cases, post-operative and puerperal, in which transfusion of normal saline solution had been employed. In the post-operative cases where the indications were those of shock or hæmorrhage the patients almost uniformly recovered. Where the indications were those of sepsis the transfusion was uniformly of no avail. Among the obstetric cases, one of urobilinuria during pregnancy was cited where transfusion also proved useless, and one of puerperal hæmorrhage during acute mania where the procedure was successful. The quantity of fluid varied, being in one instance as much as seven pints given by the intravenous method at one sitting. An instrument for intravenous or subcutaneous transfusion was demonstrated.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 4th, Mr. G. Morgan, the President, being in the chair.—Dr. W. J. Rowland showed a boy, aged 12 years, with Congenital Heart Disease, and the heart on the right side of the chest; also a case of Tachycardia brought on by the use of Sandow's exercise.—Dr. D. G. Hall showed a case of Infantilism, aged 25 years, suffering from splenic leucocythæmia; also a case of Bronchiectasis with marked pulmonary arthropathy.—Dr. Walter Broadbent showed a woman, aged 55 years, suffering from Progressive Bulbar Paralysis; also a child with Double Congenital Dislocation of the Hips.—Dr. E. Mackey showed some Hydatid Cysts passed by the Urethra by a man with a tumour in the left hypochondriac region. He discussed the treatment, recommending turpentine. He also showed specimens from a case of Broncho-pneumonia, Ulcerative Endocarditis, and Meningitis, all caused in succession by the staphylococcus pyogenes aureus.—Mr. A. H. Buck read a paper on Appendicitis, recommending removal of the appendix after any attack, however slight. He remarked on the varying position of the appendix, from high up in the right loin down to Douglas's pouch and even to the left iliac fossa. He emphasised the importance of a rectal examination in all suspected cases. He discussed the use of blood examinations. His treatment was to put the patient to bed and to give a dose of castor oil and opium at once, to give a fluid diet, to apply hot flannels to the abdomen, and to use enemata; if not better, to operate on the third day but if possible to leave the operation for three weeks, when an incision from one to two inches long would suffice.—The paper was discussed by the President, Mr. C. H. Bryant, Dr. Broadbent, Mr. T. J. Verrall, and Mr. H. H. Taylor.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on May 10th, Mr. *E. F.* White, the President, being in the chair.—Mr. W. Sampson Handley gave a lantern demonstration on the Pathology and Treatment of Cancer of the Breast. He brought forward evidence to show that cancer of the breast was disseminated mainly by actual cancerous growth along the fine lymphatic vessels—a process to which he had attached the name "permeation." The importance of this process had escaped notice because after a time the cancerous lymphatics were obliterated by "perilymphatic fibrosis," an inflammatory process which destroyed the cancer cells and led to the substitution of a fibrous cord for the original lymphatic. Nodular metastases at isolated points appeared to arise from the local failure of this curative process. In discussing visceral dissemination Mr. Handley drew especial attention to the frequent occurrence of invasion of the abdomen by direct cancerous infiltration of the abdominal wall in the epigastric angle, a point where the parietes were especially thin and weak. He deprecated the extreme removal of skin practised by some operators but advocated wide removal of the deep fascia, especially in the epigastric region. His remarks formed a brief summary of the Hunterian lectures on the same subject which recently appeared in abstract in THE LANCET.[1]

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 5th, Dr. Adolph Bronner being in the chair.—The following cases, pathological specimens, &c., were shown:—Dr. A. E. L. Wear: Uterus removed by Vaginal Hysterectomy for Early Malignant Disease.—Mr. E. Ward: Carcinoma of the Rectum, with a Secondary Nodule just above the growth.—Mr. B. G. A. Moynihan: (1) Papillomatous Ovarian Cysts, four specimens; and (2) Dermoid Cysts, Bilateral; one of the cysts had a twisted pedicle and a broad omental adhesion was also twisted.—Dr. W. Bertram Watson and Dr. A. G. Barrs: A case of Widespread Ulceration involving skin and connective tissue of tuberculous origin, with complete recovery.—Dr. E. F. Trevelyan: (1) A specimen showing an old Apoplectic Cyst in the Pons; and (2) a case of Chorea in a boy, aged 14 years, complicated by severe paralysis, during which the choreic movements at first disappeared but subsequently returned.—Dr. Trevelyan and Mr. H. Littlewood: A case of Spastic Paraplegia in which the obturator nerves were divided for the relief of severe spasm with marked relief.—Dr. H. de C. Woodcock and Dr. Trevelyan: A Brain from a case of Masked Tuberculous Meningitis complicating Pulmonary Tuberculosis.—Dr. J. B. Hellier: (1) Sellheim's Obstetric Phantom; and (2) Ruptured Uterus removed by Hysterectomy.—Dr. T. Churton and Mr. Littlewood: Scirrhous Cancer at the Junction of the Pancreatic and Biliary Ducts.—Mr. Littlewood: (1) Specimen of an Enlarged Prostate associated with Calculus; (2) five specimens of Cholecystectomy; and (3) Chronic Salpingitis simulating Appendicitis.—Dr. W. H. Maxwell Telling: A case of Diffuse Sclerodermia complicating Raynaud's Disease and following Amputation of the Breast.—Mr. R. Lawford Knaggs: (1) Necrosis of the Clavicle (specimen and patient); and (2) Penis and Urethra, including the Prostate, removed for Carcinoma commencing at the Bulb.—Mr. G. Constable Hayes (with Mr. W. H. Brown): A case of Extensive Tuberculous Disease after Treatment with the X Rays.—Dr. Barrs read a paper on Supraclavicular Adenopathy and its Significance, with cases.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—The closing meeting of the session of this society was held on May 8th, Professor R. Muir, the President, being in the chair.—Dr. J. Walker Downie showed as a fresh specimen a Thyroglossal Cyst and a Simple Thyroid Cyst removed from the same patient. Microscopic sections were shown by Dr. J. H. Teacher.—Dr. Teacher read, for Dr. W. L. Reid, the history of a Large Solid Tumour of the Ovary and demonstrated the tumour and sections prepared from it. The patient was 83 years of age; the tumour was noticed five and a half years ago. Operation was undertaken on account of rapid increase of the growth and the development of ascites within the last six months. The patient made an excellent recovery. The tumour weighed 16 pounds 2 ounces. Part of it showed the structure of a hard fibroma but the rest—the larger portion—was spindle-celled sarcoma.—Dr. J. G. Connal read notes of, and showed Sections from, a case of Epithelioma of the External Auditory Meatus. The patient was an old man. Radical operation was out of the question and the patient returned home, where he died somewhat unexpectedly with symptoms suggestive of septic mischief within the cranium. There was no post-mortem examination. Sections of material removed for diagnosis showed the structure of squamous epithelioma. A remarkable feature was the absence of pain.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The last meeting of the session of this society (a clinical evening) was held on May 10th.—The following were some of the cases shown:—Dr. J. O. Symes: A case of Acute Rheumatoid Arthritis.—Dr. Carey P. Coombs: An infant with an Abdominal Tumour.—Dr. F. H. Edgeworth: (1) A case of Head-nodding and Nystagmus; and (2) a Cretin showing the result of Thyroid Treatment.—Dr. J. J. S. Lucas: (1) A case of Macroglossia; and (2) a case of Unexplained Œdema of the Legs.—Dr. W. Kenneth Wills: (1) A case of Linear Nævi; (2) Lupus cured by the X Rays; (3) Adenoma Sebaceum treated by High-frequency Spark; (4) Symmetrical Dystrophy of the Nails; and (5) Rodent Ulcer cured by the X Rays.—Dr. H. Waldo: (1) A case of Tuberculosis Cutis (generalised); (2) a case of Tinea Circinata; (3) a case of Lupus Vulgaris; and (4) a case of Chiropompholyx.—Mr. F. R. Cross: Some cases of Orbital Tumour.—Mr. J. Paul Bush: (1) A case of Post-pharyngeal Abscess; and (2) a case of Pyonephrosis of 11 years' standing.—Dr. J. A Nixon. A case of Multiple Nævi with Pigmentation.—Dr. J. Michell Clarke: A Lesion of the Fifth Cervical Root.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on May 5th, Mr. Charters J. Symonds being in the chair.—Dr. Pinkus of Warsaw, in the absence of Dr. Heryng, exhibited the workings of a New Inhaler.—Sir Felix Semon showed an Atomiser for the application of fluid vaseline to the mucous membrane.—Dr. H. L. Lack showed an interesting case of Angioma of the Palate and Dr. R. H. Scanes Spicer one of Osteomyelitis of the Frontal Bone.—Mr. Symonds showed a case of Total Extirpation of the Larynx.—Dr. H. J. Davis showed a case of Ulceration of the Pharynx associated with left facial paralysis in a man, aged 47 years.—Dr. J. Dundas Grant showed a case of Ulcer of the Pharynx which, in spite of its gummatous appearance, was considered to be epithelioma.—Cases were also shown by Dr. J. Donelan, Mr. P. R. W. de Santi, and Mr. E. B. Waggett, that shown by the last named gentleman being a Bleeding Polypus of the Septum in a boy.

Reviews and Notices of Books.

A Student's Text-book of Zoology. By ADAM SEDGWICK, M.A., F.R.S., Tutor of Trinity College, Cambridge, &c. With 333 figures in the text. London: Swan Sonnenschein and Co. 1905. Pp. ix.-705. Price 21s.

THIS, the second volume of Mr. Sedgwick's text-book, deals with vertebrates and with amphioxus only. The rest of the chordata (tunicates, and so on) will in due course be treated of in a third volume. Consisting as the volume does of so many pages it will be inferred, and correctly inferred, that the author's treatment is fairly exhaustive. There is all the information that the student, and even the advanced student, requires about the anatomy and the classification of vertebrated animals. Moreover, all the salient facts are illustrated by numerous figures in the text. We know of no English text-book of vertebrates that is so full as that which we notice in this column.

Mr. Sedgwick carefully guards himself in his preface from criticism against what might, he thinks, appear to be anti-evolutionary views. The temperate and non-dogmatic way in which he discusses affinities between various groups and families of vertebrata is very far removed indeed from a denial of evolution which hardly any zoologist of to-day would venture to make, least of all Mr. Sedgwick, whose own original investigations have had so important a bearing upon the validity of the general theory. What he does say, and with some emphasis, in which we cordially agree, is that phylogenetic trees so confidently expected some years ago become harder and harder to frame as new facts are discovered. The very problem of problems, so far as the present volume is concerned—viz., the origin of vertebrates themselves—is so far from solution that hardly any two zoologists can agree as to fundamental structures upon which to build a reasonable hypothesis. It might fairly be said, though with some mixture of metaphor, that most phylogenetic trees are convenient ladders for their authors "to climb down."

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[1] THE LANCET, April 8th (p. 909), 15th (p. 983), and 22nd (p. 1047), 1905.

It is highly instructive to observe the views taken by Mr. Sedgwick as to more special cases of affinity. For he is one of a rapidly decreasing group of zoologists who are not in any sense of the word specialists but whose investigations have dealt with many groups and with many general problems. A zoologist of this kind is likely to take a saner and more comprehensive view of a given question which to the specialist appears of greater importance than perspective allows. On a question of bird affinity, for instance, the last person whose opinion is worth consideration is an ornithologist. The position of hatteria in the zoological series offers a fair test of zoological sobriety. Professor Huxley, who was well acquainted with that reptile, regarded it as "a lizard and nothing but a lizard," to quote as accurately as we can from memory. Later research has seemed to many to remove it from that settled position and to put it among ancestral reptilian forms. But that later zoological research to which we refer here has been in the hands of "bone and skin men" who speak disrespectfully of viscera and cannot grasp the fact that a dried skeleton does not represent all that can be learnt of an animal's anatomy. Mr. Sedgwick, balancing fact with fact and eschewing preconceived notions save those derived from a study of anatomy, does not see in hatteria so basal a form as we are led to regard it by some—indeed, we fear many. Geology appears to him to disprove any suggestion that tortoises have emanated from a reptile like hatteria. It may well, we think, be urged that the existing knowledge of the anatomy of lizards is so much in need of increase that speculations upon hatteria are distinctly "previous."

Though Mr. Sedgwick is, on the whole, in accord with Professor Huxley as to hatteria, he is not by any means a follower of the master in the origin of mammals. Professor Huxley taught very distinctly that of existing animals amphibia bear the closest resemblance to mammals. But of later years the opinion has been gaining force that it is among reptiles that we are to look for the "pro-mammal." With this view Mr. Sedgwick associates himself and here, again, we are in thorough agreement with him. But in all these speculations what we want is, as Goethe said, "light, more light."

To write an account of all vertebrate animals is at the present day an extremely notable achievement. Nor is it likely that so comprehensive a work could appear without some trifling errors. But there are not many. The only one that we have noticed is the statement that the New Zealand apteryx possesses no oil gland, so constant an organ in birds. It happens to be furnished with a particularly large one. This, however, is a blemish which serves to accentuate the general symmetry of the work.

Malignant Disease of the Larynx (Carcinama and Sarcoma). By PHILIP R. W. DE SANTI, F.R.C.S. Eng., Surgeon to the Throat, Nose, and Ear Departments, Westminster Hospital (late Senior Assistant Surgeon, Westminster Hospital); Lecturer on Disease of the Throat, Nose, and Ear, Westminster Hospital, Medical School. London: Baillière, Tindall, and Cox. 1904. Pp. 107. Price 4*s.*

IN Mr. de Santi's book great stress is laid upon the distinction, first made by Krishaber in 1879, between malignant disease affecting the true vocal cords and their neighbourhood and malignant disease appearing in the epiglottis and aryepiglottic folds. When arising in the former situation (or intrinsic as Krishaber called it) the lymphatic glands are not affected until after some time has elapsed, while in the other variety (extrinsic) the lymphatic glands are early involved. The practice advocated in this work is based chiefly on this very important distinction. The author describes the various manifestations of the disease, their symptoms and complications and then discusses the principles of treatment. Mr. de Santi is strongly of opinion that thyrotomy is the safest and most satisfactory method of dealing with nearly all those forms of carcinoma of the larynx which are suitable for operative interference. The book is clearly and carefully written and it will give a good idea of the subject to those medical men who have not devoted much attention to malignant diseases of this organ. When a second edition is called for we hope that the author will see his way to provide some diagrams and illustrations which would serve to enhance the value of the work for the ordinary reader, and we would further suggest that the utility of such a work as this would be increased by bibliographical references to the opinions and cases quoted.

An Introduction to Physiology. By L. A. HODGKINSON LACK, M.B., Ch.B. Edin. Edinburgh and London: William Green and Sons. 1904. 8vo, pp. 210. Price 8*s.* net.

THIS volume is of the nature of a scheme or syllabus which will prove of service to those who are attending a course of physiological lectures and has the advantages and disadvantages of such a treatise. The advantages are that the more important facts of physiology are brought before the student in an orderly and compendious form with such additions as he may have jotted down in the laboratory or the class room on the blank pages with which the book is interleaved. The disadvantages are that it presents these facts in an interrupted and fragmentary form, leading him to suppose that he has mastered the whole subject, and, in addition, that, however the author may disclaim the intention of making his treatise subservient to cramming, it becomes inevitably used for that purpose by the indolent and inattentive. It no doubt saves much trouble to the student to learn the tables representing the differences between albumin and globulins, but the danger is that he simply acquires the facts by rote and omits to perform the experiments on which they are founded.

The following are a few of the notes which we have made in examining the work. The introductory chapter on Histology, giving the mode of preparing animal tissues for the microscope, is very satisfactory and useful. The modes here given of demonstrating Nissl granules and of iron in cells as well as the stages, 25 of which are given by the author, of staining cells with hæmatoxylin and eosin, are not often given so well in histological works. In the description of the structure of muscle some confusion is created by the statement that "in the middle of the light stripe is Hensen's line." It should be in the middle of the dark stripe. The results of section of a spinal nerve and its roots are rendered clear by an intelligible diagram. An explanation is required in the section on nerve of various terms, such as "diphasic" and "commutator." In describing the sounds of the heart Dr. Lack attributes the first sound very properly to the sudden tension of the auriculo-ventricular valves but remarks that the ventricular contraction may *possibly* aid in its production, a view that can hardly be sustained on the well-established evidence that it is still distinctly heard after excision of the heart and on the evidence obtained by Wintrich with his resonators. In the section on lymph the author states that the cause of the lymph flow is, amongst other factors, muscular contraction; it should, we think, have been added, aided by the numerous valves contained in the lymph vessels. The special senses are very briefly described and the reproductive system and development are more fully given. The work would be improved by the introduction of a few more experiments and also of an index.

The Surgery of the Head. By BAYARD HOLMES, B.S., M.D., Professor of Surgery in the University of Illinois; Professor of Clinical Surgery in the American Missionary College, Chicago; Attending Surgeon to the Chicago Baptist Hospital. London: Sidney Appleton. 1904. Pp. 569. Price 12*s.* net.

THIS is the first volume of a text-book of surgery and therefore we must consider it as a part of a larger work. The author tells us that it has been his endeavour to discuss at greatest length those conditions which are most frequently met with and the next share of attention is given to conditions rarer but requiring instant relief, and thus the reader is not given a false idea of the relative importance of the different subjects. Dr. Holmes does not tell us how many volumes he intends to write to complete his text-book of surgery but we may express the hope that the succeeding volumes will be as good as the one before us. The author writes in a pleasant, simple style and his explanations are clear. There are many statements which we might controvert but on the whole the teaching is that which is generally accepted. We are pleased to see that many illustrative cases have been inserted which assist greatly in enabling readers to understand the subject. Every case given demonstrates some definite point in the diagnosis or the treatment. The illustrations are useful, the coloured plates being especially good. The reader will find in this book that which he is most likely to need in actual practice and we consider, therefore, that the work is more likely to prove of use to the qualified practitioner than to the student working for an examination.

A Monograph of the Anopheles Mosquitoes of India. By S. P. JAMES, M.B. Lond., Captain I.M.S., and W. GLEN LISTON, M.D. Glasg., Captain I.M.S. With 15 coloured plates. Calcutta: Thacker, Spink, and Co. 1904. Pp. 132. Price 24*s.* net.

MONOGRAPHS and other kinds of books upon mosquitoes are not by any means rarities on the shelves of libraries and in the offices of journals in these days, the sudden and increasing output of such publications being, of course, due to the recent acquirement of knowledge upon the history and the causation of malaria. Indeed, this kind of literature has but one serious rival—memoirs upon the histological nature of cancer. But while the student of cancer contents himself with copious memoirs in scientific journals the historian of mosquitoes is rarely content with anything under an expensive and separately published monograph. It is to the most recent of this plenteous series that we now desire to direct briefly the attention of naturalists and medical men. The principal feature in this work is its limited, but within limits exhaustive, character. The way to accumulate this kind of knowledge is not, in our opinion, to be brought about by a confused and random collection of facts and notes from every quarter of the globe but by concentrating activity upon a limited section at a time. This is exactly what the authors have done. Their contribution to entomology is neatly rounded and polished. No doubt it is not actually exhaustive. Future hunting will discover more species of the anopheles in India. But such discoveries can be added on to the present work which, while representing current knowledge, is a platform from which an advantageous start may be made. The veriest novice in zoology could hardly fail to identify from the clear descriptions and from the elaborately coloured plates the mosquitoes of this genus which happened to fall in his way. The descriptions are very full and the plates represent a great enlargement from the actual size. An introductory plate, which represents the "skeleton" of the insect with names written clearly against every joint and every vein, renders it easy to comprehend the ensuing and coloured figures. It is to be hoped that the authors will continue their work and will extend their field of labour to other genera of mosquitoes and to other countries.

LIBRARY TABLE.

A Woman's Words to Women on the Care of their Health; and *The Mother's Guide to the Health and Care of her Children.* By MARY SCHARLIEB, M.D., M.S. Lond. London: George Routledge and Sons. 1905. Pp. (each) 164. Price of each 1*s.*—The first edition of the first of these volumes appeared in 1895; the book has been thoroughly revised and is now published at one-sixth of the cost of the first issue and as a companion volume to "The Mother's Guide to the Health and Care of her Children." Both the volumes are well and carefully compiled and will spread much useful knowledge especially concerning the laws of health and the normal functions of the body. Mrs. Scharlieb is evidently in favour of universal circumcision, for under the heading of paraphimosis she observes: "If all male babies were carefully circumcised this accident would not occur."

Contribution à l'Étude de l'Intoxication d'Origine Ophidienne. (A Contribution to the Study of Snake Poisoning.) By Dr. VITAL BRAZIL. Paris: A. Maloine. 1905. Pp. 26.—Dr. Vital Brazil, who is director of the Institut Sérothérapique of San Paulo in Brazil, states that almost all the poisonous snakes of Brazil belong to the family of crotalidæ and to the two genera lachesis and crotalus. Of the former genus there are several species but of the latter there is only one—namely, the crotalus horridus or rattlesnake. Dr. Brazil describes at some length the method of keeping snakes in captivity, the extraction of the venom, and the preparation of antitoxic serum by the inoculation of horses and mules. The antitoxic serum obtained by inoculation of lachesis venom is not antidotal to crotalus poisoning and *vice versâ.*

Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. BARRETT. Fourth edition. London: H. K. Lewis. 1905. Pp. 159. Price 3*s.* 6*d.*—That this book should have reached a fourth edition seems sufficient proof of its utility to the busy medical practitioner. We rather hoped in a new edition for a clear account of the importance of oral sepsis in regard to disease and the necessity of impressing upon practitioners the danger of retaining in the mouth septic teeth. The author seems to lay too much stress upon the retention of temporary molars and his dictum that "temporary molars should never be extracted save as a last resource and where every attempt to relieve pain by other means has failed" is likely to lead to the retention of many teeth that would be far better away from the mouth. In another edition, too, we should like to see more explicit directions on the cleansing of the teeth and more remarks on the "Prevention of Caries."

The Horse: Its Care and Management. By HENRY E. FAWCUS. Edited by T. W. SANDERS, Editor of *The Profitable Farm and Garden.* Illustrated. London: W. H. and L. Collingridge. Pp. 127. Price 1*s.* 6*d.*—This little book is No. 9 in a series known as "The Profitable Farm and Garden Handbooks." Mr. Fawcus is a well-known authority on horses and the book is written to meet the requirements of people who own light and heavy draught horses. The author deals with the various breeds of horses and ponies, with the food question, with ways of feeding, with breeding and grooming, with the general care and management, and with the common ailments of horses. We are glad to see that Mr. Fawcus advocates that a supply of water should be always kept in a horse's stable. A chapter is devoted to the subject of stabling. The book is illustrated with drawings of the various breeds of horses. It is an attractive volume in which those who have the care of horses will find much practical and useful information. The final chapter is devoted to the donkey.

An Introduction to Pharmacognosy. By SMITH ELY JELLIFFE, M.D., Ph.D., Professor of Pharmacognosy and Instructor in Materia Medica and Therapeutics in Columbia University, New York. Fully illustrated. London, Philadelphia, and New York: W. B. Saunders and Co. 1904. Pp. 265. Price 10*s.* 6*d.* net.—This work has been prepared with the hope that it may meet the needs of students. Special emphasis has been laid on the microscopic rather than the macroscopic characters of drugs, although the latter are not neglected, and considerable attention has been given to the description of drugs in powdered form. In general features it resembles the book published in this country in 1903 by Mr. Greenish. The drugs studied in detail have been selected as those most typical of general drug characters. With the knowledge acquired from the types given the student should be equipped to pursue individual research of an economically practical nature. It is a book which will appeal to the druggist rather than to the student of medicine. The illustrations are excellent and the print and the paper of the book are all that can be desired.

Alcoholic Poisoning and Degeneration. By Professor G. BUNGE, M.D., Ph. D. London: A. Owen and Co. Pp. 27. Price 6*d.* net.—In this pamphlet Dr. Bunge advocates the total prohibition of alcoholic drinks. He lays particular emphasis on the aspect of the degenerating effects of alcohol and sums up the results of his statistical researches as follows: "As a rule, where the father has been a drinker, the daughter loses the power to suckle her children, and the capability is irrecoverably lost to all future generations. The incapability of nursing is no isolated phenomenon. It is accompanied by other symptoms of degeneration, in particular by a want of power to resist the inroads of disease of all kinds: nervous disorders, tuberculosis, decay of teeth. The children are insufficiently nourished, and so from generation to generation the work of deterioration goes on, leading at length, after endless suffering, to the ultimate decay of the race." He urges the most radical measures of reform. He writes that "no one can bring forward any scientific argument against the claims of abstinence and, in the long run, no power on earth will be able to withstand the demands of science; the whole history of the world teaches us this lesson."

The Book of the Potato. Illustrated. Edited by T. W. SANDERS, F.L.S., F.R.H.S., editor of *Amateur Gardening.* London: W. H. and L. Collingridge. 1905. Pp. 222. Price 2*s.* 6*d.* net.—All those who cultivate the potato will find this volume a useful guide on many points, and it is well worthy of careful perusal. The editor deals in turn with the history and the botany of the potato plant; with soils and their treatment; with manure and manuring; with how to propagate the tuber by seed, cuttings, eyes, and grafting; with how to treat the "sets" or "seed tubers" for planting; with the systems of planting; with how to force potatoes for early use and to grow them for exhibition; with lifting, storing, and marketing; with how to rear new sorts; and with the pests and diseases of the tuber. At the end of the volume there is a descriptive catalogue of 270 varieties. A feature of the book is an account of the practical operations necessary for planting and storing the tubers.

JOURNALS AND MAGAZINES.

The Practitioner.—A very interesting and speculative article upon Functional Insanity by Dr. Robert Jones is one of the best features in the May issue of this journal. Dr. H. Batty Shaw contributes a comprehensive and careful review of recent investigations on the physiology and the pathology of secretory tissues and Dr. J. M. H. Macleod in like manner treats of advances in dermatology. His article contains a valuable description of the x ray treatment of ringworm of the scalp with some convincing statistics from French authorities by whom the method has been more widely employed than has yet been the case in this country. Mr. Hugh M. Rigby writes on the Operative Treatment of Fracture of the Patella.

Journal of Comparative Pathology and Therapeutics.—The March number of this journal contains several important articles. The first of these on Dourine, by Captain F. S. W. Baldrey, of the Civil Veterinary Department, India, gives an excellent account of the conditions met with in a disease, to which so much attention has been given during the last three years. The author states that as the disease is conveyed solely by coitus it should not be a difficult matter to stamp it out, especially in India where all, or practically all, the entire horses are Government property. The editor, Professor J. McFadyean, contributes an interesting article on the Prophylaxis of Glanders and points out that the chief defects in the existing regulations with regard to glanders are (1) that they ignore the great service which mallein should render in diagnosis and (2) that they *do not* deal in a serious manner with the horses known *to* have been exposed to infection. Mr. Geoffrey H. Livesey supplies a Contribution to the Study of the Diseases of the Eye in the Dog, drawing special attention to a case of glaucoma. Dr. A. Edington, in an article on Biliary Fever in the Horse in Cape Colony, refers to the fact that as a rule one attack renders an animal insusceptible to further attacks of this disease. Part of Dr. Edward Nichols's paper on Implantation of Tissue and its Relation to Cancer is reprinted from the January number of the *Journal of Medical Research.* Other articles of interest are on Abnormal Genital Organs in the Domesticated Animals, by Professor James F. Craig, another on Some Points to be Considered in Connexion with Rhodesian Red-water, by Mr. Stewart Stockman, a series of clinical articles, and a number of abstracts, the most important of which are an article on the Diagnosis of Mammary Tuberculosis, a second on Immunisation against Tuberculosis by von Behring's Method, and a third on Piroplasma Bigeminum of the Immune Ox, by Dr. A. Theiler. Altogether this is a very interesting number.

Journal of Experimental Medicine. Vol. VI., Nos. 4, 5, and 6. Issued Feb. 4th, 1905. The Macmillan Company, Baltimore, Maryland.—At last we have received the completing numbers (4, 5, and 6) of Vol. VI. of the *Journal of Experimental Medicine.* It appeared as though this excellent journal had disappeared from our midst but we are glad to learn that it will continue to be issued under the auspices of the Rockefeller Institute for Medical Research and under the editorship of Dr. Simon Flexner and Dr. Eugene L. Opie. The papers, as we have come to expect in this journal, are excellent. The first of these, a Contribution to the Physiological Differentiation of Pneumococcus and Streptococcus and to Methods of Staining Capsules, by Dr. Philip Hanson Hiss, jun., is of importance because the author is able to show that the chief differential character usually depended upon for the distinction between pneumococci and streptococci—the capsule—cannot always be depended upon, as well-marked capsules undoubtedly occur in organisms which have been classified as streptococci whilst, as is well known, pneumococci in artificial cultures often lose this character. There are, however, certain metabolic activities which distinguish these two forms; for these we must refer the reader to the original paper. Dr. H. T. Marshall, Fellow of the Rockefeller Institute, contributes an account of some work done under Professor Ehrlich, "Studies in Hæmolysis with Special Reference to the Properties of the Blood and Body Fluids of Human Beings." One of the important points brought out is that the complement differs in amount in various specimens of human blood and that it is available for a variety of normal and specific amboceptors. A number of other observations almost equally interesting are here recorded. Dr. H. S. Steensland contributes a paper on Epithelioma Adamantinum; Dr. Martha Wollstein writes on the Bacteriology of Broncho- and Lobular Pneumonia in Infancy; Dr. Walter Ralph Steiner, M.A., on a case of Dermatomyositis, with Report of a Case which presented a Rare Muscle Anomaly but once described in Man (in this case the author found a degeneration commencing at the centre of the fibre and gradually passing to the periphery); and Dr. W. Ophüls describes Further Observations on a Pathogenic Mould formerly described as a Protozoon (Coccidioides Immitis, Coccidioides Pyogenes), a fungus of which up to the present only some six cases have been related. Dr. Martin H. Fischer contributes a paper on the Toxic Effects of Formaldehyde and Formalin, especially as to the action of this drug on the lungs, the stomach, the peritoneal cavity, the eye, the muscles, the liver, the kidneys, and other organs. The author points out that formalin is, directly or indirectly, chemiotactic for leucocytes. Dr. Norman MacLeod Harris describes a new bacillus, "bacillus mortiferus," which is pathogenic for man and animals. The high character of the work contained in this number makes us welcome the fact that we have had to do with a case of suspended animation merely and not with one of dissolution as far as this excellent journal is concerned.

Veterinary Journal.—The April number of this journal contains an original article by Mr. T. B. Goodall, F.R.C.V.S., F.L.S., on Blood-sucking Flies as Inoculating Agents and Disease Disseminators. Mr. Goodall is recognised as an authority, and his descriptions and sketches though short are interesting and give a very good idea of the part played by these small organisms in the dissemination of disease. Then follow several clinical articles, translations, and short extracts. The most important of these are abstracts from a report on Fowl Cholera issued by the Californian College of Agriculture and of papers on Internal Massage in the Horse in the Treatment of Tympanitis, on Dental Caries in the Horse, on Poisoning in the Pig from the Débris of Silk-worm Cultivation. Notes on Spavin, and the Abuse of Artificial Selection, the latter of which deals with points some of which are of great interest to readers, reviews, and correspondence, complete this number.

Journal of Pathology and Bacteriology. Vol. X., No. 3, April, 1905. London and Edinburgh: Young J. Pentland.—The April number of this journal is a very interesting one. Dr. V. E. Henderson of Toronto contributes an excellent paper on Joint Affections in Tabes Dorsalis, the result of work carried out in Professor Chiari's laboratory in the University of Prague. Dr. Henderson, after giving a *résumé* of recorded cases, presents a new series examined by himself and after describing the anatomical changes found comes to the conclusion that the most important pathological anatomical change is the degenerative lesion in the sensory nerves and paths and that the changes in the joints are the results of trauma, using the term to include not only injuries to the joints from external causes but also those resulting from undue strains and wrenches; further that this is largely owing to the prevailing analgesia, though this may be aided by vaso-motor or reflex trophic changes, which, again, may in turn be influenced by the prevailing sensory lesions. Dr. Henderson contributes a very large number of references and illustrates his paper with a number of reproductions of capital photographs. Another interesting paper is one by Miss C. B. Sheldon Amos on the Effect of Ligature of One Ureter. This work, which has been carried on in the Porte Vieux Laboratory, Alexandria, is of excellent quality and has considerable bearing on the question of secretion by the kidney, especially in its relation to toxic conditions. A paper entitled "An Unusual Duodenal Hernia," by Dr. Albert J. Chalmers, registrar to the Ceylon Medical College, is interesting as an account of a hernia into the recessus inter-mesocolicus transversus which took place, probably, some years before the death of the patient. There are two excellent papers on the blood in disease—one on the Blood Changes in Plague, by Captain Leonard Rogers, I.M.S.; and the other on the Leucocytosis of Typhus Fever, by Dr. Andrew Love, senior resident assistant physician to the Belvidere Fever Hospital, Glasgow. Both these papers indicate what a prominent part the examination of the blood has come to play in the study of disease. A very interesting and useful feature of this as of the last number is that a card catalogue index is supplied not only of the current number but of Vols. III.-VI. Cross references are given in this so that if the references are cut out, pasted on cards, and arranged in alphabetical order under "authors" and "subjects" any paper can be found within a couple of minutes; subjects can be grouped and dates readily obtained. The principle adopted is similar to that in use for the indexing of the Proceedings of the Royal Society of London and cannot but prove of very great value to those who wish to refer to papers that have appeared in this journal.

Journal of the Scottish Meteorological Society. London and Edinburgh: William Blackwood and Sons. 1905. Pp. 187. Price 12*s.* 6*d.*—In the current issue of this annual volume the first of the original articles is a paper on the Treatment of Climatological Observations which was read at a meeting of the Scottish Meteorological Society on Dec. 6th, 1904, by Mr. W. N. Shaw, secretary of the Meteorological Council. Mr. Shaw's object is to obtain a combination of the daily weather reports with the more elaborate observations recorded at the climatological stations and to classify climatological data according to a limited number of types to be agreed on. The directors of the Ben Nevis Observatories publish an account of their endeavours to obtain sufficient financial support for carrying on these observatories. The observatory on the summit of the mountain at an elevation of 4400 feet was opened in 1883 and it unfortunately had to be closed (together with the one on the low ground) at the beginning of October, 1904. The bulk of the volume is occupied by tables of systematic meteorological observations made at about 60 stations in Scotland for the years 1902 and 1903.

Birmingham Medical Review.—The March number of this review contains some very interesting articles. Mr. H. Gilbert Barling treats of renal mobility and unhesitatingly advises operation in severe cases which present troublesome symptoms. Mr. J. W. Taylor urges the value of colpotomy in cases of puerperal fever of medium severity with thrombosis of the pelvic veins. The vaginal roof is opened up on the side chiefly affected and search is made for small abscesses or pockets of pus in the uterine wall and in the broad ligament. The Richard-Middlemore Post-graduate Lecture by Mr. D. C. Lloyd Owen contains a very useful account of recent advances in ophthalmic treatment.

Dublin Journal of Medical Science (April).—Dr. Walter G. Smith gives an interesting account of the relations of the chemical elements and of recent speculations as to the nature of the ether. Dr. R. J. Kinkead discusses puerperal convulsions and lays stress upon the personal factor at work in individual cases in addition to the toxins present. Dr.

A. J. Smith narrates his experience of Bossi's dilator and decides that it is a valuable instrument in suitable cases but that it is dangerous when the cervix is long and not "taken up," especially in case of placenta prævia.

West London Medical Journal.—To the April number of this periodical Mr. J. D. Malcolm contributes a useful paper on Extra-uterine Fœtation. Dr. Alexander Morison discourses of boldness in the treatment of some phases of pneumonia, advocating recourse to blood-letting when there are signs of engorgement of the right side of the heart. Other suggestions contained in the paper relate to the use of an icebag applied to the head and to the employment of turpentine in case of profuse bronchial secretion. Mr. Cecil H. Leaf considers that the four antecedent events most constantly present in cases of cancer of the breast are errors of lactation, a family history of consumption, injury, and worry and anxiety.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

(1) "WELLCOME" BRAND CHLOROFORM; AND (2) BOROFAX.

(MESSRS. BURROUGHS, WELLCOME & Co., SNOW HILL BUILDINGS, LONDON, E.C.)

(1) THE fact that chloroform used for anæsthetic purposes has been found to contain a definite though quite small amount of ethyl chloride was referred to in an annotation in THE LANCET of March 4th, 1905, p. 589, and apparently the presence of this volatile substance has a marked beneficial influence on the action of chloroform. It is stated by some authorities that chloroform quite free from ethyl chloride tends to produce cough and holding of the breath, and that this is not the case when the anæsthetic contains a trace of ethyl chloride. The "Wellcome" brand chloroform is prepared on the lines indicated and consists of perfectly pure chloroform containing a small but definite amount of ethyl chloride. (2) Borofax is described as an emollient possessing antiseptic and sedative properties. It is contained in collapsible tubes and consists of a cream-coloured ointment having a low melting-point. It is very agreeably scented and has a pleasant action upon the skin. The oily vehicle does not get rancid and, according to our experiments, is not saponified by aqueous caustic soda solution. It contains a mild and efficient antiseptic which renders it useful as an application for chaps, burns, scalds, and abrasions. In particular it is soothing to the skin which has been exposed to the sun or wind.

VINOLIA WHITE COAL TAR SOAP.

(VINOLIA CO., LIMITED, MALDEN-CRESCENT, LONDON, N.W.)

The presence of phenol compounds in this soap was confirmed by chemical tests. The soap showed a slightly alkaline reaction with phenolphthalein owing probably to the alkaline compound of coal tar acid which has been used. The soap basis is of excellent quality and quite free from crude compounds. The soap is an advance on many coal tar soaps in which crude and often inert oils are employed.

INFANTS' FOOD.

(T. FLETCHER AND SON, 98 AND 99, GREAT HAMPTON STREET, BIRMINGHAM.)

According to our analysis and examination this is a carbohydrate food modified by a special method of preparation. The analysis was as follows: carbohydrate, 75·21 per cent.; proteid, 11·02 per cent.; fat, 2·60 per cent.; sugar, 0·57 per cent.; mineral matter, 2·40 per cent.; and moisture, 8·20 per cent. The microscope showed unaltered starch cells. The food is very finely ground. The food used alone would not be suitable for infant use but employed as a supplement—that is, by its addition to good cow's milk—a very satisfactory food is obtained for those cases in which cow's milk alone proves indigestible. Presumably, this advantage is due to the mechanical action of the food on the curd. The directions given in regard to the preparation of this food are satisfactory.

CHINOSOL COMPRESSED TABLETS.

(THE CHINOSOL HYGIENIC COMPANY, 16, ROOD-LANE, LONDON, E.C.)

Chinosol, as is well known, has undoubted advantages as an antiseptic, deodorant, and disinfectant. It is non-corrosive, is relatively non-poisonous, and is readily soluble in water. In the form of tablets, each containing five grammes of the pure powder, chinosol is very convenient for use. In a comparatively small compass six tubes of 20 tablets provide an efficient antiseptic armamentarium. Antiseptic solutions of definite strengths for all purposes may thus be quickly prepared.

DIASTASE SETTERIE.

(THE BRITISH PHARMACAL CO., 12 AND 15, FURNIVAL-STREET, LONDON, E.C.)

According to our experiments this is a very active preparation of diastase, the amylolytic enzyme of malt. In its action upon carbohydrates it has the advantage of producing a partly digested mass which is free from acidity or objectionable flavour. We found that quite a minute quantity of the diastase rapidly liquefied a relatively large quantity of starch paste. The preparation is therefore well adapted for the predigestion of carbohydrate foods, while it may be used also for modifying cow's milk for the preparation of infants' food, since diastase appears to prevent the clotting of casein, at all events, in large curds.

VICHY WATER AND OTHER MINERAL WATERS.

(RETAILERS AERATED WATER AND SYPHON SUPPLY CO. ("RAWSCO"), 17 AND 18, LITTLE EDWARD-STREET, ALBANY-STREET, N.W.)

On analysis the Vichy water, which comes from "St. Yorre près Vichy," gave the following results: total mineral salts in solution, 7·46 grammes per litre, consisting chiefly of bicarbonate of soda, 6·93 grammes; and chloride of sodium, 0·53 gramme. On spectroscopic examination of the residue obtained on evaporation distinct evidence of the presence of lithium salts was obtained. The water is pleasantly sparkling but does not contain an excess of gas. It is free from organic impurities. The taste is pleasant and the water gives an agreeable cleansing sensation in the mouth. Vichy is, of course, well known as an excellent example of a natural alkaline water of repute in gastric catarrh, chronic indigestion, and catarrh of the urinary passages. A continued course of the water increases the alkalinity of the blood plasma. We have also examined samples of potash, soda, seltzer, and lithium water made by this firm. The purity of the waters leaves little to be desired and it is stated that they are prepared in silver-lined and electrically driven machines. The seltzer water contained 2·35 grammes of mineral salts and the alkalinity of the potash water was equivalent to 23·60 grains per pint of potassium bicarbonate, of the soda water to 12 grains per pint of sodium bicarbonate, and of the lithium water to eight grains per pint of lithium carbonate.

TOFFEE.

(JOHN MACKINTOSH, LIMITED, KINGSTON CONFECTIONERY WORKS, HALIFAX.)

After all, toffee, when made with honest materials, is one of the most wholesome of sweetmeats. It contains, of course, practically no proteid but a large proportion of carbohydrate in the shape of sugar and some fat in the shape of butter. We have examined specimens of "old-fashioned treacle toffee" and "cream toffee" respectively and we find that they are both of excellent quality and flavour and are evidently prepared from carefully chosen materials. The cream toffee yielded on analysis 2·39 per cent. of fat which proved to be butter fat. We could find no impurities or any evidence of metallic contamination,

CHELTENHAM NATURAL APERIENT WATER.

(THE CORPORATION OF CHELTENHAM, CHELTENHAM.)

Cheltenham possesses quite a number of interesting mineral springs which deserve greater attention at the hands of the medical profession than has hitherto been bestowed upon them. From the point of view of their chemical composition, at any rate, these waters should possess a therapeutic value not inferior to many continental waters of the same class. We have received a specimen of mineral water which is concentrated from the magnesic sulphated spring water obtained from the wells either in Pittville or Montpellier Gardens. The analysis shows that the water is rich in the purgative salts, magnesium and sodium sulphate. There are, besides small quantities of sodium chloride, bromide and iodide and traces of lithium chloride. The concentrated water, according to our analysis, has the following approximate composition: magnesium sulphate, 21·62; sodium sulphate, 14·10; sodium chloride, 9·06; and calcium sulphate, 1·08. These results are expressed in grammes per litre so that the total mineral salts amount to 45·86 grammes per litre. The water is indicated for use as an habitual laxative in chronic constipation or in portal congestion. It would be interesting to determine whether the mineral waters of Cheltenham show any radio-active property.

GOLD REEF CLOTTED CREAM.

(MESSRS. STONE AND SON, MONUMENT-BUILDINGS, LONDON, E.C.)

This is excellent cream sterilised and preserved in hermetically sealed tins. Our analysis gave the following results: fat, 31·35 per cent.; curd, 5·70 per cent.; mineral matter, 0·37 per cent.; and water, 62·58 per cent. Both the flavour and the consistence are satisfactory and no preservatives are used.

THREE STAR SWISS DRY MILK.

(THE SWISS DRY MILK CO., GLOCKENTHAL, SWITZERLAND; AND MESSRS. NETTLETON AND MORRIS, 17, HARP-LANE, LONDON, E.C.)

This "dry milk," it is stated, is prepared at Glockenthal in Switzerland, the milk being evaporated by the Just-Hatmaker process. It consists of a light dry powder which when dissolved in water gives a fluid having the appearance and the taste of ordinary milk. The flavour is particularly good, in spite of the process of manufacture which so often destroys the peculiar sweet flavour of raw milk. Our analysis of the powder gave the following results: moisture, 2·30 per cent; mineral matter, 7·30 per cent.; fat, 16·65 per cent.; milk sugar, 45·18 per cent.; and proteid, 28·57 per cent. Except as regards fat, of which there is a decided deficiency, this analysis corresponds with that of cow's milk from which the water has been removed by evaporation. The deficiency in fat should obviously prevent the preparation from being sold as whole milk, as if it were proceedings might be taken under the Sale of Food and Drugs Act.

RUSSIAN LOCAL GOVERNMENT CONTROL OF WORKMEN'S MEDICAL SERVICE.—A special committee sitting on the workmen's problem, presided over by the Minister of Finance, M. Kokovtzoff, proposes that the town and local authorities all over the country should, in place of the employers as is the case now, take over the medical assistance of the workmen, making the workmen contribute a certain premium. As it is they constitute over 80 per cent. of those who use the town hospitals. *It is calculated that to* cope with the question in St. Petersburg, where there are 160,000 workpeople, the council might get 600,000 roubles per annum to organise a workmen's medical service by making a levy of four roubles per person, part from the factories and part from the workmen themselves.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

(FROM OUR SPECIAL COMMISSIONERS.)

WEDNESDAY, MAY 10TH.

THE JOURNEY TO PARIS.—THE RECEPTION AT THE SORBONNE.

FROM the moment the British medical visitors set foot on French soil the series of welcomes, of speeches, and of felicitations began. At Calais, after a splendid passage, they were met by members of the reception committee and of the Calais committee of the French Alliance. At the Maritime Station the members of the Calais municipality, the Calais Chamber of Commerce, and the corporation of the Calais medical practitioners were waiting to receive the English visitors. A brief address of welcome was delivered by Professor F. LENNEL and Sir DYCE DUCKWORTH replied, saying:—

Messieurs,—Au moment où nous touchons le sol de votre belle France, je vous prie, au nom de mes confreres, d'agréer l'expression de notre profonde reconnaissance pour cet acceuil si gracieux. Ayez l'assurance, messieurs, que nous sommes vivement touchés de vos aimables efforts, et que nous, médecins anglais, désirons de tout notre cœur augmenter, autant qu'il est possible, une entente cordiale qui devrait toujours exister entre nos deux pays.

These words were greeted with enthusiasm and then a splendid bouquet of choice flowers was presented to Lady Duckworth. Flowers were also forthcoming for the other ladies present and these were ornamented with the combined French and British colours. At Boulogne, where a large number of British medical men disembarked, a similar welcome was awaiting them.

On arriving at Paris the Calais train drew up at a special platform, No 2, where the departures generally take place. Here Dr. Lucas-Championnière, vice-president of the organising and reception committee, Dr. Triboulet, the secretary, accompanied by Dr. Lombard, Dr. Marcel Briaud, Dr. Pierre Marie, Dr. Jarvis, Dr. Choppin, Dr. Chauffard, Dr. Debout-d'Estrées, Dr. Maegnat, Dr. Teissier, and many others, were waiting for their British colleagues. M. Sartiaux and M. Griolet, chief engineers of the French Northern Railway Company, Captain Churchward of the Chatham and South-Eastern Railway Company, and Dr. Perrier of the Railway Medical Service, together with M. Martin, the principal station-master of the line, were there also. The Northern Railway Company of France was not only thus represented by its leading officials but a waiting room had been set aside and elegantly decorated with velvet hangings and a brave display of French and English flags. On reaching this room Dr. LUCAS-CHAMPIONNIÈRE spoke a few words of welcome both [illegible] Sir DYCE DUCKWORTH replied [illegible] joy felt on reaching *la Ville* [illegible] the desire of the British medical profession to promote the *entente cordiale* between the two countries. The travellers were then conducted by members of the committee to carriages that had been retained for them and conveyed to the Grand Hotel, the Hotel du Palais d'Orsay, and other hotels. A similar welcome awaited those who came by the later Boulogne train.

In the evening between 9 and 10 the British visitors arrived at the magnificent new wing of the ancient Sorbonne. Here and by the care of M. Durand, secretary of the Academy, the first floor of the massive buildings giving on to the rue des Écoles was brilliantly illuminated. In the great saloon of the council of the Academy the leading members of the Paris University were waiting for the British medical men. On the landing and lobbies were tables where the visitors could obtain information and inscribe their names for inspecting the hospitals, assisting at operations, clinics, &c. Then a door was left open which led to the loggia of the grand amphitheatre—a model assembly hall. The new portion of the Sorbonne was commenced under the presidency [illegible] M. Carnot in time for the [illegible] he hall is one of the most [illegible] s in the world. Here the [illegible] ideal of M. Emile Trélat has been realised, the audience breathing pure, cold air that has not been warmed or tampered with, while the heat radiates from all the walls, ceilings, and floors. Then the seats are so admirably placed that they all command an equally good view of the platform. Finally, above the platform there is the magnificent fresco painting by Puvis de Chavannes. In other parts paintings give different episodes of the history of the University of Paris.

At about ten o'clock, most of the guests having arrived, seats were placed in a half circle in the great saloon and a request for silence was made. M. LIARD, Rector or President of the council of the University of Paris, was the first to speak. He said that he was pleased that to aid their endeavours to welcome their British visitors the May sun had at last made its appearance, adding its smiles to the salutations of the University of Paris. On the morrow of the day when Edward the Pacificator had given yet another pledge of friendship between England and France he was sure that these aspirations for peace would be echoed by the University of Paris. Indeed, far away in the dim past, even in the twelfth century, the University of Paris had been the means of bringing English and French together. In those days the students used to call themselves a nation. Thus there were at the University of Paris the nation of Picardy, the nation of Normandy, and the nation of England. In connexion with this last-named nation there still remained, and close by, the Rue des Anglais. The poor lodgings of this old and poor street, compared with the comfortable quarters of the Oxford and Cambridge students of to-day, would show what progress had been accomplished. But the ancient and rough accommodation was the forerunner of the university facilities now enjoyed. Each "nation" had its fête day at the University of Paris, that of the English being the day of the English king St. Edmund, which was loyally kept in both Church and tavern. On several occasions members of the "English nation" became rectors of the University of Paris, so that the British visitors had to-day come back to the cradle of their learning. After some more historical allusions M. LIARD described the wonderful scene enacted in the adjoining great amphitheatre some 15 years ago. All civilised nations had sent representatives to render homage to Pasteur on the occasion of his seventieth birthday. England had sent another man who, like Pasteur, belonged to all humanity. This was Lister. Here the British man of science described what he owed to the French man of science and then these two men to whom humanity owed an eternal debt of gratitude fell in each other's arms. A thrill vibrated through the vast audience, cheers and tears mingled as Pasteur and Lister embraced. These two men, so great in the services they had rendered, typified science striving to relieve suffering humanity. Then was cemented an *entente cordiale* that might become imperishable. It existed far above the plane where untutored elements might work mischief. The love of science, the love of preventing pain, was a force that flourished over and above the rivalries of parties and politics. It was not sealed with the fragile wax of chancelleries, but it grew out of a true sentiment and would be strengthened by such meetings as that which now honoured the University of Paris.

M. LYON-CAEN, general secretary of the society of "The Friends of the University," rose to apologise for the absence of M. Casimir-Perier who was too ill to attend.

Then Dr. BOUCHARD, President of the French organising committee, welcomed the visitors. He was especially pleased to meet them within the walls of the university, where from the very first learning found a haven from the surrounding savagery. The old, old buildings had been renovated by modern art and science but the university remained true to its glorious traditions. In the name of the wives of the French medical men he extended a special welcome to the ladies who had come from England and graced the Sorbonne by their presence.

This being the last of the speeches on the French side the band of the Fortieth Infantry, which was in the next room, played the "Marseillaise" and the audience rose and applauded in honour of the French National Anthem.

Sir WILLIAM BROADBENT replied in French on behalf of the British visitors. He remarked that this visit had become a matter of greater importance than was at first anticipated. They had been received, not only by professional colleagues, but by municipalities, by the institute which placed Chantilly at their disposal; indeed, by the whole intellectual aristocracy of France. In such circumstances it was permissible to consider their visit in conjunction with two other visits that had done so much to draw the nations together. He alluded to the visit of King Edward the Peacemaker to Paris and that of M. Loubet to London. Then by the side of this great example there were the reciprocal visits of the pacific workers of both countries. The *entente cordiale* had existed a long time. It could be established from a distance but how much better it was to draw close to each other, to know each other personally, and that was precisely what he and his colleagues desired in welcoming the members of the French medical faculty to London and to-day in visiting them in Paris. This friendship must be maintained and strengthened and if the United States of America could be induced to fall in also then the peace of the world would be assured. The magnificent reception now granted would never be forgotten. He regretted the absence of M. Casimir-Perier who was greatly respected in England. (While Sir William Broadbent was thus endeavouring, and with much success, to return thanks the electric light failed and the audience was plunged into profound darkness. Nevertheless, the speaker continued and the audience kept their seats. In a little while candelabra were brought in but they only gave a dull light and it must be confessed that the whisperings as to the possibility of getting a light prevented the hearing of the latter part of Sir William Broadbent's speech.)

Professor CLIFFORD ALLBUTT, who also spoke in French, followed on behalf of the Universities of England and especially of Cambridge. He described his medical education in Paris and his indebtedness to Trousseau and other great French teachers. He made historical allusions, going back to the Alexandrian school and the classics of Greece. He spoke of the work of Charcot and Pasteur in the evolution of modern medicine and also contrived to allude to Victor Hugo's dream of a United States of Europe. He thought that the French and the British nations were made to work together. Their flags had the three same colours, symbolical of liberty, equality, and fraternity; there was only a diversity in form. Let the two nations draw together. Henry IV. had said that Paris was worth a mass; was not London worth even a rough Channel crossing? The seeds of a new era had been sown and only required water and sunshine to grow; London would provide the rain and they asked Paris for the sunshine.

Dr. GEORGE OGILVIE, speaking in French, replied on behalf of the Scotch Universities, reminding the audience that there was a Collége des Écossais as well as a Rue d'Écosse in Paris and that there had always been the most intimate relations between the Scotch and the French for centuries.

At the conclusion of this speech the band played "God Save the King," which was likewise listened to standing and received with cheers.

The visitors then strolled about the magnificent edifice, contemplated the pictures (for now the electric light had been restored), and refreshed themselves at the buffet. It was a brilliant and most enjoyable evening in spite of the little accident to the supply of electricity.

THURSDAY, MAY 11TH.

RECEPTION AT THE FACULTY OF MEDICINE.

The first function on Thursday was a solemn reception at the Faculty of Medicine. This venerable institution was definitely constituted in the middle of the thirteenth century. At that time the University of Paris became a State supported school. It was legally established and divided into four faculties—the faculty of the arts (literature and science), the faculty of theology, the faculty of civil and canon law, and the faculty of medicine. At the head of each faculty there is a dean or *doyen* who is elected for two years by the professors. The members of the French reception committee have been wearing throughout, suspended by two ribbons (one the French and the other the English colours), a reproduction of the great silver seal first used in the thirteenth century by the Paris Faculty of Medicine. It still bears the inscription, which time and rough usage have only partially effaced, "*Sigillum magistrorum Facultatis Medicinæ Parisiensis.*" The members of the faculty have not only preserved their antique seal but they still wear the ancient robes and cap. These they donned in honour of their British visitors and standing in rows under the classic porticoes of the well-known building in the Rue de l'École de Médecine the members of the faculty contributed to the picturesque effect of the scene. Indeed, but for them and the brilliant toilettes of the numerous ladies present the gathering, however pleasant in itself, would have seemed gloomy in its outward appearance. The everyday modern male attire does not help to make a picture and tends not to enhance but rather to mar the effect of monumental buildings selected for solemn receptions. But on this occasion appearances were saved by the gallant display of gold braid and crimson silk which adorned the members of the Paris Faculty of Medicine, and also by the complimentary and in many instances the successful manner in which the English ladies strove to imitate the elegance in dress of their Parisian sisters.

After a while the crowd moved to the great amphitheatre and there the new Dean of the Faculty, Professor Debove, with Sir William Broadbent by his side, occupied the central position of the hemisphere. After the half circle of seats that rise up nearly to the ceiling had been occupied, Professor DEBOVE made a short speech. He was much applauded when he said: It is stated that science has no country but that men of science have a country. Nothing can be more exact. Our common country is a nation where people are not persecuted for their political or religious theories. There that disgrace to civilisation war, is unknown. The citizens of that country labour so that by the accumulation of knowledge they may force back and farther away the surrounding shades and darkness which still envelop us with poverty and misery, and cause diseases that are preventable and illness which we strive to cure. Being citizens of the same country we were not surprised by the hearty welcome that you gave us last year in London and to-day we are happy and proud to receive you in our ancient faculty. You are here in a building which belongs to us all and its very walls welcome you as friends whose visit was impatiently anticipated.

The Dean's remarks were so well appreciated by those who understood that he was prevailed upon to repeat them or a portion of them in English for the benefit of those who did not know French. Then Sir WILLIAM BROADBENT replied with a few words of thanks, after which guests and visitors proceeded to visit some parts of the building. They wound their way through the long room that constitutes the recently enlarged library, where in the course of a day there are sometimes as many as 500 students who come to consult the precious collection of books. The Orfila Museum with its many anatomical specimens was likewise visited. The council chamber of the professors of the faculty was selected as the place for leave taking, for the visit had to be brief there being two other functions the same afternoon. This room is fitted with chairs such as might be seen in a small parliament or municipal council. The walls are entirely concealed by sumptuous Gobelin tapestries of the seventeenth century. The colours are sombre and convey a sense of seriousness and dignity but there was not much time to examine and to admire as it was necessary to proceed to the Hotel de Ville.

RECEPTION AT THE HOTEL DE VILLE

Everyone acquainted with Paris life and French politics knows the importance of a reception by the great governing body of the capital. In vain the Central Government rank the President of the Paris Municipal Council with the Prefect of the Seine and the Prefect of Police, it is the voice of the elected representative of the people, and not the functionaries of the Government which carries the greatest weight in
the aspirations of the
instance the Presidency
most appropriately by
contributed to bring about many sanitary improvements. Dr Paul Brousse is well known to sanitary reformers. He is also well known politically as having always and even when the idea was far from popular, striven to bring about the nearest possible approach to an alliance between England and France. In these circumstances he lent himself with more than usual energy to the task of emphasising the significance of the visit paid by the British medical men. For such purposes the people of Paris have known how to build for themselves a palace that would do honour to any court in Europe. Those who had never visited "the town's mansion or hotel" (Hôtel de Ville) were lost in wonder and admiration. More than one of the London visitors was heard to murmur that the London county councillors must see the Hôtel de Ville. This admiration continued and was emphasised as after the ceremony of reception the guests wandered through all the ballrooms and other apartments. This was the more interesting as a plan was provided with a list of the pictures and the works of art.

At first the guests gathered in the saloon dedicated to literature but soon the ladies were directed to the central saloon which occupies the middle place in the three rooms devoted to literature, art, and science. Under Bonnat's magnificent ceiling representing the Triumph of Art, the ladies were invited to sit in a half circle. Facing them, and forming another half circle, was the Paris municipal council. The gentlemen stood on both sides and the finest military band of France that of the Republican Guards was in the third room. In this manner any unsightly crowding together was prevented and the eye could travel from group to group, each having its significance and interest. The opening between the rooms is so wide that it was easy to see from one to the other.

Dr PAUL BROUSSE as President of the Municipal Council was the first to speak. After thanking the French organising committee for bringing their English visitors to the Hôtel de Ville, he alluded to Sir William Broadbent's remark that the scientific *entente* had very effectively preceded the political *entente*. Dr Brousse urged that medical men were well suited to be the diplomates of peace. On the battle field and in the consulting room the medical man only saw friends whom suffering had raised to the dignity of patients and victims. He continued: 'Each man of science, without doubt has a country of his own. But when animated by his love of scientific research he soon rises to such heights that under him the most natural of frontiers are effaced, the mountains are flattened down and the widest channel seems but as a silver thread. On the high summits of learning if, according to Victor Hugo who was our poet and your guest names such as those of Darwin, Lamarck, Jenner, Pasteur, Lister are mentioned no one whether pupil or master thinks of the diversity of the countries whence they came. These benefactors of humanity, among whom you have already taken your place gentlemen appear as if they were compatriots as if they were the sons of a new city an ideal city possessed of some truly superior essence. Nothing could be more natural than that *l'entente* should number you among its precursors. You would not forgive me, gentlemen, if when dealing with this matter I did not render homage to your sovereign, King Edward VII, whose very politic intervention at so perilous a moment assured us that supreme blessing peace. Nevertheless as in regard to all great historical events this friendship was not the fortuitous product of one mind or will. We had to reckon with the time necessary for all natural evolutions and it is precisely this laborious genesis which proves its necessity and offers the best guarantee for its solidity and durability. In this respect allow me to communicate a souvenir where my personal vanity may find expression. If I have to-day the great honour of saluting in these saloons the illustrious representatives of British science I had also the joy 23 years ago of welcoming to Paris in the name of the workers of France the delegates of your trade unions, some of whom were Members of your House of Commons and who came over here to conspire with us in favour of the Channel Tunnel. We worked together with admirable ardour to bring our two peoples nearer to one another. We wanted to facilitate the exchange of ideas and of products. Our solicitude even took into consideration the delicate constitution of certain stomachs. We were not successful, we did not by piercing the tunnel prevent sea sickness, so we must look to you, gentlemen, for a more effective treatment of this malady. But we were none the less the workers and precursors of *l'entente cordiale*. I should commit an impertinence gentlemen, if as a modest medical practitioner I attempted to address to each of you the homage you deserve. This duty befits better my masters in the profession and with greater authority than I possess they will know how to accomplish this pleasant task. I remain in my place in thanking you for your visit in the name of the Municipal Council of Paris, in the name of the population of Paris who elected my colleagues and myself. I entertain the hope that our welcome will appear to you worthy of the occasion, particularly if you will be so good as to judge us by the loyalty and sincerity of our sentiments. Ladies we are most grateful to you for your gracious presence for the delicate charm it brings to this reception, rendering its souvenir ineffaceable. Once more, ladies and gentlemen, we thank you for your cordial visit.'

The Prefect of the Seine, M. DE SELVES, was the next to speak, and he alluded to the reception of the French medical men in London, to their admiration of the English hospitals. They had noted how much was due in England to individual initiative and how efforts were made to convert hospital wards into homes for the patients, where the charm of flowers and of pictures abounded. Perhaps France suffered from excessive centralisation and uniformity. He felt certain that both nations had much to learn from each other. The French, he added, would never forget that in 1874, "when our immortal Pasteur was isolated and medical circles did not seem inclined to recognise him it was among you and in the person of Sir Joseph Lister that he found his first ally. How great, also, is our joy when we recall the emotion felt at the memorable meeting held at the Sorbonne on Dec. 27th, 1892, when Lister, after having retraced the struggles of the past, approached Pasteur, and these two learned men embraced fraternally, thus, as it were, sealing in advance by the kiss of science the friendship of our two countries." The people of Paris were never indifferent to that which bore a high moral meaning. After some graceful allusions to the works on diseases of the nerves by the President of the British visitors, Sir William Broadbent, M. de Selves recalled that in 1904 at the London banquet a telegram was received from His Majesty Edward VII. which expressed the hope that the visit of the French medical men would be of benefit to both countries. The speaker concluded by inviting all present to join him in expressing with respectful diffidence their gratitude to His Majesty the King of England for having come to Paris, for having so powerfully helped to bring the two nations together, and their best wishes for the noble nation which the guests present to-day helped by their work to render great and honoured.

It was now the turn of the Prefect of Police, M. LEPINE, to speak. He dwelt on the fact that diplomatists might prepare and even sign alliances, but such agreements were only successful when supported by the popular sentiment and sanctioned by the intellectual *élite* of the countries concerned. He thought that this, the truest form of alliance, was being brought about by a solemn gathering together under the protecting wing of science. He alluded also to the fact that medical men were not merely learned but essentially practical; indeed, they were practitioners. The olive branch carried in their hand would therefore be an effective remedy against war.

The French speeches in honour of the British guests being now terminated the band played "God save the King" with great power, introducing new harmonies that were most effective. It was then the turn of the British to reply. It would seem, however, as if they had not been aware of the importance of the occasion. Many individual French medical men have made most generous and lavish efforts to entertain their British visitors. But, and apart from private initiative, the principal host is the Paris taxpayer; to him all the hospitals belong and all the public institutions where the British delegates have been so well received, and his representative is the Paris Municipal Council. In such circumstances some effort might have been made to prepare a suitable reply to the three important and eloquent addresses which were delivered at the Hôtel de Ville. Sir WILLIAM BROADBENT and Sir DYCE DUCKWORTH did certainly plunge into the breach and attempted to make up for the deficiency. But Sir WILLIAM BROADBENT himself said that it was impossible to reply worthily. He declared that he could not find words to say all that he would like to say and all that ought to be said. In London they had done their best but they had now been beaten. The French spoke gratefully and gracefully of their visit to London but this was eclipsed now. All that he could do was to thank them. The British would never forget the reception that they had enjoyed and the warm welcome that they had received from the town of Paris and from the French medical profession.

The band followed up the speeches of the British visitors with the "Marseillaise," then refreshments were handed round, a choir sang some old French popular songs, and the military band played various selections. The concert terminated by the Coronation March of H.M. Edward VII. by Saint-Saëns. This delicate compliment, admirably rendered by the band of the Republican Guard, concluded this most brilliant reception.

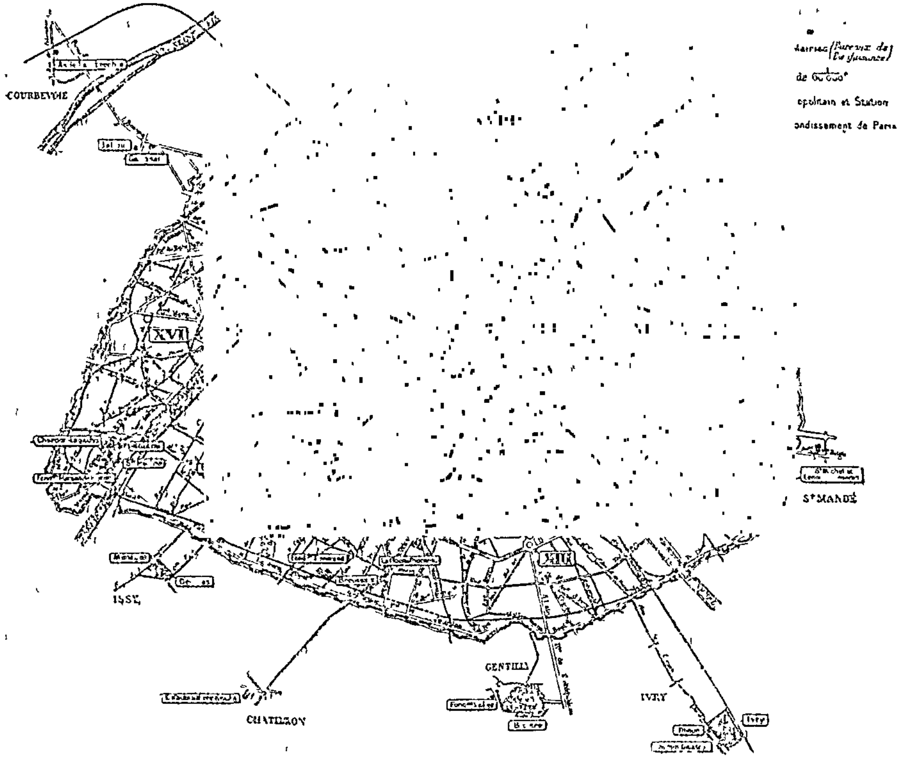
VISIT TO L'ASSISTANCE PUBLIQUE.

On Thursday afternoon, after the magnificent reception at the Hôtel de Ville, a considerable number of the visitors adjourned to the adjacent head offices of the Assistance Publique, in the Avenue Victoria, to be present at the somewhat formal reception, presided over by M. Mesureur, director of this important administration. The change from the luxurious surroundings of the Hôtel de Ville was very marked; no more marble staircases, no imposing statuary, no wealth of Gobelin tapestries and pictures; simplicity bordering on penury prevailed. We may remind our readers that the Assistance Publique of Paris emulates the functions of the Poor-law guardians, the Metropolitan Asylums Board, and the hospital administrations of London all rolled into one. It is subdivided into departments to deal with the multifarious branches of public assistance and is controlled by a director, nominated by the Prefact of the Seine and appointed by the Minister of the Interior. This official supervises the working of the huge "machine," but when any change is suggested which necessitates the expenditure of money not already provided for he has to consult the Conseil de Serveillance, a composite body made up of highly placed municipal and State officials, with whose approval only can such schemes be carried into effect.

The hospitals in Paris are municipal institutions to which all citizens have a *right* of admission in the event of their requiring medical or surgical assistance, differing in this respect from the London hospitals, where sundry restrictions are imposed and more or less enforced on candidates for admission. At the same time patients who are able to pay for their maintenance are invited to do so. From this point of view the Paris hospitals are administratively more akin to our Poor-law infirmaries, except that admission entails no social disqualification. The members of the senior medical staff are selected by competitive examination and are paid salaries amounting in the case of full physicians and surgeons to about £60 a year, the resident (junior) staff (*internes*) being allowed a small salary, about sufficient to cover their contribution to the hospital "mess." The latter hold office for four years, one year in each department of practice. They are drawn from senior students who have passed all their examinations for the doctorate but, not having presented their theses, are technically unqualified. Another important department is that which provides for the maintenance of abandoned children, of whom some 55,000 are brought up by the Assistance Publique. These children are all boarded out in the country, far from Paris, the more promising ones receiving in due course technical instruction in gardening, printing, housekeeping, and cabinet work.

The clerical staff numbers 900, while the hospitals and asylums give employment to 6000 attendants and 1500 workmen. The principle of extreme centralisation, as applied in the Assistance Publique, is claimed to result in great economy of administration and although the system presents some serious drawbacks there can be no doubt that the Administration is enabled to purchase supplies on vastly better conditions than would otherwise be the case. The expulsion of the Sisters of Mercy who had previously discharged the duties of hospital nurses threw a very heavy responsibility on the Administration and it is only during the last 10 or 15 years that the nursing-staff has been placed on an approximately satisfactory footing. The nurses are trained at the Écoles Municipales. They are drawn from the working classes and it is claimed that the fact of their belonging to the same social class as the majority of the patients enables them to sympathise more fully with the latter than the "lady-like" English nurse. It is, however, realised that the English system has advantages of its own which it is hoped to obtain by the institution of an Ecole d'Infirmières at the Salpêtrière Hospital. The new nurses take the place of the men (*infirmiers*) who formerly did much of the ward work, to the unquestionable benefit of the patients for the now abolished *infirmier* was usually a man of rough exterior and coarse manners, ill-suited to have charge of the suffering poor.

The resources of the Assistance Publique, in addition to endowments, comprise a subsidy of 28,000,000 francs (£1,120,000) paid by the municipality, plus about £140,000 derived from a heavy tax on the gross receipts of places of amusement, fees paid by patients and gifts, making a gross aggregate of 47,400,000 francs (£1,896,000) per annum—by no means a large sum when one bears in mind the wide scope of the board's sphere of action. The expenses are given at 57,000,000 francs but we



Map illustrating the administrative stations of the Assistance Publique (Reproduced by the kind permission of the Director of the Assistance Publique, M. G Mesureur)

are not told whence the balance of expenditure over income is derived. Returning to the reception, which only lasted about half an hour, the Director, M. MESUREUR, welcomed the visitors and invited them to take cognisance of the details of the administration, the history whereof he briefly sketched. He was followed by M. FELIX VOISIN, Vice-President of the consultative committee, who explained the position of his committee with regard to administration and the mode of recruitment.

Short speeches in French were made by Sir JOHN W MOORE of Dublin and by Sir WILLIAM BROADBENT acknowledging the very great courtesy and kindness shown to the visitors at the reception.

THE CHILDREN'S HOSPITALS.

[illegible] ty of position in the [illegible] London, for in both [illegible] parts of the town and in the midst of the poorest populations. The Hospital for Sick Children in the Rue de Sèvres, better known as the Hôpital de l'Enfant Jésus, was erected as an orphanage by the Curé of Saint Sulpice at the cost of Marie Leczinska and the Marquise de Lussan in 1732. The foundation was altered during the Revolution and since 1802 it has been used for the purposes of a modern hospital. The buildings co [illegible] space and the hospital maintains no less than [illegible]. The wards, as might be expected, are not of [illegible] type and to modern ideas overcrowded. Thanks, however, to the minute care taken by the *personnel* the cases do well and the temperature appeared to be thoroughly satisfactory throughout the wards. Dr. Broca operated on a case of congenital dislocation of the hip, using a modification of the Lorenz method, which his radiographs show to be of a satisfactory character, for several of the cases have been under observation for many months and the head of the femur has remained in its new position He is careful, he says, only to operate upon one side at a time and he keeps the patients in bed for a much longer time than is the custom in England.

The Hôpital Bretonneau for Children was built in 1901 and is situated at Montmartre, almost as far away as is possible in Paris from the Hôpital des Enfants Malades. It contains 261 beds, to which at times of emergency 134 beds can be added There is also a large out-patient department Boys and girls are admitted up to the age of 15 years, but some limit is placed when it is possible to do so upon the number of children under the age of three years who are in the hospital at one time. The hospital is well built and upon [illegible] a separate pavilion for [illegible] to the highest standard of hospital [illegible] not overcrowded. Dr. Felizet performed an operation for excision of the knee in a case of tuberculous disease by a novel method which appears to give excellent results and he says that he has done more than 300 in the same manner. It consists essentially in the removal of all the epiphyseal tissues except the circumferential cartilage and subsequent disinfection.

In both hospitals it appears that there are many more [illegible] in children than is common [illegible] apparent as a result of the [illegible] geons that appendicitis is even more erratic in its course in children than in adults. Neither the pulse nor the temperature is a sufficient guide to the condition of a child with an inflamed appendix and all such cases require the most careful and constant supervision to avoid disaster. The Assistance Publique has several convalescent homes for children—namely, at Berck-sur-Mer (Pas-de-Calais), for the treatment of hip disease and other tuberculous affections of bone; at Hendaye in the Basses-Pyrénées for strumous children and for general convalescence at Forges les Bains; and at La Roche Guyon on the Seine, near Mantes. The French surgeons appear to put their operating theatres to a much more extended use than is the custom in England. With us they are devoted to operations alone; in France they are used for such patients as it may be necessary to anæsthetise and on occasion for the demonstration of clinical cases. The technique of the operation does not vary materially from our own; chloroform with or without oxygen and given by means of an apparatus seems to be the favourite anæsthetic.

Hôpital Boucicaut.

Attracted by the remark that the Boucicaut Hospital is the newest and at the same time the most up-to-date in Paris several of the visitors presented themselves at its portals at 9.30 on Thursday morning where they were very politely received by the director (M. Longepierre) and the senior members of the staff, Dr. Letulle (medicine), Dr. Chaput (surgery), Dr. Doléris (gynæcology), and others. Where there is so much to describe it is difficult to know where to begin. However, the pleasure of the visit was greatly enhanced by the magnificent weather which enabled the buildings and gardens to be seen at their best. Amongst the visitors were Sir W. Broadbent, Sir Dyce Duckworth, Mr. C. A. Ballance, Dr. Tyson, Dr. Dawson Williams, and several others. A word must be said of the origin of the hospital. Mme. Boucicaut, the late proprietress of the Bon Marché, on her decease left 10,000,000 francs to the Assistance Publique for the purpose of founding a modern hospital to be called after her, two of the wards being reserved for the reception of any sick members of the staff of the Bon Marché. The hospital was inaugurated on Dec. 1st, 1897, by M. Felix Faure, the then President of the Republic. It is built in the outskirts of Paris on an area of about 30,000 square metres, of which one-fourth is occupied by the buildings, the remainder comprising the gardens and courtyards. The official number of beds is 194, although more are in use. All the arrangements suggest the most careful forethought. The hospital is built on the small pavilion system, the surgical wards being subdivided for the reception of septic and aseptic cases respectively, the cases being first investigated in a separate reception room before admission. On the medical side the tuberculous cases are isolated. On arrival the patients are washed and provided with sterilised clothes (blue cloth and canvas shoes); their own clothes are then disinfected and returned to them on their departure. If the diagnosis is clear the patients are then removed to the wards; in doubtful cases they are kept in an observation ward for as long as may be necessary. There are the usual waiting-rooms and surgical, medical, and gynæcological rooms. In the waiting-room there is a striking picture representing the dwelling of a poor family, the father on his death-bed surrounded by his wife and children. The picture is entitled "Death from Alcoholism." In the out-patient department there is a special theatre with adjoining sterilising room for small operations not necessitating admission into the wards. The eye is immediately arrested by the presence of spittoons suspended on the walls at rather frequent intervals. These occur chiefly in the out-patient department, the intention, no doubt, being to lessen risk from the habits of new and ill-disciplined arrivals. The wards are strikingly roomy and airy, dome-shaped and tiled, with rounded corners, so that thorough cleaning may be obtained by means of a hose. Dr. Letulle has a horror of brooms and feather brushes (plumeau) and has devised a cartoon representing a skeleton (the symbol of death) carrying brooms on the shoulder and brushes about the waist, fleeing from a jet of water which has been turned on it by one of the porters. Beneath the drawing is the following inscription: "Mort a balai! Mort au plumeau!! De l'Eau! Encore de l'Eau!! Toujours de l'Eau!!! Jamais trop d'Eau!!!!" Judging by the beautifully clean aspect of the place it is easy to imagine that water for cleansing purposes is not stinted. The beds appear to be rather close together but no doubt the proper amount of fresh air per patient is duly obtained, as the wards are lofty and wide and many windows are provided. A goodly supply of large-sized thermometers is kept in carbolic solution in each ward. The temperature is always taken in the rectum, never in the mouth. There is also an obstetric and gynæcological section under the care of Dr. Doléris, the arrangement of the wards being similar to that of the surgical and medical ones—that is to say, the greatest care is taken to separate septic from aseptic cases. In the obstetric ward were a few women awaiting their confinement, when they are removed to the "labour ward." Another ward is set apart for the newly born children—cots on one side and incubators on the other. This ward is provided with wet nurses who are no doubt carefully selected. The whole of the gynæcological section is rigorously separated from the others and there is no intercommunication. The laboratories all give the impression of being in a very workmanlike state of efficiency, the one devoted to radiography appearing particularly complete. The arrangements connected with the mortuary and post-mortem rooms apparently leave nothing to be desired. One of the striking features of the institution, and to which Dr. Doléris called special attention, is the endeavour to enhance the value of the so-called isolation of the various pavilions by the construction of underground passages provided with a network of rails by means of which supplies of all sorts are sent on trolleys to the various wards. In these passages are seen hot-water pipes, electric cables (for transmission of power to work the lifts and to supply the illumination of the pavilions), and other objects connected with the interior economy of the place. The kitchen is roomy and admirably served. One of the conditions of the bequest was that the religious element should not be abolished; hence the small chapel and the Augustine Sisters. The latter are only to be seen in three hospitals in Paris—viz., Hôtel Dieu, St. Louis, and Boucicaut, the headquarters of the order being at the Hôtel Dieu. The visitors were provided with refreshment, consisting of excellent champagne and cakes, &c., the former having been carefully selected of the "extra dry" quality to suit the English palate. Short speeches were delivered (in English) by Dr. Doléris and (in French) by Sir William Broadbent. The entire group was photographed, after which Sir William Broadbent called for three cheers for the staff of the hospital. The greatest cordiality prevailed and it may be said that the visitors were genuinely gratified at the extraordinary pains which had been taken to render their visit instructive and interesting.

Friday, May 12th.

The Hôtel Dieu.

As the most ancient and probably the most important of the Paris hospitals the Hôtel Dieu attracted a considerable number of visitors. The present building, which covers 21,770 square metres, was built, or rather commenced, in 1865, and there are many practitioners of the present generation who can recall the musty, more or less dilapidated hospital which spanned the small arm of the Seine on the opposite side of the square near the Cathedral. The old building dated back to the seventh century and only two portions of it remain. Completed in 1877 the present Hôtel Dieu nominally contains 828 beds, though the number has been added to regardless of space when there is extra pressure on the accommodation. It is an imposing structure, quadrangular in form, and spaces of no less than 11,389 square metres are laid out in courtyards and gardens. The staff includes names—Dieulafoy, Le Dentu, Lucas-Championnière, Champetier de Ribes, and others—that are well known throughout the world.

The visitors were received by the staff and told off into parties according to the departments in which they were most interested. It would be impossible to exaggerate the courtesy and kindness with which they were greeted and their wishes acceded to. The nursing question was naturally one to which special attention was given. The problem that presented itself in the substitution of lay nurses for sisters of mercy, though not yet completely solved, is in a fair way to attain success. The staff spoke very highly of the services rendered by the *infirmières* trained by the Assistance Publique, though admittedly they are drawn from a different social class to that from which English nurses are obtained. The beds, it is true, are closer together than is consistent with English taste but, thanks to the colossal budget at the disposal of the authorities, no expense is spared in keeping this and other Paris hospitals thoroughly abreast of the times. The operating theatres—which somehow always come in for special attention—are palatial and it would be difficult to suggest any direction in which, in the light of our present knowledge, improvement would be possible.

HÔPITAL NECKER.

He who would be well informed in all matters concerning the cardio-vascular system makes a point of spending a portion of his time at the Hôpital Necker. As hospitals go in Paris, it is not a very large one. It has about 500 beds, a proportion of which is set apart for chronics and incurables. It has been called by various names, such as La Charité, Hospice de Saint-Suplice, Hospice du Gros-Caillou, and Hospice de l'Ouest, but it is now known by the name of the lady, the wife of the famous banker whom Louis XVI. called in to arrange the national finances, who was mainly instrumental in founding it in 1776. To the Hôpital Necker is attached M. Huchard, an authority of European reputation on all matters cardio-vascular. He used to be at the Hôpital Bichat and was still there in the early "nineties" when he published his classical work on "Diseases of the Heart." His pride in his present post knows no bounds, for it was at this hospital that the famous Laennec did all his best work, and of Laennec M. Huchard speaks with an admiration and a veneration amounting almost to adoration. He is the fortunate possessor of one of the "master's" stethoscopes, which he handles—and when he gives it to you, begs you to handle—with becoming reverence. It is a commonplace enough looking implement; a straight tube of wood with a hole which is small considering the inordinate thickness of the wood, and no ear-piece. But it belonged to the master and M. Huchard guards his relic with all the jealousy of the enthusiast.

To the question, "Is this a hospital special to the diseases of the heart?" came a most emphatic negative. M. Huchard is a great teacher, but he is not in any sense of the term a specialist. His teaching is appreciated not only because he is clear and is possessed, conspicuously possessed, even among the French, of the inestimable gift of striking and even dramatic expression, but he is a strong man—strong enough, that is, to admit his errors and to use them as texts whereon to hang lessons for his pupils. In his class-room is a letter-box into which any student may at any time, anonymously or otherwise, place a piece of paper begging him to explain over again some matter which did not appear sufficiently clear and into which may be put a round robin signed by not less than ten requesting him to deal at his next lecture with a particular subject. M. Huchard's paternal attitude towards his pupils is further evidenced by the fact that his lecture-room was reconstructed mainly at his own expense and it is characteristic that he should have dedicated it, under the name of Amphithéâtre Laennec, to the memory of his great predecessor. And yet, in spite of the treasured stethoscope, which is produced only on state occasions, and in spite of other evidences of homage to his greatness, the auscultatory methods of the master are no more respected here than they seem to be elsewhere in Paris. The ear is applied to the chest in the vast majority of the cases and the stethoscope is used but seldom. This may have its advantages, especially in listening to the back and in men, but in the case of a woman with what they call in Paris an opulent bust the practice has disadvantages, both practical and sentimental, which are not to be gainsaid.

The beds at Necker are less crowded than they are at other hospitals and the wards are wider, but the same sense of scrupulous cleanliness pervades the place and the same admirable system obtains of washable overalls for those whose work brings them into immediate contact with the patients. The water-closets and lavatories, which are well separated from the wards, seemed to leave something to be desired. They are not as modern in construction as they might be and the faint ammoniacal odour suggested that they were not working properly. The female student is much in evidence at Necker. She is, indeed, everywhere and though at home we have become absolutely reconciled to her presence she still seems out of place in Paris. This is probably due to the views concerning what is suitable for a *jeune fille* which are known to obtain all over France and which differ considerably from those held on this side of the channel.

The number of English medical "*suivant le service*" of Professor Huchard was very considerable, and upon several occasions he gave a demonstration of the manner in which he conducted his work at the hospital. He explained that an exhibition of cases was, according to his view, hardly desired by his English *confrères* and he preferred to try to interest them by the exhibition of new instruments and methods of treatment, &c. Among the former he showed a water spirometer so constructed that the quantity of water displaced (and therefore air expired) could be read off on a graduated scale. He used it for the comparison of results before and after certain forms of treatment. Several of the visitors were asked to test their expiratory capacity; none came up to the professor's requirements until one physician at last made a record. Everyone laughed and Professsor Huchard, approaching this gentleman, said: "Mais, mon cher, à la fin il faudra vous tuer! vous ne mourrez jamais!" After this a sphygmomanometer was exhibited which, it appears, is in constant use. The visitors were then shown some curves representing the extraordinary increase in strength shown by Professor Huchard himself as a result of the ingestion of sodium formate (in suitable doses). These charts are certainly very remarkable and a full account of this method of treatment may be found in Professor Huchard's brochure entitled "Action Toni-musculaire et diurétique de l'acide formie et des formiates." Passing from the wards to another part of the hospital Professor Huchard showed the visitors the lecture room (clinical theatre) and out-patient department which he had had built at his own expense He gave an account of his method of practical instruction and explained that he encouraged the students, in the way already described, to ask for further elucidation of some subject not thoroughly understood. He then pointed to the bust of Laennec (for whose memory he professes the greatest veneration) and remarked that he had named the lecture room after him—Amphithéâtre Laennec. To each party of visitors he triumphantly produced the stethoscope which had belonged to the great physician. The visitors shortly after took leave of the genial professor, carrying away with them a very pleasant recollection of his charming personality.

THE SALPÊTRIÈRE.

Who has not heard of the Salpêtrière? Further, it might be asked, what need is there of a description of the place? Well, all the details regarding the square area it occupies, the vast assembly of patients, nurses, officials, workmen, &c., it incloses can be learned by perusing the proper guide-books. These must have been described over and over again and their repetition would weary the initiated reader. To realise the vastness of the place it must be seen. It is a small town in itself. Suffice it to say that its origin dates from 1656 when buildings which were used for the manufacture of saltpetre were transformed by royal edict into wards or dormitories for the "renfermement des pauvres femmes." In 1684 the "Hôpital de la Force" was constructed for the detention of "femmes et filles de mauvaise vie." Successive enlargements in the eighteenth century resulted in the monumental establishment which we see at the present day. The regulation number of beds is stated to be 3812, and many interesting statues (including that of Charcot), monuments, medallions, busts, &c., worthy of attention are to be met with in different parts of the institution. In the salon of the director may be seen a large picture attributed to Mignard (an allegory to the glory of Louis XIV., the founder of the hospice), and in the "Salle des Cours" is a remarkable picture of Tony Robert Fleury represen [illegible] those mentally affected. [illegible] of course, well known, but [illegible] ork of Professor Déjerine who was good enough to induct the visitors into the mysteries of one of his wards. Again it must be admitted that his method of procedure is well known to the neurologists in England. Confirmation of this statement consists in the fact that Dr. Alexander Bruce and Dr. Byrom Bramwell are working on his line of treatment in Edinburgh with marked success. It may be mentioned here that besides the above-mentioned gentlemen, Professor Déjerine was accompanied this morning by Sir William Broadbent, Sir Dyce Duckworth, Dr. C. E. Beevor, Dr. F. W. Mott, Dr. H. Morley Fletcher, Dr. C. S. de Segundo, and others. It is interesting to note that Dr. Huchard, of the Necker Hospital, accompanied the visitors and engaged in friendly passages of arms with Professor Déjerine. After giving a demonstration on some perfect sections of the *entire* cerebrum for microscopic investigation, declaring at the same time that macroscopic work was a thing of attention at the hands of English medical men and nurses is necessarily a source of great comfort. The number of in-patients averages upwards of 300 annually and of out-patients over 2000. The visitors were taken round the wards and their presence excited great interest among the patients who had been looking forward to the occasion. There was no speechmaking beyond the formal welcome extended by the committee and the medical staff, the rest of the time being devoted to inspection of the new operating theatres, the system of accounts, and other technical details. The visitors left with a feeling of great and sincere satisfaction that their fellow countrymen in Paris are so well cared for, thanks to the munificence of the late Sir Richard Wallace.

THE PASTEUR INSTITUTE.

It is a far cry from Levallois-Perret to the rue Dutot, where the buildings of the Pasteur Institute are located, but in motor-cars and carriages the visitors, accompanied by their lady friends, arrived in large numbers—probably in totality—at 3.45 P.M. They were received by the director, Dr. Roux, who we regretted to see did not appear to be in the best of health. After a formal welcome in the library the visitors, together with Sir Francis Bertie, the British Ambassador, and Lady Bertie, Madame Pasteur, and many eminent members of the French medical world, adjourned to the basement where the mausoleum of the great Pasteur is placed—an imposing *caveau* richly adorned with glittering mosaic and illuminated with inscriptions recording the life-long devotion to the pursuit of scientific truth of the great French man of science. Standing with his back to the wrought-iron gates of the tomb Dr. J. Kingston Fowler, speaking as dean of the Medical Faculty of the University of London, delivered an eloquent address in French, enunciated with a purity of accent and a freedom of diction that excited the admiration and surprise of our French hosts. Addressing himself to the Director and to Madame Pasteur, he asked permission to deposit a wreath on the tomb of the great master to whose labours in the cause of science and humanity the institute was a worthy and becoming monument. But it would be a pity to translate into English words that sounded so well in the language in which they were delivered. We give the original.

Monsieur le Directeur,—J'ose croire qu'en ma qualité de Doyen de la Faculté de Médecine de Londres, vous et Madame Pasteur me permettrez de déposer cette couronne sur le tombeau du maitre qui a tant fait pour la science et l'humanité, et dont cet institut même rappelle à l'univers les travaux accomplis. Cet hommage, je le rends au nom des quatre cents professeurs de la Faculté de Médecine, je veux y associer de plus tous ceux qui exercent notre profession, tous ceux qui visitent aujourd'hui ce pays et cette ville dont les traditions artistiques, littéraires et scientifiques sont connues du monde entier. Le souvenir et l'exemple du grand Français que fut Pasteur, inspireront toujours les hommes qui, comme lui, voudront se dévouer à la cause universelle de la science. Les découvertes de Pasteur dans le domaine de la physique et de la chimie, ses recherches à la fois ardentes et patientes, sur les causes de la fermentation, sur les causes des maladies chez l'homme et chez l'animal, ont sauvé d'importantes industries et nous ont permis d'une manière plus efficace et plus sûre non seulement de soulager ceux qui souffrent, mais encore d'arracher à la mort bien des gens qui sans lui auraient péri. Je ne saurais mieux faire que de rappeler l'hommage rendu par un de ses plus éminents disciples, Lister : "Vos brillantes recherches m'ont prouvé l'évidence de la théorie des causes de la putréfaction par les organismes microbiens et m'ont fourni le seul principe sur lequel pouvait être basé le système antiseptique." Le dix-neuvième siècle marquera dans l'histoire par les découvertes de tout genre : les travaux de Pasteur suffiraient seuls à lui assigner une place prépondérante dans les annales de la science.

La science ne reconnait pas de frontières ; elle réunit en une commune fraternité tous ceux qui se devouent à son service. De près ou de loin, tous ceux qui suivent les traces de Pasteur contribuent à rapprocher les peuples. Nous sommes convaincus que l'amitié entre la France et l'Angleterre ne cessera de croitre, que les deux nations travailleront d'un commun effort au progrès de la science et contribueront à la réalisation de ce but : la paix du monde.

The speech met with a cordial and sympathetic reception and was followed by one, also delivered in faultless French, by Dr. Augustus Waller, chief of the laboratories of the University of London, who insisted on the debt that humanity owed to Pasteur for his labours in the study of the infinitely little. Pasteur, indeed, was "*le médecin de la médecine*," in that he taught the medical profession the causes of many of the diseases which they were called upon to treat and incidentally pointed out the means of preventing and of curing them. He claimed that in years to come, when men could form a better conception of the services rendered by Pasteur to science for which we were yet far too near, it would be held that the greatest discovery of the nineteenth century was not steam or electricity but that made public by Pasteur who, in rendering service to France, had rendered incalculable services to humanity at large.

These eloquent periods were warmly applauded and the visitors then paid their homage to the illustrious dead by filing before the tomb.

They then took refreshments in the library where a medal commemorative of the occasion was presented to each visitor, after which they broke up into parties to inspect the various departments, the laboratories, and the Pasteur hospital. The latter lies behind the main block of buildings devoted to chemistry and biology and is now fast approaching completion. This institution, which was founded consequent upon the publicity given to the serum treatment of diphtheria at the Congress of Hygiene at Budapest, is due to the generosity of an anonymous benefactress. It is reserved for the treatment of microbial diseases by Pasteurian methods including, of course, the treatment of hydrophobia. Further funds were provided by Madame de Maillefer in memory of her husband and of her grandfather, Professor Baudelocque, whose memory has also been perpetuated by the celebrated lying-in institution that bears his name. This lady's generosity enabled the managers to install and to equip an out-patient department. The hospital comprises two pavilions, each containing 60 beds, installed on the cubicle system. On entrance the patient is taken into a cloakroom where he changes clothes, his own being taken away for purposes of disinfection. He is placed on a moveable bed and is transported by a lift to the room which he will occupy until convalescent. There is an admirably equipped surgical theatre (operating room) on the first floor. The building is constructed with special attention to the possibility of isolating any one part from the rest. Each room opens on to a spacious balcony which communicates at the angles with the corridors that separate each set of rooms from the others, thus enabling any particular cubicle to be isolated completely and effectually.

The rooms themselves are as aseptic as human ingenuity can contrive. The partitions are glazed to insure a maximum of light and nowhere are there any projections capable of retaining dust. The floor is of glazed stoneware and the non-glazed walls are covered with porcelain tiles. All angles are rounded off and the cleansing is done by copious ablutions, brooms and dusters being rigorously banished. Each room has two doors, on opposite sides, one for the service *viâ* the corridor and the other giving access to the balcony should special isolation be indicated. They are simply furnished, everything being in metal or porcelain. Special rooms are set apart for convalescing patients and on the second floor rooms are reserved for patients accompanied by their relatives. Only one of the pavilions is at present in working order, the completion of the second having been intentionally postponed in order to get the benefit of actual experience in determining its distribution and general arrangements.

The Institut Pasteur, as briefly described, differs from most scientific and medical institutions in France in that its inception, realisation, and maintenance are due to private initiative. As such it affords a valuable object lesson of what can be accomplished by individual effort unaided by the State—a lesson that may not be thrown away on our neighbours across the channel, who have inherited an almost unconquerable tendency to look to the authorities to initiate and to organise all institutions of public importance ; indeed, the possible scope of private initiative was one of the things that most impressed our French *confrères* when they saw in our London hospitals a striking example thereof. There was so much to be seen and admired and so many explanations to be given and received that the visit was a long one ; indeed, by the time it was over it was time to prepare for the banquet that marks the conclusion of a "scientific excursion" that we trust will be fruitful in cementing the friendship between us.

CLINIQUE BAUDELOCQUE.

No visitor interested in obstetrics could fail to avail himself of the exceptional opportunity afforded to study the organisation and the management of the admirable clinique in the Boulevard de Port Royal of which Professor Pinard is the presiding genius. Each morning at 9 o'clock a party crossed Paris with this object in view and were cordially received by the staff. The hospital is an extensive light wooden structure all on the ground floor, well lighted on every hand, with ample provision for ventilation. It contains 110 beds and the visitor is struck at once by the large allowance of floor space allotted to the beds, greatly in excess of that provided in the general hospitals of Paris. The staff, senior and junior, including the students attached to the service, are dressed in brown holland overalls and the most scrupulous cleanliness is everywhere enforced. We may recall that the clinique was instituted some 16 years ago for the express purpose of providing students with facilities for the study of practical obstetrics, and Professor Pinard on his appointment to the newly established chair availed himself of the opportunity to carry into effect certain principles thanks to which the mortality has been gradually reduced until actually it does not exceed 0·3 per cent. (six deaths on an average of 2500 labours).

The visitors had an opportunity of witnessing various gynæcological operations performed by Dr. Faure and of seeing how the *service d'accouchements* is organised. On Friday they assisted at the clinical demonstration conducted by Professor Pinard when the students in charge of recent labours are called upon to render an account of their stewardship *coram populo* and the salient features of each are emphasised for the information of the others. One point on which special stress was laid was the importance of ascertaining the weight of the placenta in all cases of premature labour in order to assist in the determination of the cause of the premature expulsion. The demonstration was followed by a clinical lecture on rupture of the uterus based on a very interesting and instructive case. A young primipara, whose conjugate diameter, carefully and repeatedly measured, was ascertained to be 9·2 centimetres, in the course of a tedious labour suddenly complained of pain at the fundus of the uterus. At the same time the contour of the abdomen was noted to have changed and on careful palpation a sort of gutter could be made out in the uterine wall. The presenting part (the forehead as it turned out) receded and the diagnosis of rupture of the uterus was arrived at, in spite of the fact that the patient's general condition was comparatively satisfactory. The uterus and the fœtus were forthwith removed but the patient succumbed three days later and the anatomical specimens were shown. Professor Pinard attributed rupture to the thinning of the uterine wall caused by the pressure of the forehead plus the disintegrating effect of the œdema which was well marked. At the post-mortem examination it was found that the conjugate diameter was in reality only seven centimetres owing to compression of the pubic rami. The nature of the presentation was masked by an enormous caput succedaneum, otherwise in all probability earlier intervention would have been judged necessary. The impression carried away by the visitors was that, as a school of practical midwifery, the Clinique Baudelocque occupies a foremost place, not only in regard to the wealth of material but also, and especially, in regard to the eminently practical manner in which the instruction is imparted.

HÔPITAL LARIBOISIÈRE.

On Saturday many surgeons visited the Lariboisière Hospital and there saw Professor Hartmann perform hysterectomy and partial gastrectomy. Among this number were Mr. W. H. Battle, Mr. W. Arbuthnot Lane, Mr. W. F. Brook of Swansea, Sir William Macewen, Mr. A. W. Mayo Robson, Mr. James Berry, and many others. Professor Hartmann's theatre was most up to date in its construction and well lighted. There was ample space for the audience so arranged that all could see. The entire wards, theatre, and attendants were some of the smartest seen by the visitors in Paris. A little sign of this smartness and finish was that the binder of the first patient was beautifully embroidered in red with the name of the ward, Civiale. The surgeon and his assistants made their ablutions at basins in the theatre so that all precautions were under the eye of the operator. Professor Hartmann performed the gastrectomy with the patient in a slightly Trendelenburg position. The glands along the lesser curve of the stomach were cleared out as high as the œsophagus when the coronary artery was ligatured. The operation was carried out on the lines recommended in Kocher's "Operative Surgery." The coaptive and hæmostatic and the invaginating sutures were commenced at both ends and when they met in the middle were knotted. Every fourth stitch or so was knotted by passing through the loop of the last stitch. The duodenum was sutured into the posterior surface of the part of the stomach left. Both in this case and the hysterectomy a drainage tube was inserted apparently because in the latter the Fallopian tubes were full of pus and in the former there was some escape of stomach contents. It is interesting to know that so experienced an abdominal surgeon as Professor Hartmann does not hesitate to use drainage whenever it may be at all advisable. Professor Hartmann's technique is marked by great care, neatness, and attention to detail and does not aim at brilliance or speed. A group of surgeons, including Mr. Mayo Robson and Sir William Macewen, paid a visit to M. Poirier's service on Saturday. The wards were decorated with flowers for the occasion—a souvenir of M. Poirier's English visit. They forthwith proceeded to the operating theatre where they witnessed M. Poirier perform a hysterectomy and sundry other operations. Some of the visitors having criticised the number of beds allotted to the wards, M. Poirier explained that accommodation had to be provided as required and that the accommodation available was far short of requirements.

HÔPITAL COCHIN.

The Hôpital Cochin does not appear to have been visited by such large numbers as some of the other hospitals. At the same time it presents several points of interest to which attention may be called. The old building (which is not attractive from the modern point of view and which is gradually being replaced by well-equipped pavilions) was founded in 1780 by M. Jean Denis Cochin, Vicar of St. Jacques-du-Haut-Pas, who expended a portion of his private fortune in its creation. Originally called Hospice Saint Jacques and comprising only a service of 38 beds, after various changes of name it is now known as Hôpital Cochin (after its founder) with a service of 175 beds. It was impossible to devote the time to a thorough exploration of the place so the visitors elected to view the modern "pavilion Potain" where they were received by Dr. Chauffard, the senior physician, who exerted himself thoroughly to make the visit as attractive as possible. It was not long before the fact was borne in upon the visitors that a great deal of work is got through there during the day and that by a judicious division of labour, and by the cheerful and earnest coöperation of the various members of the staff, many valuable observations on the clinical material available are placed on record. Dr. Chauffard himself made the remark that whereas, in his experience, the hospitals in London cater largely for the personal comfort of the patients, in Paris the necessity of utilising all available funds to their full extent results in the production of institutions where the homely appearance of the wards, &c., is subordinated to the effort to obtain every benefit (scientifically considered) from the clinical material presented by the erection and the support of well-equipped laboratories. Thus in one of the pavilions Dr. Chauffard is provided with a small sanctum, adjoining which is a moderately sized laboratory provided with an electrically driven centrifuge, the most modern microtome (Minot), microscopes, chemical reagents, &c., where, it appears, a considerable amount of work is done, notably in the constant and systematic examination of pathological fluids. As in the case of the Boucicaut Hospital, the wards are dome-shaped and the floors are tiled; the latter slope very gently towards a waste plug in the centre of the ward from which the water, which is used every morning in scrubbing down the floors, runs away. The number of beds and cubic content of the wards are marked on the wall near the door thus: 14 beds, 816 cubic metres. There is a moveable bath in each ward. Standing in the centre of the Salle Strauss is a table of about three metres by one metre, made of "lave émaillée," a very strong material with a smooth surface, which is unaltered by powerful reagents such as pure HNO_3. This description applies only to the pavilion which is being modernised, and in this connexion it is interesting to note that the funds for this purpose (500,000 francs) have been voted by the Assistance Publique who obtained the money from a percentage of the takings of the Pari-Mutuel, a self-adjusting betting machine (so to speak) which was instituted on the racecourses after the expulsion of the bookmakers. When the restoration of this hospital is completed the modern physician or surgeon must indeed be hard to please who should express dissatisfaction with its architecture and appointments.

THE BANQUET.

On the evening of Saturday the visit came to a close with a banquet which was held at the Grand Hotel under the presidency of Professor Bouchard. The President of the Republic was represented officially. The British Ambassador, Sir Francis Bertie, was present and nearly 400 covers were laid. The banquet was a difficult matter to organise, for it is not the custom in France to have very large banquets unless they be of a somewhat improptu description. Fortunately, there is a hall for festivals at the Grand Hotel large enough for such an assembly. The staff which the hotel had at its service was also fully capable of coping with so great a service and the varied *ménu*. The wines were all served in due order to match with the dishes for which they were intended. The following is the *ménu* :—

Petite marmite.
Truite saumonée sauce Windsor.
Côtelettes d'agneau aux nouilles.
Cailles en chaufroix à la gelée.
Poularde du Mans truffée.
Salade.
Asperges d'Argenteuil sauce Chantilly.
Mousse glacée Alexandra.
Friandises.
Corbeilles de fruits.

VINS.
Tisane Saint-Marceaux.
Graves supérieur—Médoc vieux.
Château Cantegril—Château d'Isson 1896.
Corton 1889.
Saint Marceaux extra dry.
Café—Liqueurs.

It was printed on paper ornamented with shamrocks, thistles, and roses, gracefully entwined and tied together with a tricolour ribbon. Immediately above the President, and suspended in front of a balcony, were the arms of the Paris Faculty of Medicine in coloured glass and illuminated by electricity. Other suitable decorations, a profusion of flowers, and the beauty of the great hall itself made up a very imposing and brilliant sight. Unfortunately there were no ladies present. It would not have been possible to augment so largely the number of guests ; but, on the other hand, the ladies were all provided with seats at the Grand Opera. The English ladies were formed in groups, each group having a French lady to act as hostess. At the opera the owners of private boxes gave them up and the other boxes were engaged so that all the boxes were filled by English ladies and the French ladies who accompanied them. Never has the Opera House presented so peculiar and graceful an appearance. Not only was there no gloomy male attire in the boxes but the beauty and cheerful colours of the ladies' dresses were further enhanced by the flowers that had been distributed among them. During the *entr'actes* very delicate bonbons were handed round. The performance consisted of the revival of Gluck's opera, *Armide*.

To return to the banquet, by Professor Bouchard's side were seated Lieutenant-Colonel Lamy, representing M. Loubet, President of the Republic, and Sir Francis Bertie, British Ambassador. There were also M. Lepine, prefect of police, and M. Mesureur, director of the poor-relief administration (Assistance Publique), and, naturally, the best known among the British visitors and the French hosts.

At dessert Professor **BOUCHARD** commenced the series of speeches. Unfortunately his voice could only reach those who were sitting quite close to him. He had received a telegram sent to him from Montélim by M. Loubet worded as follows :—

> I keenly regret that to-day I am not able to be in personal communication with the eminent men now gathered together in Paris. I beg you to tell your English and French colleagues that with all my heart I wish them success in their humanitarian task. The relations so happily established at London in 1904 and at Paris at this moment will surely serve to assure progress in the art of relieving human suffering and will contribute to maintain and to develop the cordiality established between two nations that are neighbours and friends.
>
> EMILE LOUBET.

This message was naturally greeted with very loud cheers, but the applause was still greater when Professor Bouchard further announced that he had been instructed by the President of the Republic to confer on Sir William Broadbent the Cross and Insignia of Commander of the Legion of Honour. Sir William Broadbent was called upon to stand up. Professor Bouchard then fastened the bright and much-coveted red ribbon round his neck, and embraced the new knight of this the greatest of French Orders. The band of the 24th Regiment of Infantry struck up the British National Anthem and the greatest enthusiasm prevailed. Professor Bouchard seized the opportunity to invite all present to drink the health of President Loubet and that of His Majesty King Edward, which was done with a fresh outburst of enthusiasm.

Professor Bouchard now strove, amid much noise and excitement, to conclude his speech. After alluding to the great discoveries of Jenner, Lister, and Pasteur, he said: "These are conquests that are more precious than those accomplished by the force of arms. Domination is one thing, moral domination is quite another matter—that which has for weapon but the light of truth and for means of action but the force of persuasion. In this magistrature of universal moral government we do not surrender the part which is ours and which is constantly increasing. The great medical discoveries achieved in both our countries are not foreign to the moral credit we enjoy. The peoples know what services we have rendered them. Consequently they will listen to us when in politics we press upon them words of justice and ask them to accept counsels of peace." Then alluding to the visit to the mansion which a prince of the House of Orleans had bestowed on the institute, Professor Bouchard said: "For long have the oppressed looked towards France and it is on the coast of England that the conquered in our civil discords and the princes in exile have found a safe refuge. Yesterday you admired at Chantilly the marvels which a sumptuous prince had accumulated. He was thus able to return to you some of the hospitality he had received in your country."

Sir **WILLIAM BROADBENT** now rose to reply, but he was heard no better than the previous speaker. Therefore as only a few persons sitting close by could hear the others indulged in whispered conversation and this rendered it still more difficult to follow the speech. The same difficulty arose in regard to most of the speeches. Sir William Broadbent offered his thanks for the eloquent words that had been spoken. He thanked his colleagues of England and France for the enthusiasm with which they had greeted all allusions to the friendship of the two nations. After three such memorable days culminating in the great honour that had most unexpectedly been bestowed upon him by the President of the Republic through the intermediary of his friend, Professor Bouchard, he felt overwhelmed and could not find adequate expressions to describe his delight and gratitude. He then enumerated the various great receptions, that of the Faculty of Medicine, the resplendent scene at the Hôtel de Ville, the beauties of Chantilly, the theatrical representations at the Automobile Club, and everywhere the same cordiality, the same desire to see the two nations draw closer to each other. He could not but wonder at all this, particularly when he thought that it was all in honour not of some great potentate but simply for the sake of a few medical men. "This is how kings are received," said Sir William Broadbent ; "you could not have done better for Edward the Pacificator who so loves us and loves you with us." At the Pasteur Institute and elsewhere he had heard speeches the memory of which he would always recall with pride. Their deepest emotion was experienced at the tomb of Pasteur, for his name was ever on their lips. And had not Pasteur preached the great gospel of Labour and Peace? But some sceptics might inquire what, after all, could the three days do in the history of the world. He was convinced that they had served to forge a link in the chain. Formerly chains were made with blows from great hammers. Now they were soldered with electric currents, but in their hearts and minds they possessed that which was stronger even than electricity.

Many cheers followed this speech and much was the surprise of the British visitors when the band struck up, "For he's a jolly good fellow."

Professor **DEBOVE**, dean of the Paris Faculty of Medicine, now spoke. He argued that there was nothing very remarkable in the fact that persons who belonged to the same profession should dine together. But when they considered how numerous they were, when they observed their unity of purpose and the spontaneous character of their demonstration then its importance became evident. That was even more evident when the fact was added that there had been no official instigation. They must then recognise that the force of attraction must indeed have been most powerful to bring about so imposing, so magnificent a result. Nothing had held them back, neither the distance, the lack of time, nor the sea that had to be crossed. It was by the force of circumstances that their speeches assumed a political tone This resulted from the good understanding between the two countries and from the peculiar situation in which medical men were placed They were compelled to take part in the private life of all classes of the community, therefore they were best able to make an impression and to insure that the voice of reason should be heard The medical practitioner was in a good position to recall the fact that there was a moral law governing the relations of nations with each other and that free peoples should unite to enforce its due observance. Thus united by the same love of science, by the desire to see justice and concord prevail, they could say that if their lips spoke different languages their hearts had but one desire

Professor CLIFFORD ALLBUTT replied and said that if in the manipulation of words they had fallen short of the exigencies of the situation their feelings were none the less keen and sincere

Dr P H PYE SMITH spoke in French and in English, recalling his experiences as a student in Paris

Dr STRAUSS, Government Military Inspector of the Paris Garrison, alluded to the services of the military surgeons of England, such as Hunter, Pringle, Longmore, and others Their works were known and highly appreciated in France

Surgeon General KEOGH replied that he had found that the great traditions left by Baron Larrey, the chief surgeon of the armies of Napoleon I, were still piously preserved and remained as an example of what the military medical service should be He then alluded to Paris as the capital of a country loved and admired throughout the world and spoke of the joy that all

Dr J e

receptio s

in French and the other half in English He dealt on the fact that if medical men were patriots their scientific studies helped to lift them above any narrow and prejudiced form of patriotism

Sir WILLIAM MACEWEN replied in English, and declared that even so he could not express all his gratitude He alluded to the glories of Broca, Charcot, and Pasteur, who had laid the foundation of new schools

Dr BALZER, president of the Medical Society consisting of the staff of the different hospitals, explained the organisation of this body and its sympathy with the *entente cordiale*

Dr BRUCHET spoke as president of the council of the Society of District Practitioners He represented the democracy of the medical profession Their endeavour was to maintain unity within the ranks of the profession and to give to the weak and poor practitioner the strength derived from union and organisation He raised his glass to the health of the general practitioners of England

Dr GEORGE OGILVIE'S amusing and thoroughly French speech should be given as he spoke it —

Monsieur le Président Messieurs, he said, mes paroles ce soir sortent difficilement Je ne suis pas à mon aise, ni dans mon assiette—excusez l expression, messieurs Je me sens un peu timide, non parce que je parle devant vous, Monsieur le Président devant l élite

mais parce que c est la première

m exprimer en langue française depuis q

de la Légion d Honneur Je suis très

tinction, et je l apprécie d'autant plus, qu'elle me vient de la France Messieurs, ce soir j ai la tête aussi pleine d idées que la ruche est pleine d'abeilles et ces idées ont autant d envie de sortir que la reine des abeilles en a de s échapper pour prendre son vol nuptial au mois de juin Mais cependant je crains bien que votre hospitalite française n ait apporté un peu de trouble dans mes idées, et maintenant je ne rends

mon pays natal, le pays de Marie Stuart, un petit pays qui n'est pas tout à fait inconnu dans le vôtre, et dont Boieldieu a chanté l hospitalité dans la Dame Blanche Le maire d une ville avait rencontré au marché le maire d une ville voisine, et l'avait invité à diner Le diner fut simple, mais copieux, et abondamment arrosé de vin capiteux Au moment de se séparer, en reconduisant son invité à la porte, l'hôte lui dit *prenez garde aux marches*, cet escalier est un vrai casse cou, et quand vous arriverez au bas, vous verrez deux voitures—prenez la premiere, car la deuxième n est pas là Voilà, messieurs, l hospitalité écossaise, et j'espère que la votre n'aura pas le même effet sur vos invités Je ne crains rien pour moi même, car je suis habitué à l hospitalité française Je m'aperçois, messieurs—par les rires de l assistance—que l humour écossais va de pair avec l'esprit gaulois, c'est comme le champagne sec, it faut avoir un goût cultivé pour l'apprécier Messieurs, nous sommes à Paris, et nos quatre jours ont passé comme un eclair Il n'y a pas d étrangers qui vraiment connaissent Paris Vos magnifiques boulevards, les musées du Louvre, les Champs Elysées, les Invalides, ne sont qu'une petite partie de Paris *Pour être capable d'apprécier le* charme et la beauté de la ville lumiere il faut être un mélange de savant, de *philosophe*, et de boheme Suivre les pâles rayons de la lune éclairant la magnificence solennelle de Notre Dame, et la longue ligne d édifices qui s'étend de la Sainte Chapelle aux Tuileries Se tenir sur le Pont Neuf, quand les lampes jettent leur lueur blafarde sur les eaux agitées de la Seine, et assister à la lutte entre le soleil et les ténèbres Parcourir les boulevards silencieux pendant que la cité est endormie Ecouter le bourdonnement de la ruche à son réveil Flâner dans les rues du Quartier Latin, où chaque pierre évoque des souvenirs S asseoir dans un petit café, dans une rue étroite, au milieu d artistes atteints de cette maladie splendide—le génie Voilà ce qui est voir et connaitre *Paris Incomparable* cité! Enfantée par la nature, vénérable par l'âge, mais toujours jeune Pour la célébrer, il suffit d'exprimer ce qu elle est, le monument et le foyer d un grand *peuple* Que dire de votre école de médecine, de vos hôpitaux, et de tous vos géants du passé—Louis, Trousseau, et Pasteur, qui ont fait jaillir la lumiere des ténèbres—Larrey, Dupuytren, et Nélaton, qui ont mis de l'ordre, là ou était le chaos, et j en passe, je ne parle que des morts, car il m en faudrait citer trop de vivants Puissent ces génies nous servir à tous d exemple dans la recherche de la vérité, suivant ce que disait Rousseau dans Emile—" Je *sais que* la vérité est dans les choses et non dans mon esprit qui les

de rendre le petit coin de l'univers où nous vivons plus humain, plus sage, et plus heureux Tout à mon admiration pour votre magnifique cité, et à mon affection pour vos géants du passé j allais presque oublier, Messieurs, de remercier les vivants pour leur splendide réception Que puis je dire sinon, merci à tous, millefois merci Chacun de vous a été si gentil pour nous qu'il m'est impossible de vous nommer tous Pendant qu il me soit permis de citer un nom, celui du Dr Triboulet, dont l'esprit d'organisation, et l'amabilite ont assuré le succès de cette fête cordiale Messieurs permettez moi de vous présenter, au nom de mes compatriotes, nos plus sincères remerciements—et ils partent du cœur—pour cette visite, qui vivra à jamais en notre mémoire Messieurs je crains d'avoir trop parlé, de vous avoir ennuyés, peut etre mon imagination a t-elle pris le mors aux dents? Ce n est pas ma faute, c est la faute de ma nationalite car quand l imagination s'empare d'un Ecossais, elle le possède dans le vieux sens biblique du mot, c est comme un volcan, que rien ne peut éteindre Encore un mot, Messieurs A Québec, au Canada, reposent dans le même

un héros français, un héros anglais,

Ils ont lutté tous deux sur le même

s ont perdu leur vie pour leur pays Ils

côte à côte, leur dernier sommeil, honorés

également par l'Angleterre et par la France Messieurs, dans les âges futurs si on élève un monument à la France et à l Angleterre, je souhaite qu'on lise sur son socle—La France et l'Angleterre unies pour le progrès et pour la paix

Dr MONPROFIT spoke on behalf of the French provincial physicians and surgeons and after a few words from Mr LYNN THOMAS the long series of toasts came to an end

The dinner was the formal close of the meeting, after which the English visitors departed in two groups to visit Vichy, Lyons, Evian and Geneva, *or Biarritz and Caen*

As well as the formal functions and receptions we must notice in a few words the individual hospitality of our French hosts This was of the most lavish description, in fact they all kept open house for their guests from Great Britain, the cordiality of the welcome being enhanced by the graceful tactfulness of the French ladies Those who know how rigidly separate the French home life is kept *from* the life of affairs will understand that our French *confreres* were thus conferring upon their visitors a high compliment It is quite impossible to chronicle all the festivities prepared by our kind hosts in their own homes, but amongst the French medical men who entertained were Dr Bouchard, Dr Lucas Championniere, Dr Huchard, Dr Raoul Blondel, Dr. Landouzy, Dr Marie, and Dr Carré.

THE LANCET.

LONDON: SATURDAY, MAY 20, 1905.

The Financial Relations of the London Hospitals and their Medical Schools.

WE publish this week an address dealing with the financial relations that exist between the London hospitals and their associated medical schools by Mr. HENRY MORRIS, the representative of the Royal College of Surgeons of England upon the General Medical Council and senior surgeon to the Middlesex Hospital, who has studied the bearing of these relations with particular closeness. Mr. MORRIS fairly and forcibly puts his views upon a situation which is so familiar to our readers that it needs only the briefest *résumé* here. It is sufficient to say that the greater number of the medical schools of the metropolis are no longer self-supporting and that as a result they are, or have been, in greater or less measure subsidised by the hospitals. Into this matter a committee was appointed by King Edward's Hospital Fund to inquire, with the result that it reported that at least eight metropolitan medical schools have received pecuniary support from funds which should strictly have been devoted to the maintenance of the hospitals although at most or all of the schools the teachers have during the last decade done their work for practically no salaries, thus reducing expenditure to the utmost. This position—one, we would point out, entailing upon the medical teachers of the metropolis an amount of self-sacrifice which is very inadequately recognised—has been brought about, without entering into details, by two circumstances. The first is the increased cost of medical education and the second is the increased popularity of the provincial medical schools which are supported by students who until recently came as a matter of course "to walk" one of the London hospitals. The committee of the King's Fund, in making clear the unfortunate financial position, in no sense regarded the assistance given by the hospitals to the medical schools as constituting a vicious diversion of funds or an immoral breach of trust but it came strongly to the conclusion that for the future the moneys received for medical education and those received for the maintenance of the hospital must be kept separate. As a comment upon the bad economy of the arrangements for medical education which necessitated the keeping of 12 separate foci for instruction in the elementary and ancillary scientific branches Sir EDWARD FRY'S committee warmly endorsed the plan of the University of London for starting a Medical Institute for the centralised teaching of such subjects. Such is, in brief, the admitted position and Mr. MORRIS'S oration amounts to a distinct opposition to the views of Sir EDWARD FRY'S committee. Mr. MORRIS recognises the plight of the schools perfectly but he does not agree that a central school would have the result of relieving or improving it.

In the first place, Mr. MORRIS considers that medical education resulting in exact knowledge, and hence in scientific treatment, was, or should have been, one of the objects of the benefactors of hospitals, so that the question of immoral diversion of funds he does not consider to arise. But we must all see the necessity for medical charity to be above suspicion. We must be able to close the mouth of criticism whether honest or whether merely posing as care for the public weal, and the only way in which this can be effected is by rigidly keeping the hospital moneys for the support of the hospital. Mr. MORRIS points out that the hospitals owe more to the medical schools than the medical schools owe to the hospitals; and in a sense this is undoubtedly true, but if it is not absolutely sure that the hospitals have the power to pay the debt they must not be allowed to make the attempt. Nor is it any excuse for irregular finance to plead that the irregularity is only a little one. The amount paid by the hospitals to the medical schools is relatively very small when the huge outgoings of the big general hospitals are considered, and even the handsome contributions made to hospital expenses by the King's Fund only meet a small percentage of the absolutely unavoidable expenses. Still, it is clear that no hospital should run counter to the wishes of the King's Fund, for this Fund and the Metropolitan Hospital Sunday Fund represent order and organisation in medical charity, and as such are regarded as public safeguards. So that for the future the medical schools of the metropolis, with a continually dropping list of entries, will receive nothing save the students' fees for their support unless they can promptly institute special school funds. This is the course which Mr. MORRIS recommends should be taken rather than the adoption of the centralisation scheme of the University of London, for that scheme he finds absolutely uneconomical, unscientific, and impracticable. He points out that the central institute is not yet built, that it will cost an enormous sum to build it and another to endow it, and the result must be, he thinks, that in the end the medical student would require considerably more money per head to educate him than he now costs. Mr. MORRIS argues with conviction that anatomy and physiology should never be divorced from the general study of disease, as a knowledge of these subjects remains, and must always remain, an integral part of the practice of medicine, he dwells on the vast size of London as an obstacle to the utility of a central medical institution to be placed in South Kensington, and he pertinently asks what is to be done now, as it is evident that the central institution, whatever its success may be when it is a going concern, will not be ready to do its work for some time.

Our readers know that we favour strongly the idea of a central institution and although Mr. MORRIS'S position is in many respects a strong one—and everyone should read his address and learn for himself how forcibly the situation can be described *from the other* side—he has not been able to alter our view. It seems to us that there will be a most valuable economy of labour by teaching all the preliminary medical studies at a central institute, in time there will, we believe, be also a saving of money, and medical education will be improved much in all its later stages by the more orderly and satisfactory grounding that the students will receive. The vastness of London can be got over by having more than one amalgamated school and the difficulties owing to the delay that must occur before the central institute, as devised by the University of London, is in working order can probably also be met by the use of temporary sub-centres. But these are matters on which the medical profession ought now to be receiving more information from those actually interested in the promotion of the central institute. The arrangements by which sub-centres could do the work of the central institute for the time being ought to be arrived at soon and the medical schools of the metropolis ought to know their individual chances under such a temporary scheme. The sub-centres would have their quarters at existing medical schools and the other medical schools ought to know as soon as possible what steps will be taken to safeguard their property in their pupils. The movement for concentration has actually commenced with the transfer by Westminster Hospital Medical School of their students to King's College Medical School for instruction in the subjects of the preliminary and intermediate examinations. An arrangement has been made by which the students will remain students of Westminster, which is satisfactory hearing. The unrivalled clinical teaching in the wards of the London hospitals must not be jeopardised by the retention as permanent students at two or three centres of all the attendants at the scientific classes.

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The Relation of Milk Depôts to the Public Health.

IT is a strange satire upon preventive medicine to have to admit that although our general death-rate has undergone, and is still undergoing, a steady decline our infantile mortality should show not only no substantial fall but even in some instances a tendency to rise. It is difficult to believe that none of the forces which have been associated with the reduction of the general mortality should have been without influence upon our infantile mortality, to admit, in fact, that the improved well-being of the poorer classes, their better housing, their higher wages, their improved water- and air-supply, and the better regulation of refuse collection, should, in so far as the infants are concerned, be without effect, more especially when to these considerations we have to add over a quarter of a century of compulsory education. Still, if we claim such good results we are apparently compelled to conclude that this increased well-being has brought with it fresh forces which entirely, and in some cases more than, counterbalance the good, in so far at least as the infants of the working classes are concerned. Probably, however, this is a sound conclusion, and in a measure the increased prevalence of urban conditions, the disinclination and, at times, inability of mothers to suckle their young, female labour, and the diffusion of cheap brands of skimmed milk and of artificial foods are counteracting the improvements which obtain in other respects. In short, the high infantile mortality of the present day is an exceedingly complex matter and is the result of many forces. Those, therefore, who seek to attribute it entirely to an unwholesome milk-supply are eminently unscientific persons who must be classed with those who seek "to stamp out" pulmonary tuberculosis by the use of sanatoriums alone. But, this notwithstanding, there can be no reasonable doubt that a very substantial share in the causation of infantile mortality, more especially during the hot months of the year, must be claimed for the unwholesome milk which is supplied to the children of the poor, and it is this knowledge which is inducing some of our large towns to embark on the establishment and the maintenance of milk depôts, a name which at the present time is largely synonymous with the supply of sterilised or at least pasteurised milk. We are anxious, however, in this article to point out that the supply of sterilised or pasteurised milk is, or should be, but a very small portion of a municipal milk-supply, and it is that portion of it which could perhaps be most easily dispensed with. We are, indeed, very glad to see that Dr. G. F. MCCLEARY, whose milk depôt in Battersea is known to a large section of the medical profession as well as of the public, has lately drawn attention to this aspect of the question both in his work on "Infantile Mortality and Milk Depôts" and in an admirable paper which he read in February last before the Society of Medical Officers of Health. In that paper Dr. MCCLEARY expresses the opinion that "any methods having for their object the purification or quasi-purification in the city of milk already polluted in the country—such methods as sterilisation, pasteurisation, centrifugalisation, or filtration—must be regarded merely as makeshifts to be abandoned when better methods become practicable." This is in our view a thoroughly sound and statesmanlike position and it is one with which apparently Dr. GEORGE NEWMAN, the medical officer of health of Finsbury, who has lately taken part in the organisation of a depôt in Finsbury on the lines of some of the French depôts, entirely agrees.

It can, of course, hardly be seriously urged that nature has intended the young of one species to be nourished by the modified milk of another species and, assuming that the mother be healthy and able to suckle her young, she should be strongly urged, more particularly by her medical adviser, to do so rather than to shirk her responsibilities by procuring modified cows' milk at the municipal depôt, and the promoters of such depôts should use every legitimate means of bringing home to the mother her responsibilities to her child and to the State. In fact, this education of the mothers of newly born infants should be one of the most important functions of every sanitary authority and the milk of the depôt should only be employed, as a rule, as a *pis aller*. This is in no sense equivalent to an argument that such institutions are unnecessary; indeed, in our view there should be such an institution in connexion with every urban district, as also well-trained female inspectors to control the use, and to prevent the abuse, of the milk. But such a depôt should not only supply sterilised or pasteurised milk but also fresh, pure, whole milk drawn and kept under the most wholesome conditions. There are, too, obvious advantages in supplying such milk in sealed bottles. The homes of the poor and the habits of the inmates are such as to render it almost impossible to protect the milk against home contamination and it is this contamination which has a decided influence in maintaining the high infantile mortality.

Some of the advantages of a municipal supply of milk may be gathered from the fifth paragraph of the Battersea contract, which specifies not only that the milk shall be of proper composition but that it shall be drawn from healthy cows and be free from chemical preservatives and colouring matter. The members of the medical profession in Battersea have, too, borne almost unanimous testimony to the value of this milk and their evidence is certainly of more value than much statistical matter. Great, however, as are the advantages of these municipal depôts, more particularly perhaps in an educational aspect, their influence as yet in relation to the total population is likely to be but small. In order that a general reform may be brought about it is necessary that there should take place an awakening of the public health conscience in the matter of better milk control. What is wanted is a record for the enlightenment of the public of the conditions which are actually found in the vast majority of the cowsheds in this country, where there are deficient light, defective ventilation, and bad drainage, and where neither the cows' udders nor the milker's hands are washed. The Liverpool and Manchester milk clauses which give these towns, under certain conditions, control over the cowsheds, and so on, outside the city from which milk is supplied to the inhabitants are admirable, but unless our rural districts will recognise their responsibilities the town dweller will continue for some time to come to imbibe unwholesome concoctions for milk. It is true that, as Dr. McCleary points out, our county councils might take more action in the matter but, unfortunately, the past history of county councils in this direction does not hold out much hope that reform will come from this quarter. For ourselves we should be glad to see a survey undertaken by the medical department of the Local Government Board of some of the cowsheds in each county and a report made, accompanied by illustrations, of the conditions actually found to exist. In this way we might hope to see some awakening of the public health conscience in rural districts. In the meantime it is satisfactory to note that the Local Government Board for Scotland has recently issued some model regulations relating to dairies, cowsheds, and milkshops which in several particulars are in advance of those issued by the Local Government Board for England and Wales. In the past it is possible that too much attention, relatively, has been paid to the prevention of the spread of certain infectious diseases through the agency of milk, but having regard to the influence of impure milk upon infantile mortality a general attack upon darkness and filthy methods in the cowsheds of this country might be expected to yield an equally abundant harvest. The milk should be drawn from healthy cows in the open field where practicable, the udders of the cows and the hands of the milkers should be carefully washed prior to each milking, and the milk should be forthwith strained and cooled and sent to its destination in sealed cans in vans so constructed as to keep the milk at the lowest temperature practicable during the transit. If this were done the necessity for sterilisation at the depôts would be materially diminished and pasteurisation at the farm might entirely do away with such necessity. At present, however, sterilisation or pasteurisation is in many instances absolutely necessary for the satisfactory working of the depôts, more especially during hot weather, and the statistics furnished by Liverpool and other places, although obviously open to criticism, are such as to point to the conclusion that material benefit accrues in the homes of the poor from the employment of such milk.

The Pathology of Epilepsy.

Much has been written concerning the pathology and the etiology of epilepsy but these questions cannot be said yet to have passed the stage of surmise. The name of Dr. J. Hughlings Jackson has become indelibly associated with the phenomena of convulsions provoked by certain lesions in the motor area, but in discussing the pathology of "epilepsy" that of the idiopathic form is usually understood and it is in this sense that we use the term here. Inheritance plays a prominent part in the etiology of this condition and the morbid state has been supposed to consist of some minute alteration in the chemical constitution of the grey matter of the brain. The recurrent "nerve storms" which constitute the disease have not, however, been adequately explained and no characteristic macroscopical or microscopical changes have yet been described.

In the *Journal of the American Medical Association* of April 29th Dr. B. Onuf reports the results of necropsies on the bodies of 16 patients who had suffered from epilepsy at the New York State Institution for Epileptics. In 12 cases there were valvular changes of the heart, most frequently of the mitral valve (80 per cent.). Lesions of the aortic valve were less frequent and alterations of the tricuspid valve were still more uncommon. Dr. Onuf considers these lesions as secondary results of the special strain induced by the major epileptic attacks. The cardiac conditions thus described are significant, for it is well known that a patient who is the subject of bradycardia may exhibit epileptiform attacks, and as bradycardia may result from changes in the myocardium it would be interesting to know whether any myocardial changes were noticed in the cases examined by Dr. Onuf. Capillary changes, tortuosity of the vessels, and aneurysmal dilations were observed in several cases and were also attributed to strain. In eight of the cases in which the lungs were examined acute pneumonia was found as a contributory cause of death. The cerebral changes are stated to have been very striking. In ten cases there was a marked thickening of the pia mater over the fronto-parietal lobe. In other cases there were vascular lesions—circumscribed atrophy of one frontal lobe, subdural hæmorrhage (one case), internal hydrocephalus (one case), cerebellar cyst (one case), and shrinkage of the convolutions of the vermis and adjoining cortex (three cases). The most marked changes, however, were noted in the thalamic region. These were of the nature of atrophy, sometimes the pulvinar, sometimes the other, portions being most notably affected. There was also an apparent discrepancy in the proportions of the geniculate bodies. Dr. Onuf discusses the possible relations of these thalamic changes to the epilepsy but he does not venture to express an opinion as to whether they are directly connected with the attacks or are only part of a general pathological condition of the brain. He suggests that there was probably optic atrophy in some of these cases and therefore he lays stress on the importance of an examination of the fundus in patients suffering from epilepsy. Such marked changes as Dr. ONUF describes have not been recorded by observers in this country.

Sir WILLIAM GOWERS[1] has made some valuable comments on this subject which support Dr. ONUF in the reserve which he rightly maintains in the conclusions which are to be drawn from the results of his examinations. Sir WILLIAM GOWERS points out that the "instability" of the cerebral motor functions, instead of being solely due to alterations in the chemical constitution of the grey matter, may be the result of obvious disease. It is not indeed due to disease that can be seen in the damaged part, but beyond the visible disease, whatever its nature, is a zone of altered nerve tissue in which the slightness of the change permits activity in altered form. In such cases the morbid discharges constituting epilepsy may take place. Arising locally, they spread through the brain according to their energy and then leave a tendency to repetition which involves parts unaffected by the primary disease. The same writer proceeds to state that, although it is not customary (as we mentioned above) to include under the term "epilepsy" active progressive brain disease, such as a tumour, even though it cause epileptiform convulsions, yet there is a large class of cases of considerable interest in connexion with organic disease. In these instances there is an old spot of disease which induces the nervous discharges which may be slight or local at first but may spread when more intense and ultimately leave a general disposition which may hardly be distinguishable from idiopathic epilepsy. Some of Dr. ONUF'S cases may perhaps be placed under this heading. His observations are well worthy of note but whether the records have added materially to the present pathology of epilepsy is open to doubt nor does he advance any claim of this nature. That so many and varied morbid conditions were found in the cases which he examined accentuates the difficulty that is experienced in arriving at any definite conclusion as to the precise pathology and morbid anatomy of epilepsy.

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Some Considerations connected with the Relative Immunity of the Japanese Armies from Typhoid Fever.

AMONGST the many points that have served to rivet public attention on the stupendous war in the Far East none has done so more, perhaps, than the signal success which has attended the efforts of the Japanese in dealing with the so-called preventable diseases of armies in the field. It is notorious that in every great war of history disease has proved a most treacherous and dangerous foe and has given rise to far greater losses than have arisen from the wounds and casualties caused by the weapons of the belligerents. With the Japanese the case has, however, been different; they have succeeded in minimising the losses from disease and in obtaining results in this respect which have not been hitherto attained by other nations in war. All who have dealt with the medical history of this war have borne testimony to the admirable organisation of the Japanese and to the thoroughness with which every detail connected with their sanitary and medical arrangements has been thought out beforehand, as well as to the skill displayed in practically adapting these to the end in view. The striking statistical results which have been published have called attention to the success that has attended their efforts. These results as regards the greatly decreased scale of sickness and mortality which they set forth are in striking contrast with the experience of Europe and the United States of America in modern war. Are these results to be ascribed solely to the efficiency of the Japanese sanitary and medical systems or have there been any other factors or contributory causes at work in the case of the Japanese armies in Manchuria which have also to be taken into account?

In order to illustrate the point which we are more especially seeking to elucidate let us take the most important disease of modern war, typhoid fever. It is the scourge of European armies operating in the field, especially, perhaps, in the case of operations conducted in hot climates, and the United States in their recent war had the same experience. It has been said that typhoid fever has no geography: it is ubiquitous. The typhoid bacillus, about which and its life-history our knowledge has of late years become so much more extended and precise, is far more widely distributed in nature than is generally imagined. It is no longer to be maintained that this fever is an exclusively water-borne disease, although sudden and rapidly spreading epidemic outbreaks of it are, no doubt, more readily explicable in that than in any other way. But the investigations made after the Spanish-American war into the causes of that fever in the vast camps occupied by the United States troops, together with those of a German scientific commission of later date and the results of experimental observations in this country, have tended to enlarge our views about the existence of vehicles and sources of infection other than water, of a direct and indirect nature. In the case of the Japanese armies it is very important to note that, in addition to the great attention paid to sanitation, typhoid fever is treated as a contagious disease and the sufferers from it are carefully isolated. It is difficult to understand how in this way the dissemination of the bacillus can be prevented altogether, considering the length of time during which it may be detected in the urine, but possibly some of the immunity enjoyed by the Japanese has been due to these laudable precautions. Race, however, has probably played a part in this immunity. Without dwelling unduly upon the influence of race it has, nevertheless, to be recognised as a matter of ordinary observation and experience that Asiatics, native races and those indigenous to the soil, possess a relative immunity, real or acquired, from the diseases common to their own climate, as compared with European and other immigrant races foreign to it. It may be that such immunity in the case of typhoid fever, for example, is attributable to the fact that the natives have in infancy or early life paid their tribute to that disease or it may be that from the nature of their environing conditions they become possessed of an acquired tolerance rendering them immune. But may it not also be suggested that the relative immunity of Asiatics in general, and of the Japanese soldier in particular, from typhoid fever is not so much attributable to any racial as to physiological differences from the European owing to the nature of his food and his habits and customs?

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[1] Professor Allbutt's System of Medicine, vol. ii., p. 761.

The typhoid bacillus may find a most unfavourable soil for its growth and development in the graminivorous, rice-eating Japanese soldier, as compared with that to be found in the body of the flesh-feeding European, for example, whose diet so largely consists of meat and alcohol in some form or other. The bacterial intestinal flora may be very different in the two cases. An effort has been made in India of late to solve the problem as to the prevalence or not of typhoid fever among its native populations by means of the serum agglutination and sedimentation reaction test, with the result that typhoid fever is believed to be more common among the natives of India, and especially among native children, than has been supposed. Still, there cannot be any doubt that the prevalence and the mortality from this form of fever among the natives, as tested by ordinary Indian experience and corroborated by the records of the native army and jail population, are quite insignificant as compared with what obtains in the European army serving in that country; to which it may be added that the cases of typhoid fever which do occur in the native army are mainly among the Gurkha troops who are meat-eaters and spirit-drinkers. Moreover, from what is known of the well-nigh universal habits of the native population in regard to fæcal contamination of the soil the amount of typhoid fever among them should be proportionately large if their excreta were sowing the soil with its bacillus. There are no sewers in the plains of India and, speaking generally, next to none in the East or in subtropical climates, consequently the inhabitants are compelled to have recourse to the soil for the disposal of their excreta. In the case of the native jails in India this has long been done without having been found to cause outbreaks of typhoid fever in the jail population. The adoption of a dry-earth system, on the other hand, may be, and probably is, a dangerous method for the disposal of fæces in the case of communities so liable to typhoid fever as European soldiers have always shown themselves to be when living under the conditions of field service—presumably because of the risk of introduction of the bacillus to susceptible hosts. Assuming, as we must do in our present state of knowledge, that the typhoid bacillus is veritably and indeed the cause of that disease, the problem may be summarised in the following questions: To what is the relative immunity of Eastern peoples from typhoid fever due, and has such an immunity played any part in the case of the Japanese armies operating in Manchuria? If this latter question be answered in the affirmative, it may be suggested as a subject for further inquiry whether this relative immunity from, or insusceptibility to, typhoid fever on their part, as compared with our experience in the case of European armies generally, is attributable in any way to their environing conditions, and especially to their system of dietary. These questions cannot be answered definitely without exhaustive and statistical examination of the available evidence, but we may be permitted to surmise that the diet of the Japanese, no less than their admirable tactics of precaution, has saved them from the scourge of typhoid fever.

Annotations.

"Ne quid nimis."

THE INFLUENCE OF TRADITION ON MEDICAL PRACTICE.

At a meeting of the Manchester Medico-Ethical Association held on April 18th Dr. S. Holgate Owen opened a discussion on *the Influence of Tradition on Medical Practice.* He pointed out that it was extremely difficult to judge correctly of tendencies in any social or scientific organisation when viewed within a short space of time but that, as regards the organised practice of medicine, the trend of method had, during the past 30 years, undergone a change which was almost revolutionary. The wider the range of survey the more it was found that fixed principles, established rules, and uniform systems, or what used to be called "orthodoxy," were becoming uncertain as guides and less influential upon the minds and the action of medical men. In the midst of this apparent instability, and, as if to taunt us with our want of light and guidance, there came to us from many parts of the world, but especially from America, drugs of all descriptions suitable for all complaints and said to be absolutely certain in their curative effects. This absence of systemisation might be observed in all countries. France, Germany, and America seemed to be devoid of any authoritative teaching in the medical art; there was no medical school or society anywhere which at the present time could agree to promulgate any system or mode of treatment which could be influential beyond its immediate surroundings or for any length of time. Scholasticism, indeed, had received its death-blow, but only within a century ago. Although medicine had now asserted for itself a position among the sciences, it must be remembered that traditional influence had held universal sway for nearly 2000 years—namely, from the time of Hippocrates to the beginning of the seventeenth century, the period of William Harvey and Thomas Sydenham, when scientific discovery began to lay the ghosts of superstition and dogma. The spirit of dogma, however, survived to the beginning of the nineteenth century. At the present juncture social and scientific developments were taking place which were influencing the practice and, Dr. Owen believed, the status of the medical man. The rapid advance which public sanitation, domestic sanitation, and personal hygiene were making, on scientific lines, was forcing its way at the urgent demand of a social development unprecedented in rapidity and intellectual breadth at any previous period of our history. The problem which now faced us every day was less frequently, What are we to give to cure a disease, and more commonly, How are we to correct the error of life through which it has arisen and to prevent its occurrence?

HOSPITALS AND THE WELL-TO-DO.

In a recent case heard by Mr. Justice Darling and a common jury Mr. Bale, a tailor, sued the London County Council for damages for personal injuries and for damage to a trap received through a collision with a tram-car in the Camberwell-road. Mr. Bale was awarded £314 and Mr. Justice Darling, in alluding to the particulars of special damage, said that he noticed that the plaintiff had been treated at St. Thomas's Hospital. He did not, however, see that any payment had been made to that institution. Mr. Bale was a well-to-do man and could afford to pay something. Hospitals were intended in the first place for persons in need. The plaintiff's counsel promised that his lordship's suggestion should receive attention. We do not object to Mr. Bale having been treated at the hospital, for his injuries may have been of such a nature that it was wiser not to convey him home, but we cordially agree with Mr. Justice Darling's remarks. Seeing that Mr. Bale's solatium will come out of the pockets of every ratepayer in London we think that he should hand over a very substantial proportion of it to the hospital, an institution which by its charity relieves the rates of heavy expenses which, were it not for the hospital, would have to be met by the ratepayers.

SIR ERNEST CASSEL'S GIFT FOR THE RELIEF OF OPHTHALMIA IN EGYPT.

IN the year 1902 Sir Ernest Cassel gave a sum of £40,000 the income of which was to be devoted to the treatment of sufferers in Egypt from diseases of the eye. It was decided by the authorities that the best way to carry out Sir E. Cassel's idea was to start a travelling ophthalmic hospital and this was accordingly done, the surgeon in charge being Mr. F. A. MacCallan. In common with other members of the medical profession we expressed it as our opinion that this scheme would not be successful and that the money would be more or less wasted. We were, however, apparently in error in this opinion, for Lord Cromer in his report on Egypt for the year 1904 says: "The experiment has proved a complete success. The generous donor of this money has every reason to be gratified with the very large amount of suffering which, in consequence of his liberality, has been relieved." The scheme has, however, been carried out upon a much larger scale than we were at first led to believe that it would be and the travelling tent has developed, according to Mr. MacCallan's report, into a large operating tent floored with concrete, two out-patient waiting tents, two in-patient tents, tents for the staff, and a kitchen. This equipment is, of course, much more like a small field hospital and we can well believe that it has done good service. Trachoma with its sequel trichiasis is the disease which has been most frequently treated and in all 3379 patients have been treated, while the number of operations performed has been 1268. Lord Cromer expresses a hope that before long the system will be extended, and judging by the report of the medical officer we think that this hope is quite justified.

THE PHYSIOLOGICAL ACTION OF VALERIAN JUICE.

M. Chevalier and M. Pichet, in a communication brought before the Société de Thérapeutique, and published in the Répertoire de Pharmacie for February, call attention to the physiological action of valerian juice prepared by expression of the fresh root out of contact with air, and of such a strength that one part of the juice represents one part of the root. They find that the juice diminishes the blood pressure and slows the pulse after a transient acceleration without increasing the work of the heart. This action is constant and serves to distinguish the fresh juice from preparations of valerian which are made from the dried root, as well as from the various valerianates used in medicine which have a slightly stimulating action on the central nervous system. This is due to a change in the physiological properties of the active constituents of valerian owing to oxidation during the process of drying. The sedative and antispasmodic action of the fresh juice of valerian root is very constant and is not accompanied by any permanent stimulating action. The results obtained by the writers occasion no surprise, as it is a well-known fact that the active principles of the plant undergo a chemical change which commences at the moment of collection. Collectors of herbs are familiar with the fact that a freshly gathered valerian plant has scarcely any odour, but by the time the collector reaches his destination the characteristic odour of the plant will have become well marked. Cats, as everybody knows, are particularly fond of valerian root and the more the root is bruised the more they are attracted by it. The chemical change is attributed to bornyl isovalerianate, a constituent of the fresh root, which during the process of drying gradually decomposes, producing free isovalerianic acid. Valerian root contains about 1 per cent. of a volatile oil, one of the constituents of which is the substance bornyl isovalerianate. In describing the physiological action of the volatile oil Sir Lauder Brunton[1] states that "the oil in large doses paralyses both the brain and spinal cord, lowers the blood pressure, and slows the pulse. It is employed as an antispasmodic and stimulant in cases of hysteria....... Valerianate of zinc has been supposed to combine the nervine tonic action of zinc with the antispasmodic action of valerian, but it is much better to use valerian itself or its oil along with a salt of zinc as the acid has no important physiological action." Since the fresh juice owes its peculiar physiological properties to the undecomposed bornyl isovalerianate contained in the volatile oil, it would appear to be more desirable to use the volatile oil in preference to the fresh juice and other preparations of valerian. The volatile oil can be distilled in quantity, so that a plentiful supply could always be obtainable, but some difficulty would be found in procuring at all times a supply of the fresh juice.

THE NEW SYDENHAM SOCIETY.

THE council of the New Sydenham Society announces some important additions to the attractions offered to its members. In future all members, new as well as old, will, on payment of the year's subscription, be entitled to choose one volume from the surplus stock. This will be without further payment and will be wholly additional to works issued for the year. Part of the society's library has for long been out of print. There remains in hand, however, to be selected from a long series of works, many of them of great permanent value. Amongst these may be mentioned: Laveran on "Paludism and its Organism"; Pierre Marie on "Diseases of the Spinal Cord"; Bernutz and Goupil on "Diseases of Women"; Trousseau's "Clinical Medicine," Vols. III. and IV; Niemeyer's "Lectures on Pulmonary Consumption"; Charcot's Lectures, several volumes; Billroth's "Surgical Pathology," two volumes; Guttmann's "Manual of Practical Diagnosis"; Koch on "Wound Infection"; Hirsch on "Geographical and Historical Pathology," three volumes; Graves's "Clinical Medicine," two volumes; Henoch's "Diseases of Children," two volumes; Ewald's "Disorders of Digestion," two volumes; Pozzi's "Gynecology," three volumes; Helferich on "Fractures and Dislocations"; several volumes of selected Clinical Lectures, Spiegelberg's Midwifery, two volumes, Naunyn's Cholelithiasis, and so on. In the case of a subscriber wishing for a work of more than one volume the payment of one or more subscriptions in advance will enable him to secure all at once. The council proposes to keep back a certain small number of all the volumes for future needs and the advantages now offered will, of course, cease in the case of each work when that minimum is reached. The number at present in hand varies greatly in different works and as regards some of the most valued may soon be exhausted. Under another regulation the council now allows members to select any seven of the society's volumes for a single guinea. In order to meet the increasing demands of the office and to secure more punctuality in the discharge of its duties the council has appointed Dr. Alfred E. Russell of 9, Wimpole-street, London, W., as acting general secretary, to whom in future all letters of inquiry should be addressed. Mr. Jonathan Hutchinson will for a time retain the position of honorary general secretary. The preparation of the Clinical Atlas remains in the hands of a large representative committee and the society's agency is, as heretofore, at Messrs. Lewis's, 136, Gower-street, London, W.

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[1] Pharmacology, Therapeutics, and Materia Medica, 3rd edition, p. 952.

ALIEN AND IMMIGRANT LONDON IN 1781.

PRIOR to the year 1801 no census of the population of London had been taken but instructive conjectures as to the causes of death and the "chance of life" had been made since Graunt's "Observations on the Bills of Mortality," 1696. In 1781 Dr. Robert Bland drew some conclusions of this kind, as well as others, from the "Midwifery Reports of the Westminster General Dispensary" which are of no small interest to-day. The women admitted to the dispensary were asked to register their birthplaces and those of their husbands and from these facts, meagre enough in themselves, Dr. Bland constructed a comparative table of the population of London, in which it is set forth that of 3236 married persons accounted for at the Westminster General Dispensary only 824, or one-fourth, were native Londoners. Of the remainder four-sevenths, or 1870, were immigrants from the different counties of England and Wales; 209, or 1 in 15, came from Scotland; and 280, or 1 in 11, from Ireland. 53, or 1 in 60, were what we now call "aliens." Of 824 married persons born in London there were one-fifth more women than men. "This may be accounted for either by supposing a greater number of males to die or to migrate before they attain a marriageable age than women. It is also to be observed that of the Scotch and of the foreigners the women are in proportion to the men as about 1 to 33 but of the Irish they are as 3 to 7." If these statistics are to be trusted they throw light not only on the present alien question but on that of the origin of the Cockney proper. If three-quarters of the ancestry of native Londoners were immigrants, the theory recently advanced that Londoners cannot count three generations of Cockney ancestors is greatly strengthened. It should be borne in mind that the population of London was in 1781 far below 1,000,000. Putting it at about 750,000 and supposing that Dr. Bland's estimate of 1 foreigner in 60 be correct we may suppose that the total number of aliens proper residing in London in 1781 amounted to about 12,500.

INSTRUCTIONS TO MIDWIVES.

THE Manchester midwives supervising committee has issued a booklet of instructions to the midwives practising in the district under its supervision in which it reminds them of the obligations which rest upon them and which they are required to fulfil on pain of being reported to the Central Midwives Board and perhaps of being removed from the roll. As the committee points out, the Act is now in full force and after April 1st last no woman must use the title of midwife or its equivalent unless she is certified, nor may a woman certified under the Act employ any uncertified woman as her substitute. Instructions are given to the midwives as to the cleanliness of their persons and their homes. In order to insure the good sanitary condition of the latter arrangements have been made by which the midwife can have her house inspected by the sanitary authority if necessary. The committee recommends that the midwife's bag should have a removeable washable lining; for the purpose of vaginal douching it advises the use of lysol or kresol and for the disinfection of the hands a solution of perchloride of mercury of the strength of 1 in 1000. No doubt the question of expense prevented the committee recommending soluble biniodide of mercury for the latter purpose, as otherwise it is a much better disinfectant than perchloride of mercury with the great advantage of not spoiling instruments. The midwife is carefully instructed how to keep her appliances clean and also the bag itself, a most important precaution, and one which, we fear, is often neglected. In the preparation of her hands great stress is laid on the importance of a proper scrubbing with soap and water and a nail brush and then washing the hands in a solution of perchloride of mercury of the strength of 1 in 1000 for at least two minutes. We are glad to see that the committee recommends that a pad of wool wrung out of the same solution should be applied to the vulva after the delivery of the placenta. Further instructions are given with regard to the care of the mother during the lying-in period and of the newly born child. Rules are also laid down to guide the conduct of the midwife with regard to the notification of the birth of stillborn children, the death of a mother or child before the arrival of medical assistance, and the calling in of medical assistance. Finally, there are very clear instructions as to the precautions to be taken by the midwife when she has had the misfortune to be in attendance on a case of puerperal infection. This little book should prove of great service to the women for whom it is intended and we hope that other supervising committees will follow the excellent example of the Manchester committee in issuing similar rules.

PERITONITIS IN TYPHOID FEVER WITHOUT PERFORATION.

IT is well known that peritonitis in typhoid fever may result from other causes than perforation of the intestine, such as ulceration of the gall-bladder or rupture of a suppurating mesenteric gland or of a splenic abscess or without any local cause. Dr. J. Dreschfeld states in Allbutt's "System of Medicine" that peritonitis may be due to extension of inflammation to the serous coat of the intestine and that it then generally is circumscribed and tends to form adhesions but occasionally gives rise to local suppuration. At the meeting of the Société Médicale des Hôpitaux of Paris on March 17th M. Courtois-Suffit and M. Beaufumé contributed an important paper and reported the following case of peritonitis without any definite local cause. It is noteworthy because the peritonitis was not circumscribed but general. A youth, aged 18 years, was admitted into hospital on Feb. 3rd, 1905, the eleventh day of an attack of typhoid fever. The temperature was 104·3° F. All the usual symptoms were present and the Widal reaction was obtained. He was treated by cold baths (at 61° F.) which were given every three hours. The temperature remained about 104°. On the twenty-first day the pulse was 114, no pain was complained of, and the baths were given as usual. Suddenly at 11.30 P.M. the patient complained of violent pain in the upper part of the left iliac fossa. After about ten minutes the pain radiated over the whole abdomen; after half an hour a liquid stool was passed and after another quarter of an hour another stool. There was no tympanites, the pulse was 110 and feeble, the face which previously had been congested became very pale, and the respiration became noisy and panting. Ice was applied to the abdomen and the pain and oppression rapidly disappeared. At 1 A.M. the temperature was 103·7°. At 1.30 A.M. he hiccoughed and vomited greenish-yellow fluid. At three the temperature was 104·9° and there was no pain. The patient slept until 5.30. At six the temperature was 106·1°. At eight one of the writers arrived at the hospital.

He was struck with the pallor of the patient's face; the features were drawn, the eyes were surrounded with dark circles, the nose was cold, the tongue was dry, the pulse was 114 and feeble, the abdomen was scarcely sensitive and was not tympanitic, there was no dulness in the flanks or hypogastrium, and the liver dulness was preserved. In spite of the absence of tympanites intestinal perforation was diagnosed and laparotomy was performed at once. On opening the abdomen no gas escaped but about one and a half litres of brownish-yellow odourless fluid containing whitish particles. The intestinal coils were not distended but very congested and agglutinated by yellowish-white friable membranes, especially on the right side. The small and large intestines were examined throughout their whole length and showed no sign of perforation; the appendix was quite normal. The mesentery contained numerous large glands but none of them were ulcerated. The wound was closed and drainage was provided. After the operation the patient was somnolent. About 3 P.M. he called for the bed-pan. He passed about a pint of red fluid, became collapsed, and died. At the necropsy about a pint of yellowish-brown fluid was found in the pelvis. The lower third of the ileum and the ascending colon were much congested. The intestines were covered with yellowish-white lymph which was abundant for a distance of six feet above the ileo-cæcal valve and on the cæcum and ascending colon. Water was injected into the intestines but no perforation was disclosed. A large quantity of blood escaped from the open end, indicating an intestinal hæmorrhage which seemed to have come from a large ulcerated Peyer's patch. There were numerous typhoid ulcers in the ileum, cæcum, and ascending colon. The appendix was perfectly sound. No lesion to account for the peritonitis was found in any viscus. Dieulafoy[1] explains such cases of peritonitis as due to typhoid infection independent of intestinal infection, the peritoneum being infected in the same manner as the pleura or the bones. M. Courtois-Suffit and M. Beaufumé think that it is more logical to suppose that the peritonitis is due to infection by contiguity from the intestines. This mode of infection is indicated in their case by the predominance of membrane at the end of the ileum and the beginning of the colon where the typhoid lesions were greatest. The symptomatology of the peritonitis is in several ways remarkable. The onset by sudden and violent pain exactly resembles that of perforative peritonitis but the lesions found on operating at the end of ten hours show that the peritonitis must have existed for a much longer period. Therefore it must have remained completely latent for a long time. It is also noteworthy that the symptoms of perforative peritonitis—diffuse abdominal pain, vomiting, hiccough, and so on—were present with one important exception: there was no tympanites and the liver dulness was preserved. The absence of perforation readily explains these facts.

PLAGUE AND RATS.

OUTBREAKS of bubonic plague have occurred at intervals in Sydney during the last few years but without ever attaining very extensive proportions. At an early period in the history of these invasions—namely, in the year 1900, Dr. J. Ashburton Thompson, president of the Board of Health of New South Wales, expressed the opinion that epidemic plague in the human subject was due wholly to plague-infected rats and on the successive appearances of the disease in the colony the work of his department in checking it has been directed mainly to the destruction of rats. The second outbreak of plague in Sydney came to an end in June, 1901, the last patient being attacked about the 12th of that month and the last plague-infected rat was caught on July 14th. The rat-catchers still continued at work and from July 14th, 1902, to April 30th, 1903, there were caught 31,075 rats and mice, of which 17,160 were examined in the laboratory but were found free from plague. Sydney had therefore for eight months and a half been free from plague either in rodents or man. On May 12th, 1903, a plague-infected rat was found. During the period from May 1st to August 15th 8695 rats and 5976 mice were examined in the laboratory and of this number 111 rats and 50 mice were ascertained to be infected with plague. The last plague rodent was brought in on August 15th. In the course of this same period two cases (both terminating in recovery) occurred in the human subject, one being notified on June 20th and the other on July 4th. In commenting on these facts Dr. Thompson directs attention to the extremely small proportion borne by the plague-infected rodents to the total number caught and he explains this partly on the ground that, as a rule, those which are taken in traps are in good health and actively searching for food, or, if infected, have not reached a stage of illness at which pathological signs have appeared. Further evidence tending to show the causal connexion between plague in rats and man is given in the *Australasian Medical Gazette* of Feb. 20th, the article in question being an account of the first outbreak of plague in New South Wales outside Sydney. Between Dec. 14th, 1904, and Jan. 1st, 1905, six persons were attacked with sudden illness at four farms within moderate distances of Ulmarra, a village on the Clarence river. Communication between the Clarence river district and other parts of the State is chiefly by sea and a regular trade is carried on by sea with Brisbane, in Queensland. Four of these six patients died and the diagnosis of plague was made about Jan. 2nd. A number of plague-infected rats were caught in Ulmarra and the neighbourhood between Jan. 8th and the end of the month. Six more patients were attacked between Jan. 7th and 27th. At one house, which yielded two cases, plague-infected rats were identified immediately before the patients fell ill.

NEW LYING-IN HOSPITAL AT WOOLWICH AND THE HIGHER TRAINING OF MIDWIVES.

AT Woolwich on May 11th Princess Christian opened a "Home for Mothers and Babies and Training School for District Midwives," which has been established by the efforts of Miss Alice Gregory, a daughter of the Dean of St. Paul's, and herself a trained and certified midwife, assisted by a committee of which Mr. F. S. Hawkes is honorary secretary. The home contains 12 beds and its staff is to consist of three certified midwives who have passed the examination of the Obstetrical Society of London and have had a training also in general nursing. The local medical practitioners will attend when summoned and there is a consulting staff (consisting of Dr. A. L. Galabin, Miss Annie McCall, M.D. Bern, and Mr. G. Bellingham Smith) whose services will be available if any exceptional difficulty should arise. The opening ceremony consisted of a short service of prayer, conducted by the vicar of the parish, the Rev. W. H. Carey, concluding with a benediction by the Dean of St. Paul's. Princess Christian then declared the home open and wished it every success. In proposing a vote of thanks to Her Royal Highness Dr. C. J. Cullingworth said that in addition to the benefits which this hospital would confer upon the densely populated district of Woolwich Miss Gregory and those associated with her had decided to give it a character of its own as a training school for midwives. The weak points of the ordinary training of a midwife in this country were: (1) its short duration; (2) its non-insistence upon a previous hospital training in general nursing; and (3) the absence of any organisation for keeping the pupils in touch with their school after they have left it. It was intended in the scheme that day inaugurated to obviate all these defects. It was also an essential part of the scheme that every pupil who entered for training should undertake to devote herself to district midwifery—i.e., to work amongst the poorer classes of the community, the classes whom the Midwives Act was intended to benefit. This was to be the distinguishing feature of that school. On the other hand, the majority of the pupils at the existing training schools did not contemplate devoting themselves to district work, their main object being to qualify themselves as high-class monthly nurses. Until the hospital was in a position to offer a free training a fee of £20 would be charged for a course of from six to twelve months and it was hoped that "scholarships" to this amount would be instituted by various county councils.

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[1] Manuel de Pathologie Interne, tome iv., p. 130.

ANEURYSM OF THE AORTA SIMULATING POTT'S DISEASE.

WHEN aortic aneurysm causes erosion of the vertebræ death usually occurs before the process has progressed sufficiently to cause spinal symptoms or spinal deformity. If an aneurysm is so situated as to develop without producing characteristic symptoms and lays bare the spinal membranes, producing compression myelitis, Pott's disease or a tumour may easily be diagnosed. In the University of Pennsylvania Medical Bulletin Dr. C. W. Burr has reported the following remarkable case in which this error occurred. A man, aged 56 years, was admitted into hospital on Oct. 15th, 1902. He stated that many years before he had syphilis and also malarial fever. His present illness began with dull rheumatic pains in the back four years before admission. After a time the left leg and then the right became numb. Later the legs became stiff but he was able to walk until two days before admission. Two weeks before admission incontinence of urine began. He lay in bed with the legs rigidly flexed on the thighs and the thighs on the abdomen. The knee-jerks were much increased and ankle clonus was present on both sides. There was only partial control of the bladder and the rectum. At the eighth dorsal vertebra slight angular curvature was observed and pressure on the spine was painful. The patient complained of pain under the right scapula. The right leg was anæsthetic; the left was sensitive to deep pressure but not to touch. Below the iliac crests there was complete tactile anæsthesia. The urine was alkaline and contained a little pus and a trace of albumin. The temperature ranged from 98° to 100° F. Examination of the chest was negative. A tuberculin injection gave a distinct reaction. The diagnosis of Pott's disease seemed clear. Bed-sores formed on the buttocks and death took place on March 23rd, 1903. At the necropsy marked bulging of the thorax posteriorly on the left side was observed. A large aneurysm extended from the descending portion of the arch of the aorta to the tenth dorsal vertebra. The bodies of the dorsal vertebræ from the fourth to the tenth inclusive were completely eroded and the spinal canal was exposed. The spinal dura mater was adherent to the posterior wall of the aneurysm for this distance. The left pleural cavity was filled with blood which had come from a rupture of the aneurysm. No signs of tuberculosis were found. Microscopic examination showed proliferating internal and external pachymeningitis of the dorsal cord and ascending and descending degeneration. Dr. Burr was led into error by the slight pain, the marked kyphosis, the tuberculin reaction, and the fact that the symptoms were entirely spinal. If he had continued to examine the patient's back at intervals he could have finally made a correct diagnosis because such bulging of the ribs as was found at the necropsy never occurs in Pott's disease. But this bulging must have developed only a short time before death because Dr. Burr ceased to examine the patient only when he was sure that propping him up in bed for the purpose would be injurious. Dr. Burr also thinks that he ought to have given more thought to the long period which elapsed before nerve symptoms occurred, as such is very rare in Pott's disease.

THE QUEEN'S JUBILEE HOSPITAL.

IN THE LANCET of April 22nd we referred to the position at the above-mentioned hospital and gave the salient points of the report of the Commissioners appointed by King Edward's Hospital Fund. This report practically recommended that a clean sweep should be made of the present staff and board of the hospital with the exception of the treasurer and the trustees and suggested that the hospital should be transformed into a casualty and out-patient institution. The board has issued a reply suggesting a modification of the Commissioners' recommendations on the following lines:—

> (1) That the hospital continue to exist as a general hospital for in- and out-patients; (2) that the constitution and by-laws be suspended for a period of 12 months; (3) that the present honorary medical staff be retained; (4) that the present board of management resign; (5) that a temporary board of management be formed to serve for one year and then to report to the governors; (6) that one-half of the lay members of the new temporary board be elected by the governors and the other half by the executive of the King's Fund; (7) that the chairman be nominated by the executive of the King's Fund; (8) that the medical staff in addition elect representatives from their own body to serve on the board, to assist and advise on matters relating to the medical department; (9) that a competent male secretary be appointed forthwith.

These modifications, it will be seen, differ mainly from those of the King Edward's Fund Commissioners in the retention of the medical staff and of the hospital as a hospital, and an agreement may be arrived at which will eventually lead to a permanent peace. In our opinion the hospital is not required as a hospital and we cordially agree with the Commissioners, who think that it should be reconstituted "as a casualty and out-patient department with a few beds attached."

THE ACTION OF A NEW COLLOIDAL FERRIC HYDRATE (DIALYSED IRON) ON ALBUMIN.

M. J. Tribot and M. H. Chrétien have brought to the notice of the Académie des Sciences [1] a new form of dialysed iron which they find possesses in a greater degree the power of transforming albumin into albumose than does the ordinary dialysed iron. The latter was discovered by Graham and has been used extensively in medicine but owing to the method of preparation it contains a notable proportion of ferric chloride in addition to the colloidal ferric hydrate. M. Tribot and M. Chrétien successfully tried to obtain a solution of dialysed iron containing less ferric chloride by passing an electric current of about one ampère through the ferric solution during the process of dialysis. The solution of dialysed iron so obtained possesses all the properties of Graham's solution and experiments carried out to compare the action of the two liquids on albumin demonstrated the advantage of the electro-dialytic solution over Graham's solution. The solutions were made alkaline with potassium hydrate and added to a known weight of albumin; the yield of albumose was observed after heating during four hours at from 40° to 42° C. The electro-dialytically prepared solution converted 27·02 per cent. of the albumin into albumose, while Graham's solution only converted 8·16 per cent. of the albumin. When the iron solutions were acidified with hydrochloric acid slightly lower figures were obtained. In all cases no peptones were formed. M. Tribot and M. Chrétien are continuing their researches but from the results which they have so far obtained it would appear that already an improvement has been made in this important preparation of iron. It is well known that metals are absorbed from the intestinal canal in the form of albuminates and the ferric salts have an irritant action in the stomach. A solution of ferric hydrate practically free from chloride might, therefore, be expected to be absorbed with greater ease than is the case with the ordinary dialysed iron. Further results, especially those of a clinical nature, will be awaited with interest.

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[1] Comptes Rendus, Jan. 16th, 1905.

THE MEDICAL SCHOOL OF WESTMINSTER HOSPITAL.

IN obedience to the view that the concentration of the teaching of the preliminary and intermediate subjects of the medical curriculum in London at a few centres will result in greater efficiency in teaching as well as economy in expenditure, the Westminster Hospital Medical School has completed negotiations with King's College by which arrangements have been made for the teaching of physics, chemistry, anatomy, physiology, and materia medica (that is to say, the subjects of the preliminary and intermediate examinations) to Westminster Hospital students at King's College. Students will enter Westminster Hospital Medical School, as in the past, and will remain Westminster Hospital men and will not become matriculated students of King's College, but they will be taught the earlier subjects of study at that institution. The scheme will come into effect at the commencement of the next winter session in October. At the same time the Westminster Hospital Medical School is thoroughly re-organising the teaching of the subjects of the final examination. Those responsible for this important move believe that their action marks the commencement of a more general concentration of the teaching of the preliminary and intermediate subjects of the curriculum and that such concentration will promote the best interests of medical education in London. Different aspects of the question are discussed this week in our columns by Mr. Henry Morris, whose oration at the Medical Society deals with the subject, and by ourselves in a leading article.

THE ANNUAL DINNER OF THE PHARMACEUTICAL SOCIETY.

THE members of the Pharmaceutical Society and their friends must have been encouraged and gratified at the annual dinner held in the Whitehall Rooms of the Hôtel Métropole, London, on May 16th by the vigorous speeches which were delivered in support of the amended Pharmacy Bill now before Parliament. The position created by the judgment of the House of Lords to the effect that the word "person" in the 15th Section of the Pharmacy Act could not apply to "a company of persons" is undoubtedly serious for the pharmacist and is a menace alike to the dignity of the pharmaceutical calling and to the health of the public. It seems illogical to lay down that the 15th Section of the Act cannot apply to a limited liability company because they are not persons who can be examined for the purpose of qualification and are not individuals. Such an interpretation defeats the intention of the Act, for surely those who were responsible for the drafting of the Bill intended to apply its restrictive clauses to anyone who desired to act as a pharmacist—i.e., to a company of persons as well as to a single person. If such was not the intention then the sooner the Pharmacy Act is amended the better for all concerned. Company-mongering is an undesirable and a dangerous association with the profession of pharmacy. It has been said that pharmacists have themselves to thank owing to the heavy charges made by them in the past for medicines and the making up of prescriptions. If they had been content to make moderate and reasonable charges there would have been, it is urged, no field for company pharmacy and no opportunity for the mere company promoter. Whether that be the case or not this kind of argument forms in the mind of the limited liability company a justification for its existence, and in one instance it was announced in an advertisement in the *Times* that after independent investigation that newspaper had declared that the money saved by the public who dealt with drug stores amounted to no less than a million sterling per annum. In proposing the toast of "The Houses of Parliament," the President of the Pharmaceutical Society, Alderman R. B. Robinson, J.P., L.C.C., said that he had had a communication from the editor of the *Times*, in which the latter stated that the *Times* had made no independent investigation of the kind suggested and no estimate of the amount saved by the public, but the statement appeared in an advertisement the accuracy of which was in no way guaranteed by the *Times*. The chief topic of the evening was thus, as might have been anticipated, the amended Pharmacy Bill and amongst those who spoke in favour of the reform suggested were Mr. T. Lough, M.P., Mr. Henniker-Heaton, M.P., Sir R. Douglas Powell, and Mr. David Howard. The last-named gentleman paid a well-deserved tribute to the excellent work done by the Pharmaceutical Society and the President, in replying to the toast of the society, stated that its membership was steadily increasing and that the benevolent fund had afforded aid to the extent of £3000 to its less fortunate members. In response to the toast "The Medical Profession," Sir R. Douglas Powell referred to the importance of the making up of medicine being consigned only to a skilled person. The President, in proposing the toast, touched upon the excellent relations subsisting between the medical profession and pharmacists and mentioned that owing to the representation of medical men they had obtained an extension of the poisons schedule so as to include substances such as sulphonal.

GASTRITIS WITH EROSIONS, OR "EROSIVE GASTRITIS."

IN the Proceedings of the Pathological Society of Philadelphia for January last Dr. John Funke records his investigation of a case of parenchymatous nephritis in which extensive erosions of the stomach were found at the post-mortem examination. His paper includes a summary of the chief views on the origin and the nature of gastric erosions. The condition found in the stomach consisted in a number of small depressed areas along the lesser curvature towards the cardia, around the pylorus, and on the greater curvature near the pylorus. These areas were round, oval, or irregular in outline, varied from a millimetre to a centimetre in diameter and from one to two and a half millimetres in depth, their edges were bevelled, and the floor was usually pale and smooth. As a rule they were discrete but in a few cases two had coalesced. They were more abundantly found between the folds of the mucous membrane than upon them. On histological examination the erosions were found in some cases to involve about half the thickness of the mucosa, while in a few they extended nearly to the *muscularis mucosæ*. Over most of the erosions there was a layer of necrotic tissue containing many lymphoid cells, while in one case a partially separated slough was found. The gland tubules in the floor of the erosions contained degenerated cells, while the lining epithelium frequently showed mitotic figures; the retiform tissue between the tubules was infiltrated with mononuclear and a few polymorphonuclear leucocytes, while the vessels were engorged. These changes Dr. Funke regards as indicating inflammation and he calls the condition "erosive gastritis," although it would be more conveniently and more correctly termed gastritis with

I add a copy of another analysis made by the Royal Technical Institute of Florence:—

Physical characters: The liquid is colourless, slightly opaline on account of finely divided solid matter held in suspension and the large number of micro-organisms. Odour very faint, almost imperceptible. Specific gravity at 15° = 1002. Reaction, slightly alkaline Substances held in solution: iron, lime, magnesium, potassium, sodium, silicic acid, sulphuric acid, hydrochloric acid, phosphoric acid, ammonia, and traces of nitrogenous organic matter. Tests for nitrates, nitrites, and sulphuretted hydrogen gave negative results. A test to determine the quantities gave the following results: Matter in suspension = 0·067 per litre; residue at 100° = 3·126 per litre; ash = 0·3448 per litre; chloride = 0·1603 per litre; organic nitrogen = 0·302 per litre; nitrogen as ammonia = 0·11 per litre; total nitrogen = 0·412 per litre. From the results of these analyses the said liquid taken from the bacteriological cesspool in Via Aretina, N. 6, may without risk be discharged into the city drains.

And a third analysis made by Professor Ubaldo Mussi of Florence:

Specific gravity, 1002; reaction, slightly alkaline; colour, pale amber yellow; odour, almost imperceptible and not disagreeable, after a short exposure to the air it disappears entirely; appearance, opalescent; ammonia, present in small quantity; nitrites, none; nitrates, none; organic matter, 0·0016 per cent.; alcohol, none; albuminous substances, none; urea, none; lime, traces; chlorides, traces; sulphates, traces; phosphates, none. In the sediment obtained by centrifugal process several paramecium coli were found, some non-characteristic, and therefore indefinable, detritus. The opalescence of the liquid is due to the paramecium; on standing a short time it becomes quite clear—i e., on the death of the paramecium whose life in the liquid is of very short duration. In conclusion, the component parts of the fæces, including the urine, contained in the cesspool in Lung'Arno Guicciardini N. 11, subjected to treatment by the Montgomerie Neilson system, are totally decomposed and transformed, and the liquid produced is, in its chemical composition, very different from sewage and presents rather the physical characters of inferior drinking water, hence its discharge into the sewers is perfectly harmless.

The practical result of the investigation on the part of the municipality has been the reception of a large number of orders for installations from municipalities and private persons throughout Italy and applications for particulars from other countries. Mr. Neilson informs me that the system is now being investigated by the Pasteur Institute of Paris. It may be seen in full working order in many houses in Florence and there is no doubt that the statement that evil odours are abolished and that the effluent is colourless as well as odourless is absolutely true. I have inspected the effluent on a good many occasions. I have found it slightly milky at first owing to the living infusorians present but it becomes perfectly clear after standing a few days when the infusorians have perished. It has a faint smell of truffles at first. One installation has been in action now for three years and is said to have required no attention whatever and to be absolutely satisfactory.

The most important point to elucidate is—What influences bring about these results and how do they work? As I have said already it is difficult to obtain precise information on this subject. I have, however, been shown under the microscope by Mr. Neilson specimens taken from the cesspools and, as far as I can make out, the work is done by one variety of anaerobic bacterium, which he cultivates specially, and by several varieties of infusorians, which are, of course, aerobic. I have not seen the anaerobic bacterium but Mr. Neilson informs me that it works at the bottom of the cesspool upon solid excrement, breaking it up and rising to the upper regions of the cesspool with the disintegrated particles. Here these bacteria form food for some of the infusorians which in their eager endeavours to devour the bacteria further break up the particles of solid matter. Under a magnifying power of 200 diameters I have had two brief glimpses at the infusorians and observed at least five varieties. They all seem to eat voraciously and are all free-swimming and marvellously active. Their movements vary, some darting rapidly, some vibrating, some twisting, and some rotating. The larger varieties are distinctly ciliated and my impression is that they all belong either to the ciliata or flagellata. A very definite mouth is present in the larger varieties. Mr. Neilson states that one variety eats the solid matter, two varieties destroy the anaerobic life, another one feeds on the matter which is in process of liquefaction, and a fifth eats incessantly apparently whatever it comes in contact with, including bacteria, cocci, &c., and takes a large share in the clearing of the liquid. I gather from the inventor also that these infusorians split up the gases and that the ultimate gases formed are carbonic acid gas and marsh gas "and others which have a smell like truffles." He is very emphatic in stating that these animalcula can live only when the gases are allowed to escape. He informs me that the lowest temperature at which the system has hitherto been found to work successfully is 4° C and that the highest hitherto tried is 38° C. It will be understood that a system with the pretensions of this one will find its greatest application in countries where cesspools are used for sewage disposal, but Mr. Neilson states that he is fully prepared to apply it on a large scale to the water drainage of cities and asserts further that his system will displace others on account of its efficiency, cheapness, comparative rapidity, and automatic action. It will be observed that he places no reliance whatever upon the bacteria which are ordinarily found in sewage; he says that he has no use for them. This and the use of infusorians characterise the system and mark it off from other systems of bacterial sewage purification I can obtain no absolute proof of the destruction of disease germs under the process.

Mr. Neilson himself confesses that he is an amateur at the subject but has devoted six years entirely to its investigation. I understand that the inventor's attention was first directed to the subject by observations upon the life found in pools into which the house drainage of his villa near Siena ran. One cannot fail to be impressed by Mr. Neilson's enthusiasm for his subject and by the successful results which are evident on an inspection of one of his cesspools in working order. The naked-eye superiority of Mr. Neilson's effluent placed side by side with specimens from Sutton and Exeter is striking. Even if all the statements made do not prove on further investigation to be entirely correct, nevertheless every dweller in the cesspool-riddled cities of the continent will have reason to be grateful if the system is more generally applied. Indeed, in Florence already many of us are thankful for the removal of offensive odours from spots which we frequent or from the neighbourhood of our dwellings, and it is a further satisfaction to know that the municipality has approached Mr. Neilson with a view to the application of his method to that eyesore of the city, the system of urinals.

Florence.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE CENTENARY PROGRAMME.

THE following and final programme, celebrating the Centenary, has now been arranged by the council of the society with the help of the Centenary Committee. The information has been published in our columns already in detail but our readers may wish to see the complete arrangements as a whole.

Monday, May 22nd, "Centenary Day."—At 5 o'clock P.M. the President will receive the Honorary Fellows and Fellows at the Society's House, 20, Hanover-square, W. Light refreshments will be provided from 4.30 P.M. onwards.

At 5.15 the President will deliver a short congratulatory address. After the address he will admit the new Honorary Fellows and present them with their diplomas.

The Centenary Banquet will be held at the Hotel Cecil at 8 P.M., but Fellows and guests are requested to be seated in their places punctually at 7.45 in order to be ready to receive His Royal Highness the Prince of Wales.

At 7.45 the Prince of Wales will sign the roll of the society, be admitted an Honorary Fellow, and receive his diploma.

Tuesday, May 23rd.—At 8.30 P.M. Dr. Henry Head, F.R.S. (Marshall Hall prizeman), will deliver a special address on the Afferent Nerves under a New Aspect. The conclusions expressed in the address will be drawn from investigations carried out in conjunction with Dr. W. H. R. Rivers and Mr. James Sherren. After the address there will be an informal reception by the President and council.

Wednesday, May 24th.—There will be a conversazione in the Natural History Museum, Cromwell-road. A reception will be held by Sir R. Douglas Powell, P.R.C.P. Lond., the President of the Society, and Lady Powell from 9.30 P.M. to 10.30 P.M.

An arrangement has been made with the District Railway Company by which on this evening the subway connecting the South Kensington station with the grounds of the museum will be open for the use of guests.

A small, but it is hoped an interesting, exhibition will be arranged in the society's rooms for the inspection of Fellows and others from Monday, May 22nd, to Thursday, May 25th inclusive, between the hours of 11 A.M. and 6.30 P.M. each day.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XII.[1]

THE POOR-LAW AND MEDICAL SERVICE (*Continued*).

The Poor-law Medical Service in Ireland.—Death of Mr. William Smyth of Dungloe.—The Grievances of the Dispensary Service.—The Absolutely Necessary Reforms.

THE condition of the Poor-law medical service in Ireland has for many years been a scandalous blot on the administration of the country. Politicians, journalists, and enlightened general opinion have condemned the system; the medical press has called loudly and persistently for its improvement; the Irish Medical Association more than four years ago published a statement of studied moderation every word of which showed the necessity for immediate reform; the leaders of medical opinion in Ireland, in the medical schools of Dublin, Belfast, Galway, and Cork have advised their pupils not to take office in the service—advice which has not been neglected; and the Local Government Board of Ireland, under whose jurisdiction the dispensary districts lie, has admitted the necessity of ameliorating existing conditions. But nothing has been done that really counts when the magnitude of the evil is realised.

In the same way as the case of Mr. J. Lamont serves to illustrate by one lurid story the troubles of the Scottish Poor-law medical officer, so the infinitely sadder event of Mr. William Smyth's heroic death may be regarded as a supreme example of the trials of the Poor-law medical officer in Ireland. Here the sacrifice of a noble life proved terribly dramatically and finally that the Poor-law medical service in Ireland must be reformed. Mr. Smyth's death is too recent to need more than the briefest record for all its tragedy to recur to our mind. He was dispensary medical officer of Dungloe No. 2 District, co. Donegal, and died on Nov. 22nd, 1901, from an attack of typhus fever contracted in his efforts to fight that disease which had broken out in part of his district, the island of Arranmore on the western seaboard of Donegal. Mr. Smyth was most anxious to remove his patients to the isolation hospital at Glenties on the mainland but met with such difficulties and opposition that Dr. B. McCarthy, Local Government Board inspector, was sent to his assistance. As the fishermen would neither lend their boats nor row the fever patients across, an old and unseaworthy boat was purchased by the relieving officer and the two medical men, who were novices at rowing, set off for the island. Here fresh difficulties arose, as the friends of the patients opposed all removal which was only accomplished by the aid of the police. On the homeward journey the medical men hailed a boat which was manned by six policemen and asked to be taken in tow to Burton Port, but these men refused to render any assistance, fearing infection. Tired out with their unaccustomed exertions the two intrepid rowers reached Burton Port at last where an ambulance awaited their arrival and the patients were removed to Glenties. Mr. Smyth caught typhus fever and died in a few days, a veritable martyr to his splendid sense of duty.

This narrative epitomises the position of the Poor-law medical officer in Ireland. Here we have a man left single-handed amid a frightened, ignorant, callous peasantry, to combat a dangerously infectious disease as best he could. The sea must be passed before he can reach the hovels of the sick; he has no skilled assistance and no lay assistance. The representative of the department under which he works gives strenuous help at the last, but the dispensary medical officer dies at his post. And he dies for no purpose, for if similar circumstances arose to-day there is no guarantee against similar issues.

The manifest and manifold grievances of the medical officers of the Poor-law or public dispensary service in Ireland have been set forth frequently and clearly. In the columns of the *Journal of the Irish Medical Association*,[2] the *Medical Press and Circular*, and THE LANCET full particulars will be found of all the abuses under which the luckless officer of the Dispensary Medical Service abides. But no purview of the medical profession in its public relations can be complete which does not deal with the matter in detail, however often it may have been dealt with before, for the dispensary medical officers are the Poor-law officers, sanitary officers, and general practitioners of Ireland, and a large proportion of the Irish population comes into contact with no other medical men. Few people in England understand the hardships under which the Poor-law medical officers work in Scotland or Ireland and some may even be content to believe that the attitude of the bureaucracy, which stigmatises the officers of both services as chronic malcontents, is justifiable.

The main grievances of the medical officers of the Poor-law system in Ireland are the hardship of their work, the scantiness of their pay, the absence of promotion, the difficulty of obtaining holidays, the absence of definite arrangement for superannuation pensions, and their anomalous position as servants of the Poor-law guardians. They can be conveniently considered in the order in which I have set them down.

The following are the duties appointed for the dispensary medical officer by the Irish Local Government Board in respect of the dispensary work. He must attend the dispensaries on such days and hours as the Local Government Board may direct and afford outdoor medical relief to all poor persons presenting the "black ticket" for dispensary treatment. He must attend the patient's residence when he receives a "red ticket" and treat the case to its fortunate or unfortunate issue. He must keep a register of all patients attended either at their homes or at the dispensary and send the book monthly for inspection by the guardians, and he must also give a certificate, if needed, of the state of health of any dispensary patient if called upon to do so by the guardians. He [illegible] and make quar[illegible] Board for new su[illegible] his own medicine, for the last annual report of the Local Government Board of Ireland shows that in 746 dispensary districts only 47 compounders or dispensers are kept. He must send samples out of each consignment of drugs to be tested, he must pack up and return all empties. He must report to the guardians monthly his hours of attendance and the duration of his stay at the dispensaries. He must send quarterly to the Local Government Board and to the board of guardians a statement showing the number of tickets issued, the number of tickets cancelled, and the number of lunatics certified, as well as the number of cases that have occurred of small-pox, typhus fever, diphtheria, typhoid fever, and scarlet fever. He must answer questions about dispensary arrangements and anything else that either authority may want to know.

The tickets alluded to as "red" or "black" are in the gift of the guardians and are issued by them personally or through their relieving officers or wardens to the sick poor. The black ticket entitles its holder to medical advice and medicine at the dispensary; the red ticket is an order to the medical officer to visit the patient at his home. The guardians are supposed to be the sole judges of who is "poor," but the wardens, as the official ticket issuers are called, can distribute the tickets as they like, and they frequently abuse the discretion vested in them. This does not signify so much in the matter of the black ticket as the medical officer has to attend at the dispensary at certain hours and it does not make much difference to him when he is there if some of the patients to whom he has to administer charitable relief can really pay for his services. Every such abuse of the system diminishes the medical man's chance of making money out of private practice, but in many districts of Ireland this chance is so slight that the luckless medical men see [illegible] But the n[illegible] red ticket is an [illegible] it as a peremptory order, to visit the sick at their own homes. These homes may lie widely apart from each other and from the medical officer's house, journeys in cars over vile roads or in boats over rough seas may be necessitated, so that anything like an abuse of the issue of red tickets leads to most serious consequences. The medical man's time is occupied in long and unremunerative travel and his shallow purse is drained by boat- and cart-hire. But these things do not prevent the wrongful issue and employment of red tickets, while unfortunately it is not easy to say in Ireland who is and who is not entitled to the benefits of rate-paid medical attention.

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[1] [illegible] ., VII., VIII , IX., X., and XI. wer[illegible] b. 18th (p. 447), and 25th (p. 517), Mar[illegible] 25th (p. 817), April 1st (p. 877), 15t[illegible] (p. 1151), and May 6th (p. 1218) and [illegible]

[2] See especially an admirable "Report on the Poor-law Medical System in Ireland, with special reference to the Dispensary Medical Service" by the Special Commissioner of the British Medical Journal—British Medical Journal, March 26th, 1904.

So much for the dispensary officer's duties as a dispensary officer pure and simple, and they would seem to account for much of his time. The dispensary medical officer is, however, medical officer of health for his district also, and the whole sanitary administration of rural Ireland, such as it is, is in his hands. The larger cities, Dublin, Belfast, Londonderry, Limerick, and Cork, for example, have a proper medical officer of health, but there is no provision of county medical officers as obtains in Scotland. The dispensary medical officer is the only person in the countryside with an elementary knowledge of sanitation, but he is powerless to do anything. His additional salary as health officer amounts to only some £20, his time is over-occupied with his dispensary duties, he may have a few private patients to whom he must give a certain amount of attention, while he must feel that any efforts which he makes towards improving matters will be largely wasted. The people will not understand his object and the majority of his uneducated masters, the guardians, will share their ignorance. The dispensary medical officer is also the public vaccinator, factory surgeon, and very usually the registrar for births, deaths, and marriages. For these appointments he receives small fees which he is glad to earn. He also attends the men of the Royal Irish Constabulary Force and the coastguard and lighthouse staff. Such is a brief enumeration of the work performed by the dispensary medical officer.

The average pay is a fraction above £100 per annum as dispensary medical officer. To this pittance has to be added from £10 to £25 received for the discharge of sanitary duties but with this addition we find that out of 810 dispensary medical officers 500 receive less than £150 per annum, only 2 receive more than £200, and 32 receive under £100. Fees of 2*s.* 6*d.*, 2*s.*, 1*s.*, and 6*d.*, as registrar, vaccination officer, certifying factory surgeon, and surgeon to the Royal Constabulary and the coastguard and lighthouse staff have also to be added, and like the English guardians the Irish guardians point to vaccination fees as an excuse for starvation salaries. In the dispensary service there is virtually no promotion, so that a man cannot comfort himself for taking a small salary while he is young with a feeling that as he grows older and the expenses of a family begin to fall upon him his income will increase to meet his needs. Nor is there any certainty of a pension. It is within the discretion of the board of guardians to grant a pension to a retiring dispensary officer but they can refuse it to anyone who has offended them. Then the unfortunate medical man, who cannot be expected to have made any great provision for old age out of his income, must toil on in harness until he dies, being forced by penury to continue the work, however unfit to do his duties.

Tables I. and II. show the superannuation allowances, some of them terminable at a certain date, of all medical dispensary officers and workhouse medical officers paid during the year ending March 31st, 1903, which I have extracted from the figures in the last report of the Local Government Board of Ireland. The age, period of service in years, and salary are also given.

These figures, taken as a whole, form an unanswerable indictment of the system. We have only to look at the long average length of service and the low average size of pension to come to this conclusion. I have placed an asterisk (*) against a few special cases. It will be seen that out of 82 hard-working men 13, or nearly one-sixth, were compelled to remain in harness until over 70 years of age, one working until his eighty-fourth year. The Local Government Board of Ireland acknowledges that this position exists but seems unable to bring itself to take the initiative in promoting any remedy. No one should be placed in circumstances like those of the Irish dispensary medical officer and be compelled to abide in them until old age overtakes him, because he has been unable to make provision for the end of life and has no certainty of obtaining a pension. Note the case of the dispensary medical officer numbered in the first table "63" who was for 45 years in the service and who, when verging on 80 years of age receives a pension of a little more than

TABLE I.—*Medical Dispensary Officers.*

Number.	Age.	Service.	Salary.	Superannuation.
1	53	$19\frac{1}{2}$	£112	£55
2	$50\frac{1}{12}$	$20\frac{1}{4}$	104	52
3	$69\frac{1}{6}$	$30\frac{2}{3}$	127	63
*4	$70\frac{11}{12}$	$42\frac{1}{3}$	198	130
*5	75	$43\frac{1}{4}$	128	85
6	66	$30\frac{5}{6}$	152	50
*7	$76\frac{1}{12}$	$42\frac{2}{12}$	139	92
8	$67\frac{8}{12}$	$43\frac{5}{12}$	179	119
*9	$78\frac{9}{12}$	$51\frac{1}{4}$	133	88
*10	$68\frac{11}{12}$	$43\frac{7}{12}$	154	102
*11	$63\frac{5}{12}$	$39\frac{5}{12}$	108	72
*12	$83\frac{1}{12}$	31	286	191
13	$58\frac{7}{12}$	$29\frac{11}{12}$	198	129
14	$58\frac{2}{12}$	$25\frac{1}{12}$	126	74
15	$60\frac{1}{4}$	$28\frac{2}{12}$	109	69
*16	$67\frac{2}{3}$	$34\frac{1}{3}$	*277*	185
17	$45\frac{9}{12}$	$21\frac{2}{12}$	103	35
18	64	$28\frac{5}{12}$	161	100
19	$47\frac{1}{6}$	$21\frac{1}{3}$	106	51
20	$56\frac{5}{6}$	$28\frac{1}{6}$	106	67
21	$74\frac{1}{2}$	$38\frac{10}{12}$	119	75
22	$39\frac{2}{3}$	16	128	44
*23	$72\frac{3}{4}$	$45\frac{1}{12}$	173	112
24	$69\frac{1}{6}$	$26\frac{1}{2}$	171	60
25	$56\frac{1}{6}$	30	153	102
*26	$71\frac{5}{12}$	$45\frac{2}{12}$	174	116
27	$36\frac{8}{12}$	$9\frac{1}{12}$	126	31
28	$69\frac{1}{4}$	$24\frac{5}{6}$	156	88
29	55	29	289	139
30	66	$25\frac{10}{12}$	163	95
31	66	$30\frac{2}{3}$	162	108
32	40	$14\frac{4}{12}$	151	60
33	$64\frac{1}{12}$	24	139	71
34	$53\frac{1}{12}$	23	155	85
35	40	$11\frac{9}{12}$	145	50
36	60	$29\frac{1}{4}$	130	84
37	$60\frac{1}{2}$	$24\frac{3}{4}$	130	70
38	$62\frac{11}{12}$	$39\frac{5}{6}$	131	85
39	Not given.	14	141	90
40	$61\frac{1}{4}$	$30\frac{1}{3}$	155	95
41	$53\frac{1}{6}$	28	129	82
42	$60\frac{1}{3}$	$18\frac{7}{12}$	131	45
43	$68\frac{5}{12}$	$33\frac{5}{12}$	137	91
44	$50\frac{2}{3}$	$26\frac{1}{6}$	120	50
45	$55\frac{7}{12}$	$32\frac{7}{12}$	143	95
46	$61\frac{1}{2}$	$33\frac{1}{2}$	138	92
47	$68\frac{3}{4}$	$38\frac{7}{12}$	150	110
48	65	$21\frac{7}{12}$	100	35
*49	$70\frac{11}{12}$	$37\frac{3}{4}$	235	145
50	$69\frac{5}{6}$	36	133	88
51	$57\frac{4}{12}$	32	133	89
52	$56\frac{1}{4}$	$28\frac{5}{6}$	149	94
53	$57\frac{5}{6}$	$20\frac{5}{6}$	132	60
54	57	30	136	75
55	57	$16\frac{5}{12}$	191	51
56	$59\frac{5}{6}$	31	173	115
57	28	$\frac{11}{12}$	151	2 10*s.*
*58	71	29	148	99
59	$45\frac{7}{12}$	$20\frac{1}{4}$	172	62
60	58	$22\frac{10}{12}$	127	50
61	$45\frac{1}{6}$	$11\frac{3}{4}$	123	43
62	$48\frac{1}{2}$	$23\frac{1}{12}$	126	48
*63	$78\frac{1}{12}$	$45\frac{5}{6}$	121	81
64	$51\frac{5}{12}$	$25\frac{4}{12}$	171	80
65	$53\frac{11}{12}$	29	112	72
*66	$76\frac{7}{12}$	$54\frac{7}{12}$	*270*	98
67	$55\frac{1}{12}$	$31\frac{7}{12}$	153	79
68	64	$37\frac{4}{12}$	168	112
69	$76\frac{2}{3}$	$38\frac{4}{12}$	157	134

Table II.—*Workhouse Medical Officers.*

Number.	Age.	Service.	Salary.	Superannuation.
1	$67\frac{8}{12}$	$43\frac{2}{12}$	£90	£60
2	61	32	150	80
*3	$78\frac{1}{2}$	$44\frac{1}{2}$	130	86
4	$57\frac{5}{12}$	$28\frac{11}{12}$	80	50
5	63	$30\frac{1}{12}$	244	160
6	$32\frac{3}{4}$	$4\frac{5}{12}$	60	7
7	57	28	120	80
*8	65	$41\frac{6}{12}$	80	53
9	$50\frac{3}{4}$	22	90	48
10	$42\frac{3}{4}$	$16\frac{1}{12}$	60	20
11	$51\frac{1}{2}$	$25\frac{1}{2}$	110	64
12	$67\frac{7}{12}$	$38\frac{3}{4}$	100	63
*13	70	37	100	66

30*s.* per week. From one such text a sermon of complete indictment of the whole system could be preached. Note, also, the number of retirements at an unusually early age. The cause assigned to most of these retirements is physical breakdown. The exacting nature of the life of the Irish dispensary medical officer could not be shown in a more lurid way, and a factor in producing this frequent breakdown is the monotonous persistency of the work. There is no definite regulation providing for any recreation or holiday leave for the medical officers. Until recently the medical officer got no holiday at all. The guardians refused to make any grant towards the expenses or the fees of a substitute, and the medical officer never had money enough to pay a substitute and also to go away. And so to the manifest detriment of his own interests and those of the community whom he served, he remained day in and day out on his dreary rounds. The position has been improved by a general order made in 1899 by the Local Government Board of Ireland for an annual vacation not exceeding four weeks for each medical officer, while three years later recoupment was provided from the Board of one half of the amount paid by the guardians with the Local Government Board's sanction. It will be seen that the unfortunate medical officer has to get the acquiescence of the guardians, who in their turn have to get the sanction of the Local Government Board. There ought not to be any necessity for all this routine. In every walk of life it is now recognised that a hard-working employé has a right to a holiday, that he ought to be allowed to go as a matter of right in enjoyment of his salary, and ought not to be taxed by having to pay a substitute. The fact that many, a majority, of the officers of the Irish Medical Poor-law Service do now get these fitting opportunities for a vacation shows that the local authorities who control the service are waking up to the situation. Soon the officer's right to a holiday will be taken by him as a right, at present it is yielded to him after requests, and perhaps bickering, as a concession.

And over and above all these grievances there is the medical position to be remembered. Always the razor is used to cut the firewood. The scientific man is never spared, if the guardians or the Local Government Board of Ireland can help it, by a proper supply of assistants to take the lower administrative details off his hands. Imagine 746 dispensary districts with but 47 compounders, and 119 dispensary assistants among them, so that the great majority of the dispensary medical officers have to dispense their own medicine. Again, there is a dearth of midwives who might act as assistants to the medical officers and spare them much arduous waiting and watching, for 551 women do not go far when it is remembered how much of the country the poor relief system of Ireland has to serve. The unpacking of medicines, the despatching of samples, and the returning of empties, clearly the work of a boy or porter at a few shillings a week, have to be done in most cases by the medical officer himself Then his clerical work has to be considered. He has to keep records of his work to be shown to the guardians, he has to supply statistics for the consideration of the Local Government Board, and no amount of overwork is allowed to excuse a default.

knows it. There
sh ore assistance, the
du ers by central and
local authority should be less vexatiously in evidence, the elections of the medical officers should be managed on proper principles, and the Local Government Board should support the medical officers where the local authorities try to oppress them. Everyone knows the crying need of these things but nothing is done.

(*To be continued.*)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of the Council was held on May 13th, Mr. John Tweedy, the President, being in the chair.

Mr. Herbert J. Paterson was introduced and the President handed to him a cheque for the amount of the Jacksonian prize, together with a document declaratory of the award.

It was resolved that diplomas of Membership should be issued to 108 successful candidates.

A report was circulated, which had been drawn up by Dr. P. H. Pye-Smith, chairman of the Laboratories Committee, on the history and work of the Laboratories since their opening in 1890. The report was received and entered on the minutes and the best thanks of the Council were given to Dr. Pye-Smith for his interesting and valuable account.

The President reported that the solicitor of the College had made inquiries regarding the person calling himself wrongfully F.R C.S. and stated that he had instructed the solicitor to take steps with a view to prosecuting this person for his false assumption of the title F.R.C.S.—The proceedings of the President were approved and confirmed.

The Council resolved to give a reception at the College to the members and visitors of the Atlantic Union on a date to be settled later.

The Council elected a Fellows Dinner committee.

A letter was read from the registrar of University College, Sheffield, stating that in the Charter for incorporating a University of Sheffield which the Privy Council has recommended His Majesty the King to grant, provision has been made for the Royal College of Surgeons of England to have a representative on the University Court and asking that steps may be taken for the appointment of such a representative. The Council appointed the President as their representative.

The President reported that he had received a letter from Mr. Thomas Bryant presenting to the College some letters and a photograph of historic interest.—The best thanks of the Council were given to Mr. Bryant for his gift.

The President reported that he had approved of a proposal by the executors of the late Mrs. Jane Begley to purchase £800 2½ per cent. Consols in the name of the Royal College in satisfaction of Mrs. Begley's bequest to the College.—The President and the Vice-Presidents were requested to draw up regulations for the award of the Begley scholarship.

The Council resolved—

study from the date of passing the preliminary science examination.

ASYLUM REPORTS.

City of London Asylum (*Annual Report for 1904*).—During the year under review there were admitted into this asylum 178 patients; the discharges amounted to 142, of whom 57 had recovered, and the deaths to 34. Only one of the deaths was due to pulmonary tuberculosis, a very satisfactory record. The resident population at the close of 1904 was 565, 257 being private patients. The visiting committee reports the resignation of the medical superintendent, Dr. Ernest W. White, who retires upon a liberal pension, and expresses its high appreciation of his services. He is succeeded by Dr. R. H. Steen. The private department continues to be an important feature of this asylum; a table is given showing its steady growth since its initiation in 1892. During 1904 86 private patients were received. The profits arising from the maintenance of this class allow of the transfer of a considerable surplus in relief of the county rate. According to the printed regulations the charge for the maintenance of private patients is £1 1*s.* weekly but the Commissioners in Lunacy in their report state that the charge is from one to two guineas. In either case the charge is a moderate one and should meet a genuine need. The charge for the home patients is given as 12*s.* 3*d.* per week, which is high in comparison with the average of public asylum charges. Dr. White's report makes mention of a case of suicide by hanging by means of a rope attached to a gas pipe. The general health of the asylum was good. Only one case of typhoid fever occurred, whereas in previous years there had been outbreaks of typhoid fever and colitis which were due to contamination of the asylum well and disappeared on changing the water-supply. The Commissioners comment on the fact that at this asylum the practice of allowing patients to go out on trial, which has worked advantageously in most asylums, has never been adopted and they commend its adoption. Their report speaks favourably of the condition of the institution throughout.

St. Andrew's Hospital for Mental Diseases at Northampton for the Middle and Upper Classes (*Report for 1904*).—From the report of Mr. J. Bayley, the medical superintendent, it appears that this hospital received in the year 98 cases, of which 20 were readmissions; the discharges amounted to 64 and the deaths to 16. The average number resident was 405. The percentage of deaths on these was 3·95. The percentage of recoveries on admissions, excluding transfers, was 30·26. In this institution the patients pay for their own maintenance, but it appears from the report of the committee of management that 88 patients were assisted in their payments, presumably by the institution from its funds, to the extent of some £3700 in the year. In this way their payments were made up to the lowest rates ordinarily charged. This hospital has the advantage of a seaside house where patients can be sent on leave.

THE ROYAL SOCIETY CONVERSAZIONE.

"AN evening with the microscope" might fairly describe the conversazione held in the rooms of the Royal Society on May 17th. The subjects under microscopic study varied considerably in kind and comprised histology, bacteriology, marine biology, and the microscopic inspection of metallic surfaces. The exhibit of Professor J. B. Farmer, F.R.S., Mr. J. E. S. Moore, and Mr. C. E. Walker in the principal library attracted a good deal of attention. As the readers of THE LANCET might anticipate, this exhibit referred to the cellular constituents peculiar to cancerous and reproductive tissues. The structures known as "Plimmer's bodies" have been regarded as parasitic organisms or as specific cellular peculiarities confined to malignant tissues. They have recently been identified as being present also in normal reproductive tissues in which they form a definite organ of the cell during its conversion to a spermatozoon and the two preceding divisions. Close by this exhibit Dr. H. Charlton Bastian, F.R.S., illustrated the simplest kind of protoplasm. Common bacteria are found to grow freely in a solution of ammonium tartrate, from which it is evident that they must fashion their protoplasm in some way from carbon, hydrogen, oxygen, and nitrogen only, though sulphur and phosphorus (which are completely absent in this case) are commonly regarded as necessary constituents of living matter. Brevet Lieutenant-Colonel W. B. Leishman, R.A.M.C., showed the parasite of "kala-azar," a protozoal organism found in the spleen and other organs in cases of "kala-azar," an extremely fatal disease occurring in epidemic form in Assam and also in endemic form in other parts of India and the tropics. The mode of infection is not known. In artificial cultures the parasite developes into a flagellated organism closely resembling a trypanosome. Mr. H. S. Wilson, M.B., illustrated the isolation of bacillus typhosus from water by means of alum precipitation. The precipitate, which is known to be destructive to many water and sewage organisms, is without action on the typhoid bacillus. Mr. D. Findlayson exhibited a very interesting accessory to the microscope which is designed to enable the images of two different objects mounted on separate microscopic slides to be projected side by side into the field of view, thereby enabling a thorough comparison to be made of their respective points of difference and resemblance. The "comparascope," as it is called, will be obviously valuable in bacteriological work and in the detection of adulteration of starches and other substances. Mr. Carl Zeiss exhibited an optical appliance to facilitate visual perception of ultra-microscopic particles. Particles it is stated of far less than half a wave-length can be made visible. The application of the electric current to the production of high temperature was very well illustrated in certain exhibits. The Director of the National Physical Laboratory, for example, exhibited furnaces constructed of rare earths (zirconia, &c.) such as are used in the Nernst electric lamp. The furnaces are available for temperatures ranging between 800° and 2000° C. The apparatus has been used for the determination of the melting point of platinum and a model in working order was exhibited. Mr. R. S. Hutton exhibited some new models of laboratory electric furnaces. The exhibit included samples of refractory oxides fused in the electric furnace and a number of quartz tubes. Mr. R. H. Lock showed a very interesting series of specimens of cross-bred maize illustrating inheritance. The resulting cobs showed strikingly different degrees of blending of character illustrated by the differently coloured grains.

Perhaps the most popular exhibit was that of Sir William Crookes, F.R.S., who showed some very interesting specimens illustrating the action of light and of radium upon glass. Radium will produce in a few days as intense a colouration in glass containing manganese as exposure to the sun has taken years to effect. The exhibit included specimens of glass taken from greenhouses at Kew Gardens. In these instances the glass adopted had a greenish tint but by the action of sunlight the glass had become colourless, while in other cases a purple tint had developed owing to the manganese oxide present. Close by this exhibit Mr. G. W. Beilby demonstrated in a very pretty experiment the phosphorescence caused by the beta-rays of radium. Dealing with a similar subject Sir William Ramsay, F.R.S., illustrated the action of actinium or emanium emanation on a sensitive screen. The substance is obtained from pitchblende and when the emanation impinges on a sensitive screen the screen becomes luminous. The luminous patch can be "blown away" but reappears. The demonstration given by Sir Oliver Lodge in the meeting room of the use of electric valves for the production of high tension continuous current was very interesting. These valves can be employed to accumulate electricity supplied from an intermittent or jerky source and to store it at a steady high potential. Thus a small portable coil may be used to imitate some of the effects of a much larger coil by the storage and accumulation of impulses. Among the applications suggested are the separation of metallic fumes and the dissipation of fog.

The company present was a very large one and of the usual representative and distinguished character, and was received by Sir William Huggins, K.C.B., O.M., D.C.L., the president.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 19, 1827.

CARLISLE, in his first letter to Mr. PEEL,[1] says, "If, however, the greediness of a few individuals should expose this subject (man-midwifery) to free discussion, and the judgment of married men and modest women should be copiously awakened, perhaps the general custom of employing women may be again resorted to;" and in his second letter,[2] this disgusting egotist submits the following proposition:—"I, therefore, now propose the restoration of the practice of midwifery to females, beginning with the introduction of the *wives, widows, or female kindred of medical practitioners*." Hence, according to his own showing, he recommends that the wives, widows, and female kindred of medical men should addict themselves to "a *degrading vocation*," a "dishonourable vocation;" that they be "associated with nurses and gossips for whole days and nights," * * * * * * "in a lying-in room, where often none but ignorant women are present."

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[1] Vide "Looking Back" in THE LANCET of March 4th, 1905, p. 592.

[2] Letter in *The Times* of May 1st, 1827, copied into THE LANCET of May 5th, 1827.

If the GENERAL PRACTITIONERS of the British empire, previously to the publication of this proposal, were ignorant of the opinion entertained of them by the *Hospital Surgeons* of London, they cannot be so now. Sir Anthony confesses, indeed, that he has not written "*unadvisedly*," which implies, we presume, that his letters have been sanctioned by his colleagues with "enlarged intellect." One would have supposed that Carlisle could have communicated his "professional thoughts" to Mr. Peel without mixing them up with charges of the most horrible description and suggestions of the most insulting character, appertaining to the professional avocations of GENERAL PRACTITIONERS and their wives. Pray who are the wives of general practitioners? Who? why, the daughters of the most respectable, the most wealthy, and independent gentlemen and merchants of England; ladies who, in no single circumstance, are inferior to the "wives, widows, and female relatives," of the ignorant, conceited, malignant, lying, insulting, boasting, hospital surgeons of this metropolis. If Carlisle had made it the chief object of his life to accomplish the degradation of general practitioners, he could not more completely execute his task than in the adoption of his proposal. The wife, quoth this benighted oyster, "may thus secure his female patients against the inroads of his competitors, and establish a respectable maintenance for such females;" so that we are to believe, first, that the talents of the general practitioner are not a sufficient security against the inroads of competitors; and, secondly, that he is incapable of procuring for his wife those comforts which, from her station in society, she requires; two inferences so truly insulting to the feelings of this class of gentlemen, that it is with pain we commit them to paper, although for the purpose of exposure and refutation. In this country, and we are delighted that it should be so, it is considered that nothing bespeaks want of talent, want of energy, want of industry, want of a correct and honourable spirit, more decidedly, than for a man to require from his wife the execution of any portion of labour as a necessary adjunct to his support, and we believe this feeling pervades even the inferior grades of tradesmen; what, amongst such people, [illegible] proachful than to say of a ma [illegible] half supports, his family; yet [illegible] would Carlisle reduce the general practitioner! and thus render him a bankrupt in character, as well as in pocket, whilst his wife and female relatives would be excluded from all respectable society, through following a "degrading and dishonourable vocation." Oh that there were

> ———"In every honest hand a whip,
> To lash the rascal naked through the world."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

[illegible] was 9133 births and 4486 [illegible] week ending May 13th. [illegible] se towns, which had been 15·6, 16·5, and 15·4 per 1000 in the three preceding weeks, further declined last week to 15·0 per 1000. In London the death-rate was 14·7 per 1000, while it averaged 15·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 4·0 in Burton-on-Trent, 5·9 in Leyton, 7·4 in Hornsey, 7·6 in Handsworth (Staffs.), 8·3 in Willesden, 9·0 in Aston Manor and in Stockton-on-Tees, and 9·9 in Walthamstow; the highest rates were 20·8 in Oldham, 20·9 in Great Yarmouth, 21·2 in Sheffield, 21·9 in Merthyr Tydfil, 23·5 in Wigan, and 23·7 in Warrington. The 4486 deaths in these towns last week included 401 which were referred to the principal infectious diseases, against 453, 460, and 469 in the three preceding weeks; of these 401 deaths, 174 resulted from measles, 110 from whooping cough, 37 from diarrhœa, 31 from scarlet fever, 27 from diphtheria, and 22 from "fever" (principally enteric), but not any from small-pox. In Hornsey, Norwich, Plymouth, Walsall, Rochdale, Burnley, Huddersfield, and eight other smaller towns no death from any of the principal infectious diseases was registered; the highest death-rates from these diseases were recorded in Hanley, West Bromwich, Smethwick, Warrington, Oldham, Sheffield, Middlesbrough, West Hartlepool, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in West Bromwich, Smethwick, Coventry, Warrington, Sheffield, Middlesbrough, West Hartlepool, and Merthyr Tydfil; from diphtheria in West Hartlepool; from whooping-cough in West Ham, Hanley, Smethwick, Preston, and Middlesbrough; from "fever" in South Shields; and from diarrhœa in Wolverhampton. The mortality from scarlet fever showed no marked excess in any of the large towns. No death from small-pox was registered either in London or in any of the 75 large provincial towns. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had been 17, 16, and 17 at the end of the three preceding weeks, was again 17 at the end of last week; two new cases were admitted during the week, against six, four, and four in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 2177, against 2128, 2182, and 2152 at the end of the three preceding weeks; 319 new cases were admitted during the week, against 253, 255, and 235 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 272, 306, and 256 in the three preceding weeks, further declined last week to 251, but were 20 above the number in the corresponding period of last year. The causes of 49, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Leeds, Hull, Newcastle-on-Tyne, and in 53 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Coventry, Leicester, Liverpool, Manchester, Blackburn, Bradford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·8, 18·8, and 18·0 per 1000 in the three preceding weeks, rose again to 19·5 per 1000 during the week ending May 13th and was 4·5 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·2 in Leith and 15·2 in Perth to 21·1 in Glasgow and 22·1 in Aberdeen. The 653 deaths in these towns last week included 32 which were referred to measles, 30 to whooping-cough, nine to diarrhœa, six to diphtheria, four to "fever," and two to scarlet fever. In all 83 deaths resulted from these principal infectious diseases last week, against 69, 59, and 57 in the three preceding weeks. These 83 deaths were equal to an annual rate of 2·5 per 1000, which was 1·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 23, 21, and 16 in the three preceding weeks, rose again last week to 32, of which 26 occurred in Glasgow and five in Edinburgh. The deaths from whooping-cough, which had been 23, 27, and 26 in the three preceding weeks, increased again to 30 last week, and included 20 in Glasgow, four in Edinburgh, two in Aberdeen, and two in Paisley. The fatal cases of diarrhœa, which had been 12, eight, and 15 in the preceding weeks, further declined last week to nine, of which four were registered in Glasgow, two in Edinburgh, and two in Aberdeen. The deaths from diphtheria, which had been six, one, and four in the three preceding weeks, rose again to six last week and included three in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been three, one, and three in the three preceding weeks, further rose to four last week and included one case of typhus in Glasgow and one case of plague belonging to Leith. The two deaths from scarlet fever were both recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 126, 121, and 132 in the three preceding weeks, declined again last week to 108, but were 18 in excess of the number in the corresponding period of last year. The causes of 20, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·4, 21 9, and 22·0 per 1000 in the three preceding weeks, rose to 23·7 per 1000 during the week ending May 13th. During the past four weeks the death-rate has averaged 22·8 per 1000, the rates during the same period being 15·0 in London and

17·7 in Edinburgh. The 172 deaths of persons belonging to Dublin registered during the week under notice were 12 in excess of the number in the preceding week, and included eight which were referred to the principal infectious diseases, against 12, eight, and eight in the three preceding weeks; of these, four resulted from measles, three from diarrhœa, and one from "fever," but not any from small-pox, scarlet fever, diphtheria, or whooping-cough. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·2 in London and 2·3 in Edinburgh. The fatal cases of measles, which had been four, two, and three in the three preceding weeks, rose last week to four. The deaths from diarrhœa, which had been three, three, and one in the three preceding weeks, increased again to three last week. The 172 deaths in Dublin last week included 25 of children under one year of age and 55 of persons aged 60 years and upwards; the deaths of infants were slightly below the number in the preceding week, but those of elderly persons showed a considerable excess. Four inquest cases and four deaths from violence were registered; and 72, or more than two-fifths, of the deaths occurred in public institutions. The causes of three, or nearly 2 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: T. W. Myles and C. M. Woods to the *Glory*, for disposal; W. H. Pope to the *Donegal;* E. G. E. O'Leary to the *Sapphire II.;* D. H. Vickery to the *Dryad;* F. J. Gowans to the *Leda;* H. Woods to the *Circe;* E. B. Kenny to the *Hebe;* and J. Shipsey to the *Speedwell.*

ROYAL ARMY MEDICAL CORPS.

According to the May Army Orders amendments are to be made in the King's Regulations in regard to the examination of Majors, R.A.M.C. The following is to be inserted at the end of paragraph 1197:—

> Failure in one technical subject will necessitate re-examination in that subject alone; failure in more than one technical subject will entail re-examination in all (to take effect from Jan. 1st, 1906).

The following will be substituted from Jan. 1st, 1906, for Paragraphs 3 and 4 of Appendix VIII.B:—

> Technical subjects: 3. Sanitation of towns, camps, transports, and all places likely to be occupied by troops in peace or war; epidemiology and management of epidemics. 4. The laws and customs of war so far as they relate to the care of the sick and wounded.

Paragragh 5 (*c*) is cancelled. The following addition will be made to the list of "books recommended:" "The Laws and Customs of War on Land," edited by Professor T. E. Holland, K.C.

Major G. S. Mansfield has embarked for service in Bermuda. Major J. D. Alexander is appointed to the charge of the Military Hospital, Birr, vice Major H. St. G. S. Hore, who proceeds to Dublin for duty. Major A. A. Sutton, D.S.O., is appointed Senior Medical Officer, Sierra Leone. Colonel R. H. Quill is promoted to Surgeon-General and appointed Principal Medical Officer at Netley. Lieutenant-Colonel O. E. P. Lloyd, V.C., is promoted to Colonel and appointed Administrative Medical Officer at Dover.

Major C. H. Burtchaell, from the Seconded List, to be Major (dated May 3rd, 1905). Lieutenant-Colonel A. H. Burlton retires on retired pay (dated May 17th, 1905).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major R. Chalmers to be Surgeon-Lieutenant-Colonel (dated May 2nd, 1905). Surgeon-Lieutenant W. J. Reid to be Surgeon-Captain (dated April 30th, 1905).

THE SIR WILLIAM TAYLOR PRIZE, 1904.

The Sir William Taylor prize of 25 guineas has been awarded to Major W. H. Horrocks, R.A.M.C., in recognition of his distinguished practical and scientific work in connexion with his article on Drain Flushing as contributed to the *Royal Army Medical Corps Journal* in March, 1904, and for his work on the Saprophytic Existence of the Micrococcus Melitensis outside the Body, its Mode of Entrance into the Animal Body and Mode of Leaving the Same, as published in the reports of the Commission for the Investigation of Mediterranean Fever appointed under the supervision of an advisory committee of the Royal Society.

IMPROVED PAY IN THE INDIAN MEDICAL SERVICE.

Certain improvements in the pay of the Indian Medical Service, as specified below, have recently received the sanction of the Secretary of State for India in Council. 1. In the case of military appointments carrying consolidated rates of pay, increases in those rates have been made analogous to the increases in the pay of rank sanctioned in 1903. This does not apply to appointments held by officers in the rank of colonel or surgeon-general, as no increase was made in the pay of those ranks. 2. The pay of the majority of civil appointments has been increased, the increases in this case also being analogous to the recent increases in the pay of rank. The changes that will affect the largest number of officers are as follows: (*a*) The pay of civil and agency surgeons, first and second class, is fixed at Rs.50 a month more, and Rs.50 a month less, respectively, than the pay drawn by officers of the same rank in charge of native regiments. (*b*) Officers in charge of first- and second-class central jails will receive Rs.100 and Rs.50 respectively more than is drawn by officers of the same rank in charge of native regiments. The following new rates may also be mentioned: (*a*) Inspector-General of Civil Hospitals, Bengal, Rs.2500; (*b*) Inspector-General of Civil Hospitals, Punjab and Burma, Rs.2250; and (*c*) Sanitary Commissioners, Rs.1500-60-1800. 3. The military rates of leave pay are revised as follows:—

On first appointment	£250	a year.
After the commencement of the tenth year's service for pension	300	,,
After the commencement of the fifteenth year's service for pension	450	,,
After the commencement of the twentieth year's service for pension	600	,,
After the commencement of the twenty-fifth year's service for pension	700	,,

4. The promotion of officers from captain to major is accelerated by six months in the case of officers who fulfil certain specified conditions. 5. The rates of half-pay have been assimilated to those drawn by officers of the Royal Army Medical Corps—viz.:—

Under five years' service	6*s.* 0*d*	a day.
After five ,, ,, ...	8*s.* 0*d.*	,,
,, 10 ,, ,, ...	10*s.* 0*d.*	,,
,, 15 ,, ,, ...	13*s.* 6*d.*	,,

THE NEW MILITARY HOSPITAL AND SCHOOL AT MILLBANK.

It has been announced that under a new scheme about to be introduced the War Office authorities will provide their own specially qualified medical officers and hope thereby to reduce the expenditure on the medical department and to increase its efficiency. This scheme includes the erection of an army medical school at Millbank on a vacant site in close connexion with the newly constructed military hospital there, the building of which has been completed and will shortly be opened. The new Army Medical College will, it is estimated, cost £250,000.

VITAL STATISTICS OF THE FRENCH ARMY FOR THE YEAR 1902.

The vital statistics of the French army for 1902, compiled under the direction of Professor G. H. Lemoine of Val-de-Grâce, have recently been issued from the National Printing Office. In this volume of close on 500 pages, with numerous charts and diagrams, there is to be found, says a writer in the *Archives de Médecine et de Pharmacie Militaires* for last February, not merely a bald compilation of figures but a detailed and authoritative analysis of the varied morbid causes which have exerted an influence on the sanitary condition of the troops. The general sick-rate for the year was 594 per 1000 of strength against 615 per 1000 in 1901. Cases treated in the "infirmaries" are included in this rate as well as those which are admitted into the regular hospitals. The chief sources of disability were as follows, per 1000 of strength: affections of the respiratory organs, 65·8; sore-throat, 57·9; influenza, 25·3; mumps, 17·1; articular rheumatism, 17·0; measles, 12·0; tuberculosis, 7·3; and typhoid fever, 3·8. In Algeria paludal affections head the list with 70·3 per 1000 admissions, while the rate for typhoid fever rises to 17 8 per 1000, or nearly five times that of the home army. The diagram that shows the mortality-rate is a striking one. In 1880 the death-rate for the home army was 9·46 per 1000, but ever since it has gone down steadily till in 1902 it was no more than 4·24 per 1000. Including the troops that are stationed in Algeria the general death-rate for the year 1881 was 11·98 per 1000, but by 1901 it had gone down to 5·37 per 1000, while in 1902 it was only 4·80 per 1000. But if the death-rate has fallen the invaliding-rate and the sick furlough-rate have both risen considerably. In 1902 the number of permanent invalids was at the rate of 19·1 per 1000 of strength, while no fewer than 10,312 more weakly recruits were sent to their homes temporarily for reasons of health.

THE WAR IN THE FAR EAST.

There is an interesting article in the *Century Magazine* for the present month by Anita Newcomb M'Gee, M.D., under the heading of "How the Japanese Save Lives," which has probably been already read by many medical officers, and, in any case, is well worthy of their attention. Its author acted as supervisor of nurses at the base at Hiroshima, while on the hospital ships, and at the hospitals on the Yalu river, and is therefore able to speak with some authority from special knowledge and personal observation and experience acquired at the seat of war. Dr. M'Gee, in addition to having a good deal to say about the surgery of the war and its results and other points, dwells particularly upon the relative freedom of the Japanese from typhoid fever:—

> Typhoid has been almost [illegible] isolation of every case of typhoid, which is treated as a contagious disease.

There is no reason to doubt the substantial accuracy of these figures and the Japanese medical authorities may well be congratulated on their sanitary successes in this war. It rarely happens, however, that facts work themselves out in this world, and especially in war, after the unerring and unconditioned fashion of a multiplication table. We have, in order to get similarly successful results, not only to follow but to understand the reason of the methods adopted. This in the case of typhoid fever presupposes a knowledge not only of the disease-producing germ but from a prophylactic standpoint of the favouring conditions and fitting soil necessary for its development. The subject is one which lends itself to much legitimate speculation in the present and to further inquiry in the future and the reader is referred to our remarks thereon in another column.

One of the most disabling diseases to which the Japanese are liable is beri-beri. Professor Ward, speaking last week at the Royal Institution on Fungi, said there was a mould which was called "lurking fungi" and generally attacked grain. It was his belief that beri-beri was caused solely by a "lurking fungus" in the rice. This was a very serious thing to eastern nations, especially to an army in the field like that of the Japanese now in Manchuria. He was now awaiting specimens of affected rice from the East for the purpose of proving his suspicions.

As to the progress of the war in the Far East there is no news of any importance to be recorded either from Manchuria or as regards the naval situation. Our knowledge in respect of the latter is altogether so scanty as only to lead to futile speculation. We know neither the position nor the strength of Admiral Togo's fleet and almost as little about that of the Russians. But we may be sure that a good deal of "hard thinking" is being done both sides in preparing for coming deeds both by sea and land.

The general meeting of the Russian Red Cross Society was held on May 7th, when the report of the executive committee was read. After acknowledging the munificent assistance rendered by the various branches of the Imperial family and the nobility and the handsome aid contributed by Germany, France, Bulgaria, &c., the report states that the general total of income from all sources dating from Feb. 9th, 1904, has been 28,840,093 roubles, which with the addition of the reserve capital of the society as at Feb. 9th, 1904, namely, 5,527,183 roubles, makes a grand total of over 32,000,000 roubles—say £3,200,000 in round figures—and this does not include the maintenance of some of the establishments, such as the Finnish and Jewish hospitals, and others mentioned above. It is estimated that the expenditure for the balance of the year from Feb. 9th, 1905, will be about 20,000,000 roubles, and the *Sviet* rather holds out the prospect of the society having to appeal to the State Treasury for assistance, for it is notorious, according to some of the most responsible papers, that the subscriptions are not so generous now as they were in the early stages of the war.

It is expected that the King will shortly visit Aldershot and that His Majesty will in that case be asked to unveil a memorial which has been erected at Gun Hill, near the Cambridge Hospital, to the members of the Royal Army Medical Corps who fell in South Africa.

Correspondence.

"Audi alteram partem."

SIR THOMAS BROWNE MEMORIAL STATUE.

To the Editors of THE LANCET.

SIRS,—The statue of Sir Thomas Browne which is being executed by Mr. Henry Pegram, A.R.A., is now well advanced and it is intended that it shall be erected and unveiled in its position in the Haymarket, Norwich, on Oct. 19th of this year, that being the tercentenary of Sir Thomas Browne's birth. The greater part of the cost of the statue has been already subscribed but a further sum of about £100 is still required. The committee therefore venture to send this appeal, trusting that former subscribers will now, after the lapse of such considerable time, kindly assist them by giving a small additional contribution.

Donations will be gladly received by the acting honorary secretary, King-street House, Norwich, or at the bank of Messrs. Barclay and Co., Limited, Norwich.

We are, Sirs, yours faithfully,
PETER EADE, M.D. Lond., Chairman.
W. T. BENSLY, LL.D., } Honorary
CHAS. WILLIAMS, F.R.C.S. Edin., } Secretaries.
FREDERIC R. EATON, Acting Honorary Secretary.
Norwich, May 15th, 1905.

THE AERIAL CONVECTION OF SMALL-POX.

To the Editors of THE LANCET.

SIRS,—I notice that your report of my remarks at the Epidemiological Society's discussion on the aerial convection of small-pox makes me suggest that Dr. G. S. Buchanan in his paper suppressed all evidence on the other side of the question. I cannot believe that I suggested anything of the kind nor can I think that the majority of the audience understood me in that sense Dr. Buchanan's allusion to the negative case of Manchester is quite sufficient to clear him of any such charge. I still think that his paper makes by far the strongest case for aerial convection of any yet published. I certainly may have suggested that cases where hospital influence is evident are much more likely to come under the notice of Local Government Board officials than cases where it is not so, but even if I made such a suggestion, that does not imply that facts are "suppressed." I should be much obliged if you would kindly publish this disclaimer.

May I add that, like Dr. A. Newsholme, my attitude on the aerial question is merely that of [illegible] my remarks was rather to sugg[illegible] ment Board recommendations [illegible] and in some cases positively vexatious.

I am, Sirs, yours faithfully,
CLAUDE B. KER, M.D. Edin.,
Medical Superintendent of the Edinburgh City Hospital.
Edinburgh, May 14th, 1905.

THE PROPHYLACTIC INJECTION OF DIPHTHERIA ANTITOXIN.

To the Editors of THE LANCET.

SIRS,—In an annotation under the above heading in THE LANCET of May 13th (p. 1285) the satisfactory results recorded in two recent German papers are described. Such records will, no doubt, be of great service in encouraging others to employ protective injections against diphtheria more frequently and with undoubted benefit to their patients. I should, however, like to point out that, although the results as regards the patient may in most instances be satisfactory, there is a danger in private practice that unless the injections are combined with systematic bacteriological examination the immunised patient may possibly act as a source of infection for others, although apparently free from disease himself.

In the autumn of 1903 I examined a "swab" taken from the throat of a woman who had been attending a fatal case of diphtheria and had received a prophylactic dose of antitoxin about a fortnight previously. It yielded a typical culture of virulent diphtheria bacilli. The patient had herself been free from symptoms but three children with whom she had come into intimate contact had developed the disease. From the throat of each of them I obtained diphtheria bacilli. It is, of course, possible that there is no connexion between the two sets of cases and that the woman instead of being a "carrier," as appeared probable, was herself infected at the later date. Such an experience suggests, however, that it is advisable to take precautions and to combine the prophylactic use of diphtheria antitoxin with routine bacteriological examination until it can be proved that such injections not only protect the recipients but also the community at large.—I am, Sirs, yours faithfully,

Beaumont-street, W., May 15th, 1905. P. J. CAMMIDGE.

TETANUS AND CHLORAL HYDRATE.

To the Editors of THE LANCET.

SIRS,—In the interesting paper by Mr. J. Maberly on the above subject in THE LANCET of May 6th, the writer mentions that he is not aware of any records of such large doses being given without adverse symptoms. It may interest him, therefore, to know that in 1874 Oré[1] injected chloral hydrate in a case of tetanus with successful results. Two intravenous injections of nine grammes each (a total of about 270 grains) were given within a short interval and the dose was repeated on the two following days. The patient passed into a profound state of anæsthesia and eventually recovered. Mr. Maberly's patient received 240 grains within 11 hours, half per os and half per rectum. Other cases are on record but they were not so favourable as Oré's original one. Cruveilhier's[2] patient died during the anæsthesia, after receiving 29 grammes (435 grains) in five days. Abbé's[3] patient became cyanosed after one injection of ten grammes (150 grains) and after consciousness was restored died in tetanic spasms. Oré[4] subsequently used chloral hydrate intravenously as a general anæsthetic, from five to ten grammes (from 75 to 150 grains) producing an anæsthesia of about half-an-hour's duration. In all about from 30 to 40 cases are on record but the dangers of the method were eventually found far to outweigh its usefulness.

I am, Sirs, yours faithfully,
J. M. FORTESCUE-BRICKDALE, M.A., M.D. Oxon.
Clifton, May 13th, 1905.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hollymoor Asylum.

THE Rubery-hill Asylum annexe at Hollymoor was opened on May 6th by the Lord Mayor of Birmingham in the presence of a large assembly. It occupies a site of 120 acres a short distance from the existing asylum at Rubery. It comprises patients' blocks and administrative buildings, a spacious dining and recreation hall, engine and boiler houses, laundry, bakehouse, and workshops, homes for attendants, nurses, and servants, with dining and recreation rooms. There is an attractive Gothic church in the grounds, also an isolation hospital, with the necessary administrative department. As the asylum is to be treated as an annexe of the Rubery-hill Asylum no residence has been built for the medical superintendent but accommodation has been provided between the male and female sides for three assistant medical officers. Lodges have been erected at two entrances and detached residences have been built for the engineer, the head attendant, the gardener, and eight married attendants. The building will be capable ultimately of providing accommodation for 1000 patients but blocks have only at present been erected for 604 patients. Provision for all emergencies has been made. Two rooms at the west end of the church have been provided for patients who may have an epileptic seizure during service. In each bedroom is a telephone and in the door is a window through which the attendant can readily keep a patient under complete observation. Two large tanks capable of holding 29,500 gallons of water are especially kept in reserve for fire extinguishing purposes. The bedrooms are lighted from an electric light in the corridor so arranged that the light shines through a window above the door. The heating of the establishment is by means of low-pressure hot water pipes and radiators heated by steam calorifiers placed in the subways. The hot water supply is heated in high-pressure steam calorifiers placed in the basement of the water tower and is driven by means of pumps to the several draw-off taps. Monotony in colour scheme and decoration has been avoided as much as possible. Reading, music, and games can be indulged in and at one end of the recreation hall there is an ample stage for dramatic performances. Altogether the building is what is claimed for it—a model of its kind.

The Ingleby Lectures.

Departing from the usual custom, the Ingleby lectures were not delivered on a technical subject this year but on a subject of general interest—viz., feeble-mindedness. The lecturer was Dr. James Kerr, the advisory medical officer to the Education Committee of the London County Council. Many of the lay public who are known to be interested in social and educational matters were invited and each lecture was attended by a large and interested audience. Dr. Kerr, after paying a tribute to the memory of the founder of the lectureship, considered the definition of feeble-mindedness and the classification of the various types. He believed that the study of the mentally defective by trained experts using all the methods of psychology, physiology, and clinical medicine would be most useful and be likely to throw much light on normal brain action and development. In his concluding lecture he emphasised the importance of detecting cases of feeble-mindedness in the schools and spoke of the part which heredity, alcoholism, and phthisis played in the production of the condition. For all imbeciles and for most of the feeble-minded he advocated sterilisation at an early age.

The Birmingham Lying-in Charity.

The committee of the Lying-in Charity has issued an appeal for £8000 wherewith to build a nursing home for the training of midwives. £5000 have already been subscribed and the site has been purchased. At the home beds will be provided for certain special cases and arrangements will be made for giving the necessary instruction and enabling it to become recognised as a training centre by the Central Midwives Board. With the exception of the Birmingham workhouse infirmary, where a few midwives are trained, there is no recognised school in the district, and as it is estimated that 10,000 births are managed by midwives in the city each year it is obvious that something must be done to supply the want.

Birmingham Baths and Parks Committee.

At the last meeting of the above committee some interesting figures were given by the superintendent. Last year 621,628 persons were admitted to the baths, an increase of 104,699 bathers compared with the previous year and an increase of 208,630 when compared with 1903. No less than 89 cricket clubs have been registered to play cricket in the principal parks of the city. It is most reassuring at a time when much is said of physical degeneration to hear of so general an indulgence in healthy exercise.

Birmingham, Tame, and Rea District Drainage Board.

A very satisfactory state of affairs was disclosed at the quarterly meeting of the above board. The actual income for last year was £2366 more than was estimated and the actual expenditure was £3870 less than the estimate. In consequence it was decided to make a levy of ½*d.* per tenement less than last year. The opinion was also expressed that the board had now reached the point when the normal increase of tenements and the amount of money received from them would be sufficient to meet their normal increase in the expenditure. The board further decided to do less farming in the future and to adhere more rigidly to the proper work of the board—viz , the disposal of sewage Incidentally it was said that the small townships round Birmingham should be very grateful that they have not to deal with their own sewage and that Birmingham undertakes the disposal of it for them, thereby saving them very considerable expense This drew forth the remark from one member of the board that they were grateful

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[1] Comptes Rendus Académie des Sciences, 1874, pp. 515 and 651.

[2] Gazette des Hôpitaux, No. 49, p. 386, 1874.

[3] Société de Chirurgie de Paris, Series iii., vol. iii., p. 173. 1874.

[4] Le Chloral et la Médication Intraveneuse, Paris, 1877.

May 16th

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Mr Joseph Chamberlain, M P , and the Liverpool School of Tropical Medicine The late Dr J E Dutton

AT the recent festival dinner of the London School of Tropical Medicine Mr Joseph Chamberlain made a flattering allusion to the liberality of Liverpool citizens in the cause of tropical diseases He remarked on the boundless interest he took in the noble work of research carried on in tropical climates and asked, "Why could not London, the metropolis of the empire, the metropolis of the world s commerce, emulate more frequently the generosity of the provincial city of Liverpool? The committee asked for a sum of £100,000, which was a trifle compared with the Liverpool subscription " Mr Chamberlain has always taken a deep interest in the numerous expeditions despatched to the tropics by the Liverpool School of Tropical Medicine and has visited that school on more than one occasion The following letter of condolence has been received by the Liverpool School of Tropical Medicine from Mr Chamberlain —

> [illegible] and occupations have fallen victims on the way leading to the future welfare and prosperity of the great dominions of the King I beg that you will kindly transmit the assurance of my deepest sympathy with the members of his family I am yours faithfully
>
> A. H Milne Esq J CHAMBERLAIN

The Under Secretary of State for the Colonies also wrote saying that Mr Lyttelton desired to express his deep sympathy with Dr Dutton s relatives and his sense of the loss which the Liverpool School of Tropical Medicine has sustained by the premature death of so able and devoted an investigator

Is Lead Poisoning an Accident?

In the Court of Appeal last week the defendants in the case of Steel v Cammell Laird, and Co appealed against an award of the judge of the Birkenhead county court sitting as arbitrator under the Workmen's Compensation Act It appeared that the plaintiff was a caulker in the employ of the defendants In the course of his work he used both red and white lead and the evidence showed that as the result of constant working with these substances his system became saturated with them This set up lead poisoning with its usual results, which totally incapacitated him The county court judge held that this was an accident in the meaning of the Act and awarded the plaintiff compensation Mr C A Russell, K C for the appellants, argued that it was not an accident within the meaning of the statute The injuries in this case were merely the outcome of a process acting injuriously on the system What was contemplated by the Act was an accident the date of which could be fixed, something which could be pointed to as having happened or occurred at a definite time The Master of the Rolls, in giving judgment, said that under the Act an accident was something of the date of which notice must be, and could be given Here if there had been an accident it was quite impossible to point to it and he had come to the conclusion that in the circumstances which had happened here the lesions could not be described as due to an 'accident ' The Lords Justices concurred and the appeal was allowed with costs It was intimated that the case would probably be taken to the House of Lords

The Liverpool Corporation and the Supervision of Stables

The health committee is to be congratulated upon having secured Parliamentary powers to supervise the sanitary condition of stables Only corporation officials are aware of the wretched quarters in which some horses are housed With the new powers obtained the health authority will be able to insist upon the cleanliness and proper ventilation of stables and sufficient cubic space being allotted to each animal Liverpool has frequently taken the lead in sanitary progress and this is another instance of its alertness The Liverpool Sanitary Act of 1846 may be regarded as the pioneer of the Public Health Act

May 16th

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS)

Llandaff and Dinas Powis

THE rural district of Llandaff and Dinas Powis which almost surrounds Cardiff and completely surrounds Barry on the land side of these two towns, has a population approaching 25 000 Dr Richard Prichard (the medical officer of health) in his annual report states that the birth rate in 1904 was 29 9 per 1000, which is about equal to the rate which has been recorded during the previous ten years and is only a little below the Cardiff birth rate, where however, there has been a steady fall in the past decade The death rate in the rural districts during 1904 was 13 8 per 1000, though it is not quite apparent from Dr Prichard s report whether any account has been taken of the deaths occurring in the county asylum A temporary isolation hospital had been in use during the last four years and the district council has now decided to erect permanent buildings at Ely They will be about 200 yards from the Poor law homes belonging to the Cardiff guardians They will include an administration block, two pavilions with two six bed wards in each, and a room for convalescent patients over the nurses central duty room an observation block, laundry, and disinfecting buildings, and a lodge with which discharging rooms will be connected

Health Report for Cardiff

In his quarterly report Dr Edward Walford (the medical officer of health of Cardiff) states that during the first quarter of the year five cases of small pox occurred in the borough Four cases were connected together and one patient was infected in Yorkshire During April two other cases were notified All the patients were treated in the small pox hospital Up to the end of March 96 midwives in Cardiff had received certificates and regulations of the Central Midwives Board 83 as being in practice one year previously to the passing of the Act and 13 on the ground of holding certificates from recognised certifying bodies

Small-pox in Somerset

Several cases of small pox have occurred among the navvies employed in the construction of the new main line of the Great Western Railway from Langport to Castle Cary The village of Charlton Mackrell where the men were working has a population of about 500 persons and is within the area of the Langport rural district, the council of which has made no provision for isolating cases of infectious disease, although the medical officer of health Mr A R Nicholls, has more than once pointed out the desirability of establishing a hospital among a population of 13 000 persons

Treatment of the Unemployed

Whenever boards of guardians meet in conference there is one question which they never omit to discuss It is that which relates to the treatment of tramps and the unemployed At the discussion upon this subject which took place at Llandrindod on May 10th there was considerable difference of opinion among the delegates from South Wales and Monmouthshire boards, not only as to the cause of the large increase in the number of tramps in all parts of the country but also as to the best method of dealing with the problem which this increase has created Trade unions, strikes, lack of technical training, intemperance, and ignorance of cooking were severally given as causes and the popular remedy of labour colonies was advocated One speaker suggested that a genuine working man who had resided in one town for 12 months should be furnished with a certificate by the local authority and upon presenting his credentials to the relieving officer of another district he should be given 1*s* to enable him to obtain food and lodging away from the tramp wards

A Crematorium for Newport

The corporation of Newport (Mon) has approved of the principle of providing a crematorium which it is suggested, should be placed in the public cemetery adjoining the Nonconformist chapel The cost is estimated at £3000 At present Birmingham is the nearest town to which bodies can be sent for cremation.

Workmen's Houses at Aberavon.

During the past five or six years pressure has from time to time been brought upon the Aberavon corporation by the leaders of the workmen living in the town to erect dwellings for the working classes. Aberavon is a small working-class town situated on Swansea bay and contained at the last census 1478 tenements, of which 477 had less than five rooms. If it is assumed that a house is overcrowded when the number of inmates exceeds double the number of rooms in the house there was in 1901 overcrowding in about 9 per cent. of these five-roomed tenements compared with 6 per cent. in Cardiff, 7 per cent. in Margam (which adjoins Aberavon), 11 per cent. in the Rhondda, and 15 per cent. in Merthyr Tydfil. In January last the Aberavon council decided to embark upon a scheme for the erection of 24 houses at an estimated cost for each house of £156, though the cost of land and other charges would bring this amount up to £233. The suggested rental is 5*s.* 6*d.* or 6*s.* weekly. Each house is to contain three bedrooms and there is to be a fixed bath in each scullery. One of the bedrooms measures only six and a half feet by seven and a half feet and the engineering inspector of the Local Government Board, who held an inquiry into the question on May 9th, protested against the provision of so small a room, intimating that the Board would require a rearrangement of the plans in this particular. The rates in Aberavon are now 8*s.* 3*d.* in the £ and have been more than 8*s.* in the £ for several years past.

The Bath "Oliver" Biscuits.

Most people who know Bath have eaten some of the far-famed "Oliver" biscuits. The *Bristol Times and Mirror* of May 13th gives an interesting account of how the name was derived and says that "Dr. Oliver practised in Bath for 40 years. He was a Fellow of the Royal Society but his title to immortality rests upon his invention of the biscuit. He was for 21 years physician of the Mineral Water Hospital and resigned the post in 1761." It is said that he gave the receipt for making the biscuits to his coachman, a man named Atkins, who took a small shop, set up as a baker of the biscuits, and made a fortune. The sale of the biscuits is now so great at home and abroad that a large factory has become necessary.

May 16th.

SCOTLAND.

(From our own Correspondents.)

Bubonic Plague in Leith.

On the evening of May 12th it became known to the public that bubonic plague had appeared in Leith. A man engaged as a labourer on the streets of Leith had died and his widow and two children were ill, it was believed, of the same disease. The man and his family lived near the docks, but he was not engaged in the loading or unloading of vessels. His wife, it appears, worked at a rag store. The case was finally accepted as one of plague after being investigated by Dr. A. K. Chalmers, medical officer of health of Glasgow, and by Dr. R. MacNeil Buchanan, municipal bacteriologist, Glasgow. Both these gentlemen had experience of the outbreak in Glasgow some years ago. No other fatal cases have occurred and no further suspicious cases of illness have been reported. There is no evidence available as to the source of the infection. It does not appear that there is ground for suspecting the rag store as being the source and no rats have so far been caught with any signs of being infected. The public health authorities and their energetic and able medical officer, Dr. W. Robertson, are taking every possible precaution to prevent its spread. On May 16th the Local Government Board for Scotland received a medical certificate officially establishing (1) that, with the exception of the death of the first case of plague—viz., John Hughes, who died in the isolation hospital, East Pilton, on May 11th, 1905—no death from, or fresh case of, plague has occurred within the five days following the isolation, on May 10th, of Mrs. Hughes, being the last case of plague that has occurred; (2) that all measures of disinfection have been carried out; and (3) that measures have been taken against rats. The Local Government Board accordingly, in terms of the International Sanitary Convention of Paris of 1903, has intimated that the port and burgh of Leith will now cease to be regarded as infected with plague.

A Medical Man Elected to the Edinburgh Town Council.

On May 12th Dr. R. Robertson was elected to represent St. Bernard's Ward on the Edinburgh town council in succession to Mr. Lang Todd, whose untimely death deprived Edinburgh of the convener of its public health committee. Dr. Robertson, who defeated a lawyer, stood as a non-political candidate. If he turns out as good a councillor as Dr. G. M. Cullen the profession in Edinburgh will be satisfied.

Glasgow University Council.

When the report of the committee on finance was submitted at a recent meeting of the University Council attention was called to a somewhat important trend in the University finances. The figures given covered nine years and it was gratifying to notice that the income was about £10,000 per annum larger than at the beginning of that period. That sum was almost entirely derived from payments by students whose numbers had increased within the last seven years from 1836 to 2219, or 20 per cent. But more than the whole of the income had gone in meeting the growing demands. During the last two years the University accounts showed deficits due largely to increased cost of maintenance. The increase of expenditure in the last nine years amounted to £9646, of which £5529 was due to increased cost of maintenance. When they considered the new buildings in course of erection they could imagine the enormous increase of cost which must fall upon the University. One of the most clamant needs of the University was some fund that would enable it to meet these growing demands.

Public Health of Aberdeen County.

Dr. J. P. Watt, medical officer of the county of Aberdeen, has issued his report on the health and sanitary condition of the county for the past year. Scarcity of water was experienced in the Bieldside portion of the special district for a considerable time last summer. To meet this an additional supply was got from Bailieswells and two other springs. This addition has proved ample. It has been resolved to construct a reservoir with a capacity of 300,000 gallons to conserve the original or high-service supply. The site of this reservoir has not yet been precisely determined but it is intended to carry out the work this year. Although the springs were abnormally low the supply to the village of Culter was sufficient. The mains throughout the district have been divided into sections by means of valves, so that when a burst takes place or a connexion has to be made the particular section of main can be emptied without cutting off the supply over the whole district as hitherto. This improvement has also been introduced in the Cults water system. The drains have been in much better condition than they were in former years. They have been more frequently flushed and sludge has not been allowed to settle in the pipes. Scavenging has been carried out in a very thorough manner and has greatly improved the condition of the village. In Waterton district, owing to the scarcity of water in the upper parts of the special district, the district committee decided to carry the seven-inch service main up to the reservoir at a cost of £500. This work is now being executed. At the pumping station of the Waterton and Dyce supply, Parkhill, in consequence of the low state of the water power during part of the year, it was found necessary to put down an oil engine as a supplementary power to the turbines. This has proved satisfactory. The scavenging continues to be well carried out. With very few exceptions the privy middens have now been replaced by water-closets. Drainage systems were laid down in Park, Kirkton of Skene, and Balmedie villages by the respective proprietors in the course of the year—an important sanitary improvement. 98 cases of insanitary dwellings, including croft and cottar houses and sleeping places for farm servants, were dealt with in the various districts during the year. During the past year some progress has been made in reference to the pollution of the Don. As mentioned in the last report, the mill owners and the district committee, without prejudice to their rights and pleas, concurred in asking Mr. Curphey (who had previously reported to the Secretary for Scotland on the matter) to advise what, if anything, was necessary to prevent pollution and to render the effluent from the mills innocuous before being discharged into the river. Following on Mr. Curphey's report, the mill owners informed the district committee that they were to carry out his recommendations The district committee understands that considerable progress has been made by the mill owners but for several reasons it is not expected that the purification works will be completed till next summer Progress, however, has been made, and the district committee, when the works have been completed, looks forward to a considerable improvement in the condition of the river The sewage disposal scheme for the Waterton special district is still under the consideration of the district committee A complaint has been lodged by the Fishery Board as to the pollution of the river from various sources The county council has the matter under consideration The number of cases of infectious diseases notified for the year was 537 This is the lowest by about 150 cases since 1898, the year in which the Notification Act came into force, within the county as a whole Of the 537 cases, 241 were cases of scarlet fever, 93 of diphtheria 68 of enteric fever 123 of erysipelas 2 of puerperal fever, and 1 of measles The birth rate was 27 008 per 1000, as compared with 25 828 for 1903 The death rate was 12 538 per 1000, that of the previous year being 13 084

May 16th

IRELAND.

(FROM OUR OWN CORRESPONDENTS)

Tuberculosis in Ireland

ACCORDING to the Registrar General's report published on May 3rd there were registered during the week in the metropolitan area 31 deaths from tuberculosis, of which 17 were attributable to pulmonary tuberculosis It is the usual unpleasant story While the mortality from this disease has fallen in England it has increased in this country and the fact is not surprising since in Ireland there are but two small institutions which even pretend to deal with the fringe of the evil—the sanatorium at Rostrevor and another at Newcastle The county councils generally devote their energies to things political or trivial, but at a meeting of the general council of the county councils on April 28th, presided over by Sir Thomas Esmonde Bart, M P, a new departure was made Mr Thomas Power proposed the following motion which was carried unanimously —

> That in view of the ravages which consumption is making amongst our population it is eminently desirable that steps should be immediately taken to arrest the progress of this dire disease and we recommend to the earnest consideration of the several county and district councils the need which exists in each province for the foundation of properly equipped sanatoria and trust that this all important subject will engage their immediate attention

Something practical may be the result of this resolution for, of course, the county councils have the power to strike a rate and to obtain the necessary money

Maryborough District Asylum

The Maryborough asylum committee at its recent monthly meeting accepted the resignation of Mr Joseph H Hatchell who has been resident medical superintendent for over 37 years He receives the maximum allowance of £533 6*s* 8*d* The salary for his successor has been fixed at £300, with allowances valued at £150

Irish Medical Association

The annual general meeting of the Belfast and District branch of the Irish Medical Association was held in the Medical Institute Belfast, on May 10th when Professor J W Byers was elected [illegible] reference to the much [illegible] Evatt upon the questio [illegible] the secretary read a letter from the central authorities of the association in Dublin to the effect that copies would be sent on application to all members of the association but were to be regarded as confidential The following motion, after a full discussion was proposed by Dr D P Gaussen, seconded by Dr J C Ferguson, and carried unanimously —

> That this branch of the Irish Medical Association is of opinion that the Direct Representative for Ireland on the General Medical Council should if possible be chosen from the ranks of the provincial practitioners

It was moved by Professor J A Lindsay, seconded by Dr A G Robb, and carried unanimously —

> That this branch disapproves of [illegible] ment of the new Irish Medical D [illegible] the association to reconsider these [illegible] the next volume [illegible]

The Royal University of Ireland

On May 10th a meeting of convocation of the Royal University of Ireland was held in Dublin for the election of six members to represent the graduates on the Senate the choice falling upon Judge Shaw, who received 382 votes, Professor Anderson, President of Queen's College, Galway, 365, Dr John Walton Browne, 364, Dr R W Leslie, 340, Professor Leitch, D Lit, 335, and Mr Edward Cuming, 316

Ulster Medical Society

A special meeting of this society was held in the Belfast Medical Institute on May 11th the President Dr W Calwell, being in the chair There was a very large attendance Dr V G L Fielden read a paper entitled "The Pharmacology and Therapeutics of Ice" and Dr J S Darling (Lurgan) showed two cases of Actinomycosis, with microscopic preparations to [illegible] the subject for which t [illegible] was considered—viz, tl [illegible] on the General Medical Council, when the following motion, proposed by Dr C E Shaw and seconded by Dr Darling, was carried unanimously —

> That this meeting is of opinion that the medical practitioners of Ireland should be represented on the General Medical Council by a provincial practitioner and with a view to attaining this we support the candidature of Dr Leonard Kidd

The Royal Medical Benevolent Society

At a meeting of the Belfast branch of the Royal Medical Benevolent Society held in the Medical Institute Belfast, on May 12th, it was reported that £144 had been sub cribed [illegible] there has been an annual fall- [illegible] out of the 200 Belfast medical [illegible] Dr Joseph Nelson was re elected president and Dr R Purdon honorary secretary and treasurer

The Direct Representative for Ireland on the General Medical Council

In addition to Sir William Thomson and Dr L Kidd a third candidate, Dr R B Mahon of Ballinrobe, co Mayo, has appeared He is put forward by the members of the County Mayo branch of the Irish Medical Association on the ground that it is intolerable that the Poor law medical men should be any longer unrepresented on the General Medical Council In a circular issued by the County Mayo branch it is said that "the meeting [of the branch held in Claremorris on April 27th] considered that while the thanks of the Poor-law medical men of Ireland are due to Sir William Thomson for his efforts on their behalf, so many portals exist for his admission to the General Medical Council that it is unlikely that body will be for long without his assistance in the event of his non election as Direct Representative" It is also stated that in the event of any other Poor law candidate coming forward a preliminary poll should be arranged to decide who goes to the final poll It is clear that the coming contest for Direct Representative for Ireland on the General Medical Council will resolve itself into the issue of the provinces *versus* Dublin and that the medical men outside the metropolis will favour the claims of a general practitioner and preferably one who is in thorough sympathy with the grievances of the Poor law medical officers

May 16th

PARIS.

(FROM OUR OWN CORRESPONDENT)

Trypanosomiasis in a White Man

AT the meeting of the Academy of Medicine held on April 25th M Laveran referred to a case of trypanosomiasis in a white man He reminded his hearers that sleeping sickness was only one of the many forms of trypanosomiasis so frequently met with in equatorial Africa and that early observers had thought that it was peculiar to the black races but that of late years, since white men had penetrated in greater numbers into those regions, several cases had occurred in Europeans The case to which he referred was one reported by M Martin and M Girard and the patient was a French missionary, aged 38 years, who contracted the disease in the French Congo He went there in 1891 and [illegible] d to France shortly after the commencement of his [illegible] in 1904 The illness began with marked asthenia, anæmia, and general weakness but there was very slight fever. He also suffered from an intensely itchy papular eruption which could not be assigned to any parasite. He was sleepy and dull and had subsultus tendinum. A blood count showed eosinophilia 12 per cent. and trypanosomata were found in the blood. The remainder of his system (*appareils*) was normal but the blood and the cerebro-spinal fluid were contagious by inoculation in the rat and the guinea-pig. At the end of some months the patient died; nightmare and delirium were present but there was neither coma nor lethargy. This is interesting in view of the fact that the *only pathogenic agent found was the trypanosoma Gambiense*, contrary to the opinion of Manson who holds that sleeping sickness is a bacterial disease and only supervenes as a complication of trypanosomiasis. It would seem that sleepiness, coma, and lethargy correspond pretty accurately to three degrees of alteration of the brain tissue in patients suffering from trypanosomiasis and that if the last two are wanting in the white man it is because he is more sensitive than the black man to the infection of the trypanosoma.

Spontaneous Gangrene of the Leg in Popliteal Aneurysm.

At a recent meeting of the Society of Surgery M. Arrou communicated an account of a case which showed that when gangrene followed on an operation for extirpation of a popliteal aneurysm it was not always just to blame the operation. M. Arrou said that every popliteal aneurysm should be operated on and that one should never be afraid of operating lest gangrene should supervene, for gangrene might occur in such cases without any operation. He mentioned the case of a woman, aged 50 years, who came to consult him for a small tumour in the popliteal space. M. Arrou finding that it was an aneurysm recommended operation but the patient refused. One month later she returned with gangrene of the whole of the leg which necessitated amputation through the middle third of the thigh. The operation was performed without the loss of one drop of arterial blood and the femoral artery was completely blocked with a hard dry clot. For prudential reasons a ligature was placed on this vessel but this was the only ligature used. What was still more astonishing was that the wound healed by first intention and that there was not the least sloughing of the flaps.

The Influence of Children's Dispensaries on Infantile Mortality.

At the eleventh session of the Obstetrical Society of France M. Mocquot stated that sound directions as to suckling or bottle-feeding (*allaitement*) children did not only serve to diminish the frequency of gastro-intestinal affections but had an influence upon other maladies so that they tended to diminish in both number and gravity. M. Budin gave some figures as to infantile mortality in various regions of France and in other countries. They showed a lowering of infantile mortality in towns where there existed children's dispensaries (*consultations des nourissons*). In Paris, for example, although the temperature was higher and remained higher for a longer period in 1904 than in the two preceding years, infantile mortality underwent a marked diminution. The same thing was even more marked in smaller towns, but such a state of affairs by no means obtained in towns where these dispensaries did not exist.

Radiotherapy in the Treatment of Eczema.

At the meeting of the Academy of Medicine held on April 25th Dr. Leredde read a note upon the usefulness of radiotherapy in eczema, even in those forms which affect the skin deeply. In one case in which the face was affected the disease had lasted 15 months; in another the disease, which had commenced in the hands some two years previously, had spread to the face and to the thighs. In both patients all treatment had failed. After several sittings of radiotherapy a cure was obtained and had already lasted for four months. In a third case the relief was only temporary. Dr. Leredde said that radiotherapy seemed to offer a means of treatment of great value for grave cases of eczema, especially those which for one reason or another were pronounced incurable.

The International Tuberculosis Congress.

From Oct. 2nd to 7th next a grand International Congress against Tuberculosis will be held in Paris. The opening session will be held at the Grand Palais, the honorary presidents being M. Casimir-Périer and M. Léon Bourgeois, while the President of the Republic is patron. A sum of 100,000 francs has been voted by the Chambers. The nature of the researches to be undertaken, the scope of the publications, and the official receptions which will be offered to those attending the Congress all justify the effort which the State and the whole body of French men of science are going to make. The Congress will not confine itself to the medical aspects of tuberculosis but will also discuss the social side of the question and will make an appeal for the coöperation of all classes of society in the fight against the disease. 25 local committees outside Paris have been already constituted and 33 foreign countries have organised national committees. In connexion with the Congress *will be held an exhibition illustrative* of the anatomy and bacteriology of tuberculosis, together with statistical documents and literature concerning methods of prophylaxis and the like. There will also be a commercial and industrial section. The exhibition will be open to the public throughout the month of October.

May 16th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cerebro-spinal Meningitis.

CEREBRO-SPINAL meningitis is now extremely prevalent in Upper Silesia. This disease, which had nearly disappeared for about 30 years, has spread through several districts of that province and cases have made their appearance sporadically in various parts of Germany. There is, therefore, some uneasiness among the public caused especially by the reports of the lay press, so that even in Berlin and its neighbourhood, where about ten cases may have occurred, patients suffering from a chill or rheumatic pains in the muscles of the neck are likely to imagine that they have caught cerebro-spinal meningitis. In Silesia up to the present time 1955 cases have been notified and of these patients about 50 per cent. have died. As in former epidemics, it has been observed that the disease is not so contagious as some others and that school children who are especially liable to catch measles and scarlet fever are not exceptionally susceptible to cerebro-spinal meningitis. Energetic measures have been taken to check the spread of the disease and ample hospital accommodation has been provided. Unfortunately the inhabitants of Upper Silesia are accustomed to a low standard of living and pay little attention to hygienic principles. The district is, moreover, a mining centre and very overcrowded, most of the people being Poles.

The Roentgen Congress.

Immediately after Easter no less than three medical congresses were held in Berlin. The Congress of the German Surgical Association met as usual from Wednesday to Saturday after Easter, being preceded by the recently founded Congress on Orthopædic Surgery which assembled on the Tuesday. In the following week—namely, from April 30th to May 3rd—a Roentgen Congress on radiography took place. *Professor* Roentgen, the honorary President, was expected to be present but did not appear, the reason being, as was generally supposed, his disinclination to be a prominent figure at a public meeting. After the inaugural address, delivered by the Vice-President, Professor Eberlein of the Berlin Veterinary College (the President, Professor von Bergmann, being absent in Italy for his health), and the addresses of welcome on behalf of the various official authorities and medical societies, the proceedings began with general reports on the importance of the Roentgen rays in the different branches of medicine and surgery. *Professor* von Leyden first spoke on radiography in internal medicine, especially in diseases of the nervous system. He said that by radiography it was possible to examine the vertebral column and in this way useful information might be obtained in diseases of the spine. Professor Grunmach explained the methods of radiographical examination in diseases of the internal organs, especially of the heart and the lungs. Professor Hoffa spoke on the advances in orthopædic surgery attained by the aid of radiography. He made especial reference to congenital dislocation of the hip-joint, to scoliosis, and to spondylitis, in which an exact diagnosis was made early by radiography. Professor Lenhartz and Dr. Kisorling communicated a paper on the *Diagnosis* of Gangrene of the Lungs by Radiography. They said that this method enabled surgical operations to be *performed* with greater security because the situation and the extent of the gangrene could be ascertained By surgical operation the mortality of this disease has been reduced from 90 to 65 per cent The application of the Roentgen rays for curative purposes was the subject discussed at the last meeting Professor Lassar of Berlin spoke on the cure of superficial cancroids by the rays He said that in the early days of radiography the exposures were often too long and "burns" of the skin were the consequence It was now possible to avoid these drawbacks and to use the rays not only as a means of diagnosis but as a powerful remedy This has especially become evident in the treatment of cancroid, where the success of radiography could not any longer be denied Superficial cancroids might heal after a few exposures and relapses might be similarly treated with a good result On microscopical examination a destruction of the cancer cells was found to occur after the irradiation It must, however, always be kept in mind that the effect of the rays did not exceed one centimetre of depth so that the deeper layers were not influenced Radiographical treatment was also useful in cases where a relapse had occurred after an operation In these cases it was possible by the application of the rays to bring about healing of the ulcerated spots and to relieve pain, although there was no means by which relapsing malignant growths could be made to disappear In the discussion Dr Colley expressed the opinion that by the alleged success of Roentgen treatment of superficial cancer the public might be led to believe that irradiation ought to be tried first in every case of cancer and in this way the right moment for an operation might be missed Dr Unger of Berlin said that not only the successful but also the unsuccessful cases ought to be published He mentioned some cases where under the Roentgen treatment the growth had extended into the deeper layers of the tissue Dr Strebel of Munich discussed the therapeutic effect of cathode rays He said that the cathode rays produced very severe dermatitis which might last for several months but finally healed The energy of the cathode rays exceeded that of the Roentgen rays and even that of radium They were especially suited for the treatment of lupus, cancroid, and telangeiectasis It was especially remarkable that the cathode rays might be introduced into the cavities of the body, so that diseases of the rectum and of the uterus might eventually be treated by this method Apart from the medical meetings a day of the Congress was devoted to the technical side of radiography, when improvements in the apparatus, &c , were demonstrated International uniformity in the technical terms to be used in radiography was recommended The result of the Congress was finally the foundation of a German Roentgen Association

May 16th

VIENNA

(FROM OUR OWN CORRESPONDENT)

Open Spaces round Vienna

AT a recent meeting the municipal council adopted a scheme which will have an important effect in promoting the salubrity of the atmosphere of the city The intention is to surround Vienna with a belt consisting of a continuous series of gardens, recreation grounds, woods, and meadows, which will be formed at the joint expense of the city and the empire This belt will have a breadth of about one kilometre and a length of 40 kilometres, thus providing an area of not much less than 20 square miles, on which no building will be allowed to stand Part of the belt exists already in the south and east of the town but the necessity of completing it has become apparent through the erection of the new hospital

The Street Ambulance Corps

The Street Ambulance Corps has just opened a new station in proximity to the western suburbs The central station being situated on the south of the city the ambulance vehicles had to make a journey of several miles in order to reach some of the outlying districts, so that the western station will be a decided acquisition It contains accommodation for five carriages, with stabling for the horses, and besides the necessary rooms for the medical officers there are a small operating theatre for minor surgery, a sterilisation room, and a library An electric motor car, specially designed for the use of the ambulance corps and fitted with all requisites for first aid and for the conveyance of patients to hospital, has been provided The officers of the corps deliver lectures on first aid, chiefly for the instruction of the police force but also for the benefit of the working classes The corps is under private management and was founded in consequence of that fearful disaster the burning of the Metropolitan Theatre 20 years ago when 800 people perished from want of an organised institution of this kind

Treatment of Hypertrophy of the Prostate by the X Rays

At the last meeting of the Vienna Medical Society Dr Moszkowicz showed several cases of Enlargement of the Prostate in which he had tried a new method of treatment As the enlargement was due to the hypertrophy of the glandular tissue chiefly, and as this tissue was easily influenced by the x rays, he directed the rays of a "soft" tube through the rectum towards the gland Of three men who were shown the first was 66 years old, and after three exposures, each lasting 15 minutes, he was able to pass urine spontaneously The second patient was 77 years old and his prostate was enormously enlarged and very hard The same treatment was adopted and now he can pass urine freely but some of it is still retained The third patient was completely cured Two of them had severe hæmorrhagic cystitis and one had epididymitis after 17 days It was difficult to say whether these complications were the effects of the rays As regards the technique a rectal speculum was used and the surrounding parts were covered by lead Dr Moszkowicz intended in the future to use bromide of radium which might be applied by means of an ordinary catheter and could be directed exactly towards that part of the gland which compressed the urethra

University of Vienna

In this University the summer semester begins on May 1st, and quite a number of interesting lectures will be delivered in the different wards and institutions The fees for these courses vary between 25 and 100 kronen (between £1 1*s.* and £4 4*s*) Several lectures will be delivered in English, if a sufficient audience preferring that language present themselves, otherwise they would naturally be delivered in German Surgical courses, with special reference to atypical operations, and courses on the surgery of the uropoietic system, of the ear, and the nasal accessory sinuses, will be conducted by a number of eminent specialists such as Professor Zuckerkandl, Professor Urbantschitsch, and Professor Pollitzer Professor Nothnagel and Professor Neusser will lecture on medicine and several professors including Dr Chiari, will lecture on laryngology Bacteriology, serum therapeutics, and hygiene are well provided for in the new Pasteur Institute of Vienna Operations on the eye, gynæcological operations, and obstetrics can be learned very conveniently as the clinical material at the disposal of the respective clinics amounts to several thousand patients yearly The summer term lasts only till the middle of July and therefore it is advisable to come to Vienna in the winter semester, when the time available for study is over five months—namely, from the middle of October to the end of March and when the clinical material is greater But the summer is at least pleasanter for theoretical courses, such as those on histology and physiology

May 15th

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

The Abolition of the Cigarette in Indiana

THE legislature of Indiana has recently enacted a law making it a misdemeanour to sell cigarettes and punishing those who have them or the paper used in rolling them in their possession This high handed procedure on the part of the Indiana law makers has been variously received in different parts of [illegible] the action as one taken in [illegible] lth, while others brand it as the [illegible] iacs The *New York Times* takes the latter view and explains editorially that cigarette smoking is probably the least harmful form of that habit The opinion is expressed that the Indiana cigarette law is an outrage in its invasion of personal liberty and its interference with legitimate trade The question of the harmfulness of cigarette smoking has been threshed out in a fairly thorough manner in THE LANCET on several occasions The general conclusions arrived at were that cigarette smoking, *per se*, was no more injurious than the use of tobacco in pipe or cigar Cigarette smoking in

THE MIDWIVES ACT AND THE PAYMENT OF FEES TO MEDICAL MEN.—We have been requested to publish the following resolution of the Islington Medical Society, moved by Dr. Basil G. Morison and seconded by Dr. L. U. Young:—

> That we, the members of the Islington Medical Society, are of opinion that immediate arrangements should be made under the Midwives Act in the interest of lying-in women of the poorer but not pauper class for the prompt attendance of a registered medical man in cases of abnormality, and that the payment of such attendance should be made by the metropolitan borough councils or, failing them, by the County Council, with powers of recovery where this is possible.
>
> Signed, on behalf of the meeting,
>
> JAMES GREY GLOVER, Chairman.

UNIVERSITY OF LONDON: FACULTY OF MEDICINE.—A meeting of the Faculty of Medicine will be held at the University of London on Tuesday next, May 23rd, at 5 P.M. An interim report from a special committee appointed to consider the subject of teaching and research in the "advanced subjects" of medical education will be submitted. As a first step towards securing an improvement in the teaching of the "advanced" or clinical subjects of the curriculum—viz., medicine, surgery, midwifery, &c.—the committee recommends the Faculty "to press upon the Senate the desirability of such a modification of the University regulations as will admit of a much longer period being allotted for 'advanced' studies and a proportionate curtailment of the time allotted for the early studies." A second special committee will present a report embodying proposals to secure a definite plan of annual retirement by a proportion of the members of certain boards of studies comprised within the Faculty.

UNIVERSITY OF OXFORD: DEPARTMENT OF OPHTHALMOLOGY.—A post-graduate course on ophthalmology has been arranged from July 3rd to 15th. The main idea of the course is to demonstrate (on actual patients as far as possible) the whole range of ophthalmology, in order to make the reading of a text-book more profitable than can be the case when relying merely on pictures. The first week will be mainly devoted to demonstrating the practical examination of eye patients, the use of the ophthalmoscope, and the work of refraction. During the second week the work will be more specialised. As well as the mere routine cases there will be a large selection of cases of unusual interest for the benefit of those who are more experienced in eye work. The lecturers are the reader in ophthalmology, Mr. R. W. Doyne, Sir William J. Collins, Mr. W. Adams Frost, Mr. E. Nettleship, Mr. Sydney Stephenson, Mr. C. A. Worth, Mr. R. M. Gunn, Dr. S. J. Sharkey, Mr. Priestley Smith, Mr. E. Treacher Collins, and Mr. J. H. Parsons, and Professor William Osler is to be asked to give an address. In addition to the above lecturers several ophthalmic surgeons have undertaken to give clinical demonstrations. The course will be illustrated by the lantern. The fee for the course is five guineas. Gentlemen attending the course will be provided with board and residence in Keble College at the rate of 7*s.* 6*d.* per day. For further particulars application should be made to Mr. Robert W. Doyne, 34, Weymouth-street, London, W. Early application is desirable as the numbers must of necessity be strictly limited.

NATIONAL SANATORIUM FOR CONSUMPTION, BOURNEMOUTH.—The fiftieth annual meeting of the governors of this sanatorium was held on May 11th, the Earl of Eldon presiding. The annual report of the committee of management stated that the extension of the building and alterations and improvements by which 14 beds had been added for patients and better accommodation provided for the nursing staff had cost over £3000, towards which only £2000 had been subscribed. The ordinary income for 1904 had amounted to £2999 and the ordinary expenditure to £3094, but the expenditure had been abnormally low owing to the closing of the sanatorium for four months in consequence of the building extension. The committee was anxious to commemorate the jubilee of the institution by placing it in a sound financial condition and it appealed for new annual subscriptions to meet current expenses and for donations to pay off the total debt of £1500. Nearly 300 patients had been under treatment, a very large proportion of whom had been discharged considerably improved. The meeting deplored the death of Mr. Charles Lavington Pannel, mainly through whose efforts the National Sanatorium was founded and who took an active part in its management until advancing years prevented him. It was resolved that in future donors of £500 should have the right to name a ward, and donors of £100 the right to name a bed, in perpetuity.

HOLIDAY GUIDES.—Guides to Aberystwyth, Bournemouth, Broadstairs, and Southport, well illustrated and containing useful information for intending visitors, can now be obtained free on application to the town clerks of the respective watering places.

BY permission of the Worshipful Company of Carpenters an exhibition of the competitive plans and drawings for the new buildings of King's College Hospital at Denmark-hill will be held in the court-room of the Carpenters' Hall, London-wall, E.C., from May 26th to June 1st. The exhibition will be open on May 26th from 12 noon to 5 P.M. and on the five remaining days from 10 A.M. to 5 P.M., except on June 1st, when it will close at 4 P.M. The presentation of a visiting card will admit to the exhibition.

THE HIGHER EDUCATION OF NURSES.—The Board of Trade, having received an application for the registration of an association for the promotion of the training and of the higher education of nurses as a company without the word "limited," invited anyone who objected to the application to state his reasons for objecting in the deputation room of the Board of Trade, 7, Whitehall-gardens, London, on May 5th. The room was filled to overflowing with people who had come to object and many inquiries were made by the ladies present as to whether the promoters of the company were going to speak. The names of these gentlemen were Lord Rothschild, Lord Revelstoke, Mr. H. Cosmo Bonsor, Mr. E. A. Hambro, Mr. C. H. Goschen, Mr. S. Hope, and Mr. C. H. Smith. But to those sitting at the back of the room it was only possible to make out that Mr. H. Cosmo Bonsor was there. The meeting commenced at half past eleven in the morning and did not finish till about two in the afternoon, most of the time being taken up by objectors. The gentleman who represented the Board of Trade very plainly told the meeting that he was there to hear objections to the application of the promoters of the company for the registration of the company without the word "limited." The only person who seemed to address himself to this point was a gentleman who claimed to be the representative of 15 hospitals and as far as could be made out at the end of the room his argument was that to omit the word "limited" would give an authority to the proposed company which it would not secure if it always had to put the word "limited" after its name. Sir James Crichton-Browne, who was understood to appear on behalf of 2800 nurses, said some hard things about the proposed company. He declared that its very constitution was vicious in principle and as for the objects of the company they were simply opposed to all sound policy. Even the promotion of the company was wrong because, according to Sir James Crichton-Browne, it was a gratuitous infringement of the rights of the nurses whom he championed: In short, this new company was inopportune in its inception and would prove injurious to the public and to the whole of the nursing community. Sir J. Crichton-Browne was very caustic in his remarks on the provision made by the suggested company for the registration of nurses and wanted to know in what way the promoters of the company were fitted to be members of a council to which disciplinary powers over nurses were to be granted. Mr. Sydney Holland was much cheered by the nurses present, especially those at the end of the room. He was very severe on the gentlemen who launched this new company and in regard to the regulations for registering nurses he said there was a word in the English language known as "cheek," but apparently he did not wish to apply that term out of respect to Mr. Cosmo Bonsor, who, however, smiled very pleasantly and did not seem to mind at all. Every society connected in any way with nursing seemed to have sent some one to urge an objection. There were ladies who represented matrons' councils, and ladies who attended as delegates from working nurses, and there was Mrs. Bedford Fenwick who very solemnly warned the Board of Trade against granting the desired licence to the company. Dr. Bedford Fenwick also spoke and the Vice-President of the Royal College of Surgeons in Ireland said that the proposed society would be mischievous and its government degrading. Sir Victor Horsley said only a very few words but they were listened to with the closest attention. His message from the British Medical Association was one of absolute hostility to the proposed company and its registration of nurses He observed that medical men had suffered so much from companies that they could not allow the nurses to be exploited in the same manner without raising the strongest protest against such an iniquity Sir Victor Horsley also wanted to know how it was that the company had come out with two prospectuses and these two differing in regard to who were the people to manage the registration of nurses and to judge in regard to *nurses being struck off the register* Mr *Cosmo Bonsor told* the meeting how it was that two prospectuses came out and then proceeded to answer what had been said by Mr Sydney Holland and others His answers, however, only evoked further questions and further objections and everyone was apparently glad to get away after the representative of the Board of Trade had poured oil on the troubled waters and promised to report all that had been said to Lord Salisbury.

THE SOCIETY OF ARTS AND THE LONDON INSTITUTION —In view of the feeling which appears to have been aroused amongst some of the proprietors of the London Institution with regard to the proposed amalgamation with *the Society of Arts*, and the consequent probable difficulties of [illegible] two corporations int[illegible] he Society of Arts has [illegible] in the matter and has discharged the committee which, at the instance of the board of managers of the London Institution, it appointed to consider the scheme for amalgamation

ROYAL SANITARY INSTITUTE.—The institute dinner was held in the Prince's Restaurant, Piccadilly, London, on May 12th, His Grace the Duke of Northumberland, K G., the President, being in the chair There were 108 members and guests present, amongst whom were the Bishop of Hereford, Sir R Douglas Powell, President of the Royal College of Physicians of London Sir Henry C. Burdett, K C B ; Sir William J Collins, chairman of the education committee of the London *County Council*, *Sir Arthur W Rucker, LL D, F R S*, Principal of the University of London, Sir George Hare Philipson, LL D, Principal of the Durham College of Medicine; Sir Alexander Binnie, President of the Institution of Civil Engineers; Sir Shirley Murphy, medical officer of health of the County of London, Director General Herbert Mackay Ellis, Royal Navy Medical Department, Mr Augustus O Scovell, J P, chairman of the Metropolitan Asylums Board, Mr. Andrew Clark, chairman of the council of the British Medical Association, Dr J F J Sykes, President of the Incorporated Society of Medical Officers of Health, and *Colonel* J *Lane Notter*, R A M C, *chairman of the* council of the institute The Duke of Northumberland, after outlining the work carried on by the institute, said "With regard to the new buildings, the penalty of so much success is that we grow out of our clothes The council has decided, therefore, that we must go to the tailor You know well that we have a valuable museum and library, that we have much work in the way of lecturing and training in sanitary science, in examining those who will submit themselves for examination, and in levelling up the sanitary position of those who have the charge of health throughout the country and I think, and the council thinks also, that the time has come when it is necessary to have more room You have had a scheme laid before you to acquire a very excellent site in an important part of London where it would be possible for us to erect a building which would meet with our need. We have a certain amount of money towards that—about £10,000—but we want £15,000 more if we are to enter upon it That is a very serious amount to raise but I cannot help thinking that if each of us does his best to meet the demands of this kind, and if we appeal to all those throughout the country who really appreciate the work that we are doing, it may not be impossible to reach that sum and put the Royal Sanitary Institute in a position locally which shall be worthy of its great achievements" Colonel J. Lane Notter said "To further develop this great work your council find it necessary to move into larger premises as they are terribly handicapped in Margaret street for want of room The proposed site has been circulated to the members but it is not the intention of the council to adopt this or any scheme without taking the members of the institute into the [illegible] position [illegible] fellows, [illegible] present appeal for funds So far I am happy to say that the proposed scheme appears to appeal to all classes of members and a number of donations have been received from associates, many of them of limited means, but who have promised small annual subscriptions" The Bishop of Hereford said that the homes of the working classes, both in town and country, ought to be far more sanitary One of his clergymen had told him that in his parish of 4000 there were no less than 120 homes that were not fit for the upbringing *of children Priding themselves as they did upon their imperialism* it was high time that they looked to the welfare of these younger members of the empire

AN AMERICAN CENTENARIAN —The *Boston Medical and Surgical Journal* of May 4th states that Hiram Cronk, the sole survivor of the war of 1812, who lives at Dunn Brook in Central New York, celebrated his 105th birthday on April 29th and that a number of delegations from patriotic societies visited him on this occasion

SOCIETY OF ARTS.—Dr. Charles Creighton, author of the "History of Epidemics in Britain," read a paper before the Indian Section of the Society of Arts on May 18th on Plague in India Dr Creighton has recently visited India for the purpose of studying the general aspects of plague and his paper, besides dealing with the present situation, referred to the probable course of the infection according to historical precedent

CHILDREN'S COUNTRY HOLIDAYS FUND —The *annual meeting of this fund* (18, *Buckingham street, Strand*, W C) will be held at 3 30 P M on Monday next, May 22nd, *in the Hotel Métropole* The Earl of Erroll will preside. [illegible] the Bishop of Stepney, Mr. [illegible] Edmund Talbot, and Miss N [illegible] *for the Colonies* Mr. Lyttelton, who is one of the trustees of the fund, is also expected to be a speaker

COUNTRY SCHOOLING FOR TOWN CHILDREN.—A movement was started in Manchester some time ago, by the Rev S Nugent Perry, for the establishment of a country school "for those Manchester children whose homes are far removed from anything that speaks of rural life." His parish furnishes very few children who would not be included in the above category and though the ignorance of a world outside the wilderness of bricks and mortar to which the child of the slums is accustomed has often something quaint and humorous it is also pathetic The outcome of the movement culminated recentl[illegible] school at Knoll's Green, near [illegible] Hoy, chairman of the Manch[illegible] *on the invitation of* Mr. Herbe[illegible] of which he is chairman There [illegible] the permanent charitable societies of Manchester and the school is looked upon as an experiment The gentlemen present were of various shades of opinion but all joined heartily in this effort to bring out some of the scholars and their teachers from time to time from the town to the country In an address given by Lord [illegible] the view that there was [illegible] children and said that [illegible] much more favourable [illegible] than before the *factory* legislation, when "we had child labour pushed to an extreme" There is happily more interest taken in the conditions of life among our town dwellers than ever before but the recruiting *returns, to say nothing of other* evidence, show that there still is a good deal of leeway to make up

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Canine League.

ONE of the incidents of the sitting of the House of Commons on May 11th was the presentation of a petition by Mr ELLIS GRIFFITH and Mr MACNEILL from members of the Canine League and others against vivisection The petition bore 180 000 signatures, was two and a quarter miles in length, and weighed over a hundredweight.

HOUSE OF LORDS

THURSDAY, MAY 11TH

Public Health Acts (Amendment) Bill.

Lord HYLTON, in moving the second reading of this Bill, explained that its objects were to exempt buildings sufficiently isolated from the

the incompetency of nurses. The same remark would apply to district committees and college hospitals and so on. The danger lay in the way nursing institutions were worked and in the way women advertised; those institutions should undoubtedly be under some control. With regard to a nurse's recommendations they had no guarantee that they were correct unless there was a register. Some time ago a woman applied to him. She said that she was a trained mental nurse. He asked what her training consisted of and she told him that her late husband was a policeman. He had had something to do with the cells and that was her sole training.

Answering Sir John Stirling-Maxwell, who inquired what steps the Central Board would take in the case of a nurse who grew rusty, he said he would never remove her from the register except for sufficient cause or at her own wish. He would ask a nurse to report herself every two years. The register would give a guarantee that she had been properly trained and that she had not been guilty of any culpable offence. He wished nurses to have their own certificates and private recommendations just as at present. A mere directory would not answer the purposes they had in view. It would ignore the examination.

Sir John Tuke: Why should you institute a second examination for nurses who are found qualified by institutions?—To secure uniformity.

The committee then adjourned.

BOOKS, ETC., RECEIVED.

Adams Bros., 59, Moor-lane, E.C.

The Physiological Aspect of Dietary. By A. S. Wauchope-Watson. Price 2*s.* 6*d.*

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, W.C.

The Rôle of Modern Dietetics in the Causation of Disease. By J. Sim Wallace, M.D., D.Sc., L.D.S., Hon. Dental Surgeon, West End Hospital for Nervous Diseases and Assistant Dental Surgeon, National Dental Hospital, W. Price 2*s.* 6*d.* net.

Blackie and Son, Limited, 50, Old Bailey, E.C.

A Book of Bridge. By "Pontifex." Price 5*s.* net.

Funk and Wagnalls Company, New York and London.

Electro-Diagnosis and Electro-Therapeutics. A Guide for Practitioners and Students. By Dr. Toby Cohn, Nerve Specialist, Berlin. Translated from the Second German Edition and edited by Francis A. Scratchley, M.D., New York. Price not stated.

Physician *versus* Bacteriologist. By Prof. Dr. O. Rosenbach of Berlin. Authorised translation from the German by Dr. Achilles Rose. Price 6*s.*

Superstition in Medicine. By Prof. Dr. Hugo Magnus. Authorised translation from the German, edited by Dr. Julius L. Salinger, late Assistant Professor of Clinical Medicine, Jefferson Medical College. Price 4*s.*

Green, William, and Sons, Edinburgh.

Chapters in Pathology, being an Outline of Lectures upon Some Points in the Pathology of Elementary Nutritive and Circulatory Derangements. By W. S. Greenfield, M.D., F.R.C.P. Lond. & Edin., Professor of Pathology in the University of Edinburgh, and George Lyon, M.D., M.R.C.P. Edin., Second Assistant in the Department of Pathology in the University of Edinburgh, and Assistant Pathologist to the Edinburgh Royal Infirmary. Price 5*s.* net.

Heinemann, William, 21, Bedford-street, W.C.

Physiological Economy in Nutrition, with Special Reference to the Minimal Proteid Requirement of the Healthy Man. An Experimental Study. By Russell H. Chittenden, Ph.D., LL.D., Sc.D., Director of the Sheffield Scientific School of Yale University and Professor of Physiological Chemistry. Price 14*s.* net.

Hirschwald, August, Unter den Linden, 68, Berlin, N.W.

Lehrbuch der Inneren Medizin. Fur Arzte und Studierende. Von Dr. med. Georg Klemperer, Universitäts-Professor in Berlin. Erster Band. Price M.15.

John Bale, Sons, and Danielsson, Limited, 83–91, Great Titchfield-street, Oxford-street, W.

"Verb. Sap." on Going to West Africa, Northern Nigeria, Southern, and to the Coasts. By Alan Field, F.R.G.S., Colonial Political Service; late the Royal Scots; Ind. Staff Corps, and Bombay Famine Relief Dept., &c. Price 2*s.* 6*d.* net.

Mittler, Ernst Siegfried, und Sohn, Kochstrasse, 68–71, Berlin.

Veröffentlichen des Deutschen Vereins fur Versicherungs-Wissenschaft. Herausgegeben von Dr. phil. et jur. Alfred Manes, General-Sekretar des Vereins. Heft V. (Ausgegeben Mai, 1905). Die Impfklauseln in den Weltpolicen der Lebensversicherungs-Gesellschaften. Von Dr. med. Ludwig Pfeiffer, Geheimer Hof- und Medizinalrat in Weimar. Price not stated.

Oliver and Boyd, Edinburgh.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by Sir John Batty Tuke, M.D., and D. Noel Paton, M.D. Vol. IX. Price not stated.

Saunders, W. B., and Co., Philadelphia and London.

A Text-book of Medical Chemistry and Toxicology. By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Price 15*s.* net.

The Vermiform Appendix and its Diseases. By Howard A. Kelly, A.B., M.D., Professor of Gynæcology in the Johns Hopkins University, Baltimore, and E. Hurdon, M.D., Assistant in Gynæcology in the Johns Hopkins University, Baltimore. Price 42*s.* net.

How to Succeed in the Practice of Medicine. By Joseph McDowell Mathews, M.D., LL.D., President of American Medical Association, 1898–9. Price 6*s.* 6*d.* net.

A Reference Hand-book for Nurses. By Amanda K. Beck, Graduate of the Illinois Training School for Nurses. Price 5*s.* net.

Atlas and Epitome of Operative Ophthalmology. By Prof. Dr. O. Haab of Zurich. Authorised translation from the German with Editorial Notes and Additions. Edited by G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. Price 15*s.* net.

Diseases of the Blood. By Prof. Dr. P. Ehrlich, Prof. K. von Noorden, Dr. A. Lazarus, and Dr. F. Pinkus. Edited, with Additions, by Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Authorised translation from the German, under the editorial supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Price 21*s.* net.

Smith, Elder, and Co., 15, Waterloo-place, S.W.

In Peace and War. Autobiographical Sketches. By Sir John Furley, Kt., C.B., Author of "Struggles and Experiences of a Neutral Volunteer," &c. Price 10*s.* 6*d.* net.

Wiley, John, and Sons, New York. (Chapman and Hall, Limited, London.)

Manual of Psychiatry. By J. Rogues de Fursac, M.D., formerly Chief of Clinic at the Medical Faculty of Paris. Authorised translation from the French by A. J. Rosanoff, M.D., Junior Assistant Physician, L.I. State Hospital, Kings Park, N.Y. Edited by Joseph Collins, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School. First edition. First thousand. Price not stated.

Williams and Norgate, 14, Henrietta-street, Covent Garden, W.C.

A System of Practical Surgery. By Prof. E. von Bergmann, M.D., of Berlin, Prof. P. von Bruns, M.D., of Tübingen, and Prof. J. von Mikulicz, M.D., of Breslau. Edited by William T. Bull, M.D., Professor of Surgery, College of Physicians and Surgeons, New York. In five imperial octavo volumes. Sold by subscription only. Price per set: extra cloth, £6 6*s.*; half leather, *marble sides and edges, £7 7s.; half morocco, £8 8s.*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Alford, E. Frank R., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Paddington Green Children's Hospital, W.

Allen, James D. C., M.B., C.M. Edin., has been appointed Public Vaccinator and Medical Officer to the Binfield District of the Easthampstead Union.

Anderson, John, M.D. Aberd., has been appointed Officer of Health for the East Riding of the Council Shire of Ballan, Victoria, Australia.

Baird, John C., M.B., Ch.B. Melb., has been appointed Officer of Health for the Shire of Healesville, Victoria, Australia.

Beaumont, W. H., M.B., B.S. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Sedbergh District of the county of York.

Cross, W. Foster, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed an additional Non-Resident Anæsthetist at St. Bartholomew's Hospital.

Gray, Walter Gordon, L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Holsworthy (Devon) Urban District Council.

Harris, John, M.D. Aberd., has been appointed Honorary Assistant Physician to the Sydney Hospital, New South Wales, Australia.

Lawson, T. C., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Stokenchurch District of the county of Buckingham.

Lock, John Lewis, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Medical Officer of Health of the Uxbridge Urban District.

Macknight, Charles Crawfurd, M.B. & Ch.M. Edin., has been appointed Officer of Health for the Shire of Warrnambool, Victoria, Australia.

Manby, W. E., M.B. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bridport District of the county of Dorset.

Saundby, Robert, M.D. Edin., F.R.C.P. Lond., has been appointed Consulting Physician to the West Bromwich District Hospital.

Sinclair, Thomas Walker, M.D. Melb., has been appointed on probation for six months as Assistant Medical Officer of Health for the Metropolitan Combined Districts, New South Wales, Australia.

Smyth, E. J., M.D., B.S. Lond., has been appointed Honorary Ophthalmic Surgeon to the Royal Surrey County Hospital, Guildford.

Trenfield, George Henry, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Almshouses under the management of the trustees of the Bristol Municipal Charities.

Watkins, W. L., L.K.Q.C.P. Irel., has been appointed Medical Superintendent at Yarra Bend Asylum, Victoria, Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Auchterhouse, Sidlaw Sanatorium.—Medical Superintendent. Salary £250 per annum.

Bethlem Hospital.—Two Resident House Physicians, unmarried, for six months. Honorarium at rate of £25 per quarter, with board, lodging, and washing.

BIRKENHEAD BOROUGH HOSPITAL—Junior Resident House Surgeon Salary £80 and fees.

BODMIN, CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £135 per annum, rising to £155, with board, lodging, &c.

CANCER HOSPITAL, Fulham road, S W.—Assistant House Surgeon for six months, renewable Salary £70 per annum, with board and residence.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn road, W C—House Surgeon. Salary at rate of £50 per annum, with board and [illegible]

[illegible] Salary £70, with board, residence, and washing. Also Eight Clinical Assistants [illegible]

[illegible] Physician.

WEST LONDON HOSPITAL, Hammersmith road, W.—House Physician for six months Board, lodging, and laundry provided

WINSLEY, NEAR BATH, SANATORIUM FOR POORER CONSUMPTIVES—Resident Medical Officer, unmarried. Salary £200, rising to £300

THE Chief [illegible], gives notice of a vacancy [illegible] ory and Workshop Act at [illegible]

Births, Marriages, and Deaths.

BIRTHS.

[illegible] the wife of Albert Paling, M B, B S, F R C S, of a daughter

THORNTON—On May 13th, at 3, The Beacon, Exmouth, the wife of George Lestock Thornton, M A Cantab, M R C P. London, M R C S, of a daughter.

UPWARD—On May 13th, at Edfou, Romford, the wife of Harold Upward, M B., M R C S, of a son.

MARRIAGES.

[illegible] C H [illegible] Rev. J. Hallward, Edgar Hugh Strong, M.R C S Eng, L R C P Lond, youngest son of Lieut Col. Owen H. Strong, of 'Monard, Knole road, Bournemouth to Agnes Beryl, third daughter of W A. H. Holland, Esq, J.P., of Grahamstown, Cape Colony (By cable)

DEATH.

LANGWILL.—At 4, Hermitage-place, Leith, on May 13th, Amy Holmes, wife of Hamilton Graham Langwill, M.D, F R C P E

N.B.—A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL EVIDENCE AT CORONERS' INQUESTS

To the Editors of THE LANCET.

> "Search to the core and with the sharpest knife
> The secret of the soul's escape from life"—*Culpepper*.

SIRS,—Every lover of diagnosis and vital statistics must regret that a post-mortem examination was not ordered in this Stepney case (*vide* THE LANCET, May 6th, p 1243), although the ordering of a necropsy is purely at the discretion of the coroner No doubt Mr. Baxter had his reasons for not having one but every medical man of to-day is credited with the ability to make a post-mortem examination in an every day case Now some coroners, notably Mr Troutbeck, do not think so, for they do their best to supersede the general practitioner in these duties and sometimes in giving clinical evidence, and why? Because they have sworn to obey the ninth tenet of the London County Council's "Rules *re* Appointment of Coroners," which see—in difficult cases, by employing a special pathologist and (tenet 8) in holding inquests with or without *post mortem examinations* in certain other cases, a grave injustice to those in general work

As things went on in this case (judging from the report in THE LANCET) the evidence was inadequate on the part of the mother and of the medical man Of the mother, in that nothing was asked as to recent personal history of the boy, as to length of cough, malaise, appetite, chills, colic, headache, squint, or previous sickness, of the medical man as to temperature, history of cough, heat of skin, urine, dulness, crepitation, bronchial breathing, or other physical states, in fact, the use of the word "blow" (in the absence of evidence) seems to have lighted a bonfire which extinguished the course of further inquiry and to have led to an unprofessional theorem Now, no lawyer-coroner is competent to discuss clinical phenomena let alone the rôle of pathological states, in my opinion, and as forensic *versus* clinical cases at inquests occur in the proportion of 15 to 100 the comparative eligibility of lawyers and medical men for the office of coroner goes without saying surely pathology stands before logic and torts in the matter of sudden deaths.

No wonder, then, when law unfolds medicine that a verdict reads as a chimera—"a shot in the dark"—a travesty. With the symptoms of vomiting, abdominal pain, and irregular pupils, although it is not the duty of the medical witness to theorise, there was an opportunity of ventilating a differential *diagnosis and this would* have won over by assisting the coroner, whose respect we should always manfully court [illegible] have been [illegible] monia, severe and sudden (but here there would s ill be many cardinal symptoms to spot even at the eleventh hour), More history, an examination of the urine, sputum, &c, would have greatly helped, but is it not likely that the boy had an empty stomach, was overwrought by lessons, play, and a latent disease, and then was stricken by a meningeal *effusion paralysing the third nerve of* the dilated pupil side, all of which was due to an unrecognised influenza? The play of the pupils to light was not mentioned Mr Kennard may congratulate himself that he was subpœnaed for clinical evidence as some of us do not get that Lastly, I should like to mention that I always make it a point to have another professional friend to help me in any post-mortem examination I am, Sirs, yours faithfully,

M D, M.R C S

May 15th, 1905

LIVINGSTONE COLLEGE

THE principal of Livingstone College at Leyton, E, has issued an illustrated pamphlet describing the work of the college which has now been established for nearly 12 years May 23rd is commemoration day, when all who are interested in the college are invited to attend As it is the only institution in the world specially devoted to the training of missionaries in the elements of medicine and surgery the pamphlets above alluded to make a very interesting souvenir. There can be no doubt of the good work which the college does for missionaries going to unhealthy climates or to isolated posts and the institution, therefore, ought to receive the financial aid of which it is greatly in need At present there is an accumulated deficiency of over £600 and it would be most inexpedient to raise the fees A friend of the college has offered £200 provided £1000 can be raised by commemoration day (May 23rd) and £550 of this sum is still required We trust that the required sum of money may reach the treasurer, Mr R L Barclay, 54, Lombard street London, E C, before the date mentioned.

PRESENCE OF MIND IN A SMALL CHILD

THE following instance of presence of mind in a small child, aged six years, was recently brought to our attention. The little girl's father while examining a gas leakage broke off the bracket and accidentally ignited the gas, with the result that a long flame shot up towards the ceiling. No damage was done, as the gas was at once turned off at the meter, but shortly afterwards it was discovered that the little girl was missing from the house. Then a fire-engine arrived and it was found that unknown to anyone, and upon her own initiative, she had left the house and given the alarm at the fire station, a distance of several hundreds of yards away. To medical men this kind of readiness in small children to grasp a situation is important, because children, even mites of six years of age, are so often left in charge of infants. As it happened there was someone in the house to turn off the gas at the meter and possibly to punish the child for officiousness, but in other circumstances such promptitude might have saved life and property.

COMPULSORY SCHOOL ATTENDANCE AND PUBLIC HEALTH.

To the Editors of THE LANCET.

SIRS,—I had so many complaints in Shropshire that the Education Act, as it was administered, was unnecessarily harsh and unfair to the working classes, because it was assumed that if a child was too ill to attend school its parents must pay about 2*s.* 6*d.* for a doctor's certificate or be summoned and fined that I did my best to find out what the law really was. I also gave two cases in all the local papers which had come to my knowledge where the poverty of the parents had practically compelled them to send a sick child to school and in each case had resulted in the death of the child, but the cases would take up too much of your valuable space. It appears that it is not correct to suppose that a parent is obliged to get a doctor's certificate when a child is not well enough to go to school. It rests entirely with the school attendance committee to decide on the merits of each case whether it will send a particular case to be prosecuted before a magistrate or not. The school attendance committees cannot, of course, grant a legal exemption but they can do what comes to exactly the same thing. They can refrain, when they think the circumstances justify it, from prosecuting parents for the non-attendance of a child, and it is their business to find out whether any case is genuine or not. The school attendance committees have discretion left to them in these matters and ought to use their discretion, because matters of this kind cannot be dealt with by a hard-and-fast law. Otherwise we might as well be under the iron heel of a Government department attempting to administer minute local matters from Whitehall. It would surely be extremely unjust if working people were obliged to pay for a doctor's certificate every time a child had a bad cold on his chest or some other ailment for which he might be reasonably and rightly kept from school. The fact appears to be that school attendance officers find it easier to make a hard-and-fast rule, as it saves them trouble. County councils have power to make a by-law to the effect that children between the ages of five and seven years of age need not be compelled to attend school if the nearest school is more than a mile from their home.

I am, Sirs, yours faithfully,

Shrewsbury, May 13th, 1905. ROWLAND HUNT.

ANOTHER PROPOSED CANCER REMEDY.

THE following letter was recently received by the house surgeon mentioned below. It will be seen that the plant, according to the writer of the letter, has a wide range of usefulness. We have not seen the plant but we should think that probably it belonged to the spurge family, the plants of which all contain acrid juices and if applied in the manner directed would cause ulceration; but eating the leaves of spurge would most likely be dangerous.

To the House Sergeon Brompton Hospital.

SIR,—Enclosed you will find a wild plant. It is a cure for anything (such as a sore). Would you mind trying it for a cancer, or anything of that kind. I have other plants, which I will send when I can get them to grow. Trusting you do not mind giving this a trail.

Yours truly,

Komgha, April 9th, 1905. ISABELLA REANEY.

Address, Mrs. I. Reaney, Komgha, Cape Colony, South Africa.

"Take the leaf and dip it in cocoanut oil to make it soft, and put it on the sore or cancer all day. At night put a little coarse meal, made soft by adding water. The next day put a leaf on again every day for three weeks. The leaf should draw the sore, and which causes terrible pain, until the cancer falls out, leaving a large hole, which is healed up by ointment. You can eat the leaves, which will do you a great deal of good, or you can put them in water and drink it. I don't think it is poisonous. The stems you boil them and drink. It will clear your blood from any disease."

VASENOL: A NEW FORM OF ADMINISTERING PETROLEUM.

THE difficulty that is met with in emulsifying vaseline and liquid paraffin has led to the addition of fatty acids, soaps, and other bodies but these have possessed therapeutic objections. According to the *Apotheker Zeitung* A. Kopp has overcome these difficulties by adding to the paraffin a small quantity of the higher fatty alcohols obtained from wool fat, spermaceti, or other sources. The term vasenol has been given to the various preparations of paraffin when treated in this way; they have interesting pharmaceutical and therapeutic properties. They mix readily with aqueous liquids, producing emulsions which are quite neutral, and when applied locally in this form medicaments are stated to be absorbed in a higher degree than when mixed with soft paraffin alone. Vasenol, an emulsion of soft paraffin with 25 per cent. of water, has the consistence of an ointment; it can absorb several times its weight of water and can be mixed with a great number of fats, salts, powders, extracts, and liquids. Liquid paraffin mixed by this method with 33 per cent. of water forms a neutral oil possessing similar properties; thus, it may be used for liniments, or it may be mixed with water in any proportions and used as an injection. It is useful also for soaking tampons in gynæcological practice. Vasenol may be produced in the form of a powder containing 10 per cent. of vasenol. This preparation combines the properties of an absorbent powder with those of vaseline and maintains the skin in a state of suppleness. It may be used with advantage in dressing wounds, as various astringent and antiseptic substances may be added.

A LARGE INFANT.

To the Editors of THE LANCET.

SIRS,—A few months ago you published notes, sent to you by Mr. R. E. W. Jennings, of a large infant weighing 13 pounds. I beg to inform you that I delivered a Dutch lady of a son weighing exactly 14¼ pounds. The child to me looked as if he would be more satisfied with a chop than a drink of milk from the breast. I also attended the same lady at a previous confinement when she gave birth to a son weighing 14½ pounds. Both confinements were perfectly natural and quick, forceps not being necessary in either case. I may mention that both mother and father are large persons.

I am, Sirs, yours faithfully,

WM. P. JOHNSTONE, M.B., C.M. Edin., J.P.

Maraisburg, near Johannesburg, April 20th, 1905.

◆

Disgusted.—If our correspondent can prove his statement that his patients have been approached by touts pressing them to join the "family club" the matter is one which should be laid before the General Medical Council. The Council would, of course, require the strictest proof before acting, but if it was satisfied that such an abuse of practice had occurred it would probably take severe measures.

Old-fashioned has not understood our answer, nor is he aware of the details of the case. Medical men can never be too strict or too altruistic in their professional relations towards each other but we are unable to support the view that a medical man has a property in his patient and that the patient cannot change his medical adviser if he wishes.

G. W. (Birmingham).—The police are compelled to make inquiries in what might be a case of murder the moment the circumstances come to their attention, so that the midnight call seems to us justifiable. Our correspondent might consult a solicitor as to the possibility of recovering a fee; we do not see why he should be disturbed for nothing.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (27th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

[illegible]

SOCIETIES.

[illegible]

Fl. [illegible]

[illegible] sections).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. T. C. Fox: Clinique. (Skin.) 5.15 P.M. Dr. W. Ll Andriezen: The Classification of Insanity.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Gastritis, Causes and Treatment.

TUESDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. W. Carr. Clinique. (Medical.) 5.15 P.M. Dr. T. Oliver: Angina Pectoris and Allied Conditions.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—*3.30 P.M. Dr. R. Russell. Cranial* Nerve Paralyses.

[illegible] DUATE COLLEGE (Tottenham Hos- [illegible] Demonstration:—Dr. G. P. Chappel: [illegible]

W [illegible] GRADUATES' COLLEGE AND POLY- [illegible] W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.) 5.15 P.M. Dr. C. T. Williams: Pulmonary Congestion.

[illegible]

(Surgical.) 5.15 P.M. Dr. R. Hutchison. The Dietetic Treatment of Diabetes.

[illegible] mith- [illegible] P.M. [illegible] ation [illegible]

[illegible] V.).— [illegible] cer.

FRIDAY [illegible] LINIC [illegible] ique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.). *5 P.M. Mr. C. Williams: X Rays, Diagnosis and* [illegible]

[illegible] en- [illegible] os [illegible] ks: [illegible]

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle street, W.)—9 P.M. Prof. J. W. Bruhl: The Development of Spectro-Chemistry.

EDITORIAL NOTICES.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 18th, 1905.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
May 12	30 26	N.E.	...	120	62	48	47	55	Fine
" 13	30·34	N E.	...	104	59	47	47	52	Overcast
" 14	30 31	N	...	65	57	47	48	52	Overcast
" 15	30 33	N.E.	...	120	63	44	47	54	Fine
" 16	30 27	N E.	.	114	61	43	49	54	Fine
" 17	30 19	N E.	0 05	127	72	49	53	58	Fine
" 18	30·13	N E	...	126	68	47	51	57	Fine

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An Address

ENTITLED

CLINICAL ILLUSTRATIONS OF ANGINA PECTORIS AND PSEUD-ANGINA.

Delivered before the Brighton and Sussex Medico-Chirurgical Society on April 6th, 1905.

BY SIR W. H. BROADBENT, BART., M.D. LOND., D.SC. LEEDS, F.R.S.,

PHYSICIAN IN ORDINARY TO HIS MAJESTY THE KING AND TO HIS ROYAL HIGHNESS THE PRINCE OF WALES.

GENTLEMEN,—It is not necessary that I should describe angina pectoris in all its varieties. We understand by it pain in the cardiac region, chiefly behind the sternum, with radiation, most frequently down the inner aspect of the left arm to the elbow, or to the hand, especially the two ulnar fingers, or down both arms, or to the shoulder, neck, or face. Or it may begin in some part of the arm, as, for example, by painful tight feeling round the wrist, extending up the limb to the chest. The pain may vary in character and intensity and may be described as crushing by a gigantic weight, or as if the chest were held in a vice, or as tearing, or burning. All sufferers agree that there is no other pain like it and it is usually accompanied by a sense of impending death. The distinctive characteristic of true angina is that it is induced by exertion, by walking upstairs or up an incline, or against the wind, more easily soon after food (after breakfast is a favourite time in early cases), or when the air is cold on first going out. Or an attack may come on when the patient goes to bed, after perhaps walking upstairs, the exertion of undressing, assuming the horizontal position, and the contact of cold sheets. Next to exertion in provoking an attack comes excitement, and in advanced cases the movement of a limb, a breath of air, the slamming of a door, the announcement of a visitor, may be sufficient to precipitate an attack. The effect on the circulation common to all these exciting causes is increase of the blood pressure in the arterial system and this must be regarded as the determining antecedent. The attacks are usually brief, the sufferer, indeed, will often say that if they had lasted another minute he must have died, he stands still, or suspends any exertion in which he is engaged, and may not even dare to breathe. With the cessation of the exertion the paroxysm subsides or speedy relief may be obtained by inhaling amyl nitrite or taking nitro-glycerine. The patient may then be able to resume his walk and to go on for some time without provoking another attack. Sooner or later sudden death usually occurs during, or at the outset of, a paroxysm. While the attacks are, as a rule, soon over, the pain may last for hours. In one case to which I was called the patient had spent an entire night sitting in a chair, not daring to move, the face bathed in cold perspiration and having an agonised expression. He made a temporary recovery. In another, in which I made a post-mortem examination and found the heart in an advanced state of fatty degeneration with calcified coronary arteries, death took place after hours of terrible suffering in the night.

During the paroxysms the one condition of the circulation which seems to be always present is contraction of the peripheral arterioles. It was the recognition of this fact and of its significance which formed the basis of Sir Lauder Brunton's employment of amyl nitrite and nitro-glycerine, which have been of such value in the treatment of angina. I have sometimes been tempted to think that in certain cases the initial event is that the blood-supply from the heart fails and the arteries contract down upon the empty lumen as they do post mortem. The pulse may remain steady or become irregular, it [illegible] may be *slow and hesitant.* [illegible] its natural colour. [illegible] found has been more or less occlusion of the coronary arteries from a calcareous or atheromatous or sclerosed condition of these vessels with perhaps thrombosis, or from disease of the walls of the aorta narrowing their orifices. As a consequence of the obstruction to the blood-supply, general or local degeneration, fatty or more frequently fibroid, of the walls of the heart is usually produced, though death may occur before even microscopic changes in the muscular striæ can be recognised. A noteworthy fact is that the cavities are almost always found to be empty after death.

The theories, as they may be called, or explanations advanced as to the cause of the pain are very many in number. Huchard enumerates no less than 80 of these hypotheses. I shall consider them simply in so far as they concern prognosis and treatment and from this point of view only two demand serious attention. Huchard regards the attacks as consisting essentially of what may be called cramp of the cardiac muscle due to ischæmia or privation of blood produced primarily by disease of the coronary arteries or occlusion of their mouths, possibly intensified by spasmodic contraction of these vessels. For Huchard there is only one true angina pectoris, the coronary, and his discussion of the entire question is one of the most interesting parts of his monumental work. An alternative view is that the pain is due to overstrain of the heart in the endeavour to overcome resistance in the peripheral circulation to which it is no longer equal or to distensive stress of the aorta. The incompetence of the heart may be the result of inherent weakness from degeneration of its muscular walls, or may be only relative to great increase of the resistance in the arterioles and capillaries, or may be attributable to a combination of the two. Some degeneration or deterioration of the heart walls must, however, be an indispensable, and, indeed, the special, factor in the causation or angina would be much more common in chronic Bright's disease in which arterial tension reaches its maximum. The inadequate blood-supply, again, which gives rise to the degeneration may also affect the nutrition of the cardiac ganglia and nerves and in this way predispose to pain. The conclusion that the condition of the heart walls must be the dominant factor in angina seems to me to be confirmed by two cases which have come under my observation, in which, after plague, the heart was left in a state of extreme asthenia and pain of an anginoid character was experienced on very slight exertion.

Before entering upon the consideration of the different forms of true angina we may speak of false angina. To establish this distinction will be a matter of vital importance, as it may enable us to lift the burden of constant apprehension from the minds and lives of patients and to restore a family to tranquillity and happiness. We may dismiss the hysterical person, male or female, who comes with a diagnosis of angina pectoris ready-made and cannot find terms adequately to describe his or her complicated agonies, who is ready to adopt any suggestion we may make as to the seat and character of the pain and as to the direction and extent of its radiation. The attacks may come on at any convenient time and may last indefinitely but are not allowed to interfere with pleasant engagements. These patients do not wish their friends to be undeceived as to the character of the attacks.

Paroxysmal pain in the cardiac region may be due to a great variety of conditions; it would be waste of time even to enumerate them. Speaking generally, in all cases in which the attacks come on chiefly during repose, when perhaps the patient is sitting reading or writing, however severe and however closely they may appear to conform in the description given of them to true angina, the presumption is that they are spurious unless they have been led up to by the frequent occurrence of pain induced by exertion. The presumption is increased if there are tumultuous action of the heart and irregularity or intermission of the [illegible] conscious, particularly if [illegible] same may be said of car[illegible] if there is no history of the patient having also been brought up short when walking by pain in the chest. If the nocturnal attacks recur, and particularly if they observe a sort of punctuality in their recurrence, it may be concluded that they are of gastric origin. We shall, however, be cautious in coming to this conclusion and in acquitting them of all serious significance if there is valvular disease of the heart or considerable dilatation. The cases which most closely simulate true angina are those in which there is dilatation of the stomach and when, with a dilated stomach, there is high arterial tension, which is so very

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frequently associated with angina, we may have attacks which can scarcely be distinguished from those of true angina. I have chosen three of these as illustrations. In all of them a diagnosis of angina had been made.

CASE 1. *Pseud-angina.*—A retired officer, aged 70 years, consulted me in October, 1895. He said he had suffered from heartburn for 30 years and had had four attacks of influenza which had left his heart weak, so that after a walk of a quarter of a mile he was pulled up by pain in the centre of the chest which radiated down to the hands on both sides. During the attack his breathing was embarrassed and there was palpitation of the heart. He often had to lie flat on the floor. He was also liable to attacks which came on at 3 A.M. in which there was a sense of suffocation as well as severe pain and violent palpitation. He took carbonate of sodium and magnesium, brought up gas, and was then able to sleep again. The pulse was large and very tense. The cardiac impulse was weak and the apex beat could not be defined. The sounds were normal. The abdomen was very prominent; the stomach resonance was extensive, coming up to the fifth space. Voluminous splashing could be elicited. The diurnal attacks were extremely like those of true angina and they were induced by slight exertion. I have, however, never known a patient to lie flat in angina and it is very unusual for him to complain of palpitation. The attacks coming on punctually at 3 A.M. were certainly attributable to the dilated stomach and it seemed possible that this played an important part in the production of the anginoid paroxysms which followed slight exertion. He was dieted, was given pilula hydrargyri and ipecac and rhubarb, with the idea mainly of reducing the pulse tension, and bicarbonate and sulphocarbolate of sodium with ammonia, gentian, and peppermint for the relief of the distension of the stomach. Ten days later he had only had one attack during which the pulse was irregular—hurried and stopping in turn. A serious indiscretion in diet was followed by distressing symptoms of a mixed character, but in December he was apparently well in all respects. I have met him since in society, sometimes very late at night. He has always said that he was perfectly well. Since the above was written he has called upon me looking the picture of health and enjoying life in all its aspects notwithstanding his 80 years.

CASE 2. *Vaso-motor pseud-angina.*—A man of spare habit had suffered from some affection of the heart for several years. It was said to be angina and he had twice undergone a Nauheim course. The pain was brought on by exertion, especially after food; its seat was across the upper part of the chest and down the left arm to the elbow; it was not very severe and the liability to paroxysms varied greatly. When I saw him on Nov. 9th, 1903, the pulse was somewhat tense; the dimensions and sounds of the heart were normal, but a curious dry vibratory friction was heard over the apex, especially during expiration. It resembled the sound produced by a wet finger on a pane of glass and was exaggerated when he lay down. He had been taking iodide of potassium and I attributed the friction to deficient moisture of the pericardial surfaces due to the iodide. The stomach resonance was extensive and the upper line was unduly high. Splashing was very distinct and voluminous; there was much dreaming and he awoke early. The tongue had a slight central fur. The treatment was suggested by the condition of the stomach and was practically such as that described. The patient was very soon able to walk uphill between 12 and 1, when the stomach was comparatively empty, but still had pain on exercise after food. On Nov. 30th the pulse was soft and elastic, the apex beat was felt in the normal situation, and the heart sounds and intervals were normal. He thought a tonic pill which I had prescribed did not suit him and took again a mixture containing iodide. When next seen, on Dec. 14th, a creaking pleural friction was heard over the lower part of both lungs. The dilatation of the stomach persisted and much splashing was elicited by succussion. Sodium sulphocarbolate and carbonate were now given with ammonia and gentian three times a day. With the suspension of the iodide the pleural and pericardial friction disappeared. There was distinct general improvement but with great fluctuations which were usually traceable to errors in diet. I found, for instance, that while drinking little with his meals in accordance with my instructions he took a breakfast cup of weak tea immediately after lunch. He was also eating stewed prunes and Normandy pippins after telling me that apples in any form disagreed with him. The condition of the stomach was not much modified and it was difficult, as the patient was only seen at uncertain intervals, to control the eccentricities in the way of food. He was therefore taught to wash out the stomach and for six weeks did this every night. I did not see him for three months, when he could take a good deal of exercise without pain and had resumed his morning ride. When last seen, on Jan. 25th, 1905, he had remained well, though the washing out of the stomach had been given up for about six months. On the previous Sunday he had walked two miles to church and had read the lessons. He has since had occasion to write on other matters and spoke of his restoration to health.

CASE 3. *Pseud-angina.*—A man, aged about 60 years, consulted me in September, 1903, on account of pain across the chest to the left shoulder and down the arm, coming on after exertion but also at other times. He was conscious of beating of the heart and said he heard it. The pain had been pronounced to be angina and work and exercise had been forbidden. He suffered also from giddy feelings as if tipsy. The pulse was rather tense; the heart sounds and intervals were normal, the aortic second sound being slightly accentuated. The stomach resonance was found to be extensive and its upper limit high in the chest. The diet was regulated. A mild mercurial aperient was given twice a week and measures were taken for the reduction of the distension and dilatation of the stomach. The restrictions on exercise and professional duties were gradually relaxed and removed. Recurrences of some or other of his symptoms brought this patient to me from time to time. The pulse after the first visit was of normal tension; the apex beat was normal in character and in situation; the aortic second sound was scarcely accentuated. The dilated condition of the stomach persisted more or less and it was found necessary to have repeated recourse to the treatment for dilatation of the stomach which I have described. I have seen him within the last few days. His duties had involved frequent journeys and much and varied work. He had shot well through the winter and walked 11 miles with enjoyment. He expressed himself as feeling perfectly well and capable of any amount of exercise, always feeling the better for it. He had pain in the cardiac region from time to time but it had no relation to exertion and could usually be traced to irregular meals or unsuitable food.

Coming now to true angina, the diagnostic distinction is that the attacks of pain are brought on by exertion. The first paroxysm may come on during some special effort and may be very severe. More commonly the early attacks are slight. Angina, answering to this criterion, is met with clinically in association with aortic valvular disease, or with aortitis, or with dilatation of the aorta, general or aneurysmal, or with atheromatous disease of the aorta without obvious dilatation, or with fatty degeneration of the heart. These may be represented as different stages or different effects of general disease of the arterial system and all of them, except perhaps acute aortitis, are very common without angina. Angina is established when the coronary arteries are implicated. Disease of the mitral valve does not give rise to angina; the supervention of mitral regurgitation may, indeed, greatly diminish the liability to attacks in a case of angina. This may perhaps be because breathlessness on slight exertion anticipates the paroxysm of pain; the course of the disease may be entirely changed. In connexion with valvular affections it is only in aortic disease that angina is met with and then not when the insufficiency or obstruction is the result of rheumatic valvulitis. Very frequently, indeed, a systolic murmur in a case of angina does not indicate real obstruction and, with a diastolic murmur, there may be extremely little regurgitation. When this is the case the valvular affection, as such, is of no importance in itself; it is simply an effect of roughness or rigidity of the ring and cusps or of dilatation of the orifice and of the root of the aorta, due to atheromatous disease in the immediate neighbourhood of the coronary arteries which has narrowed their mouths or invaded their walls. The valvular affection and the dilated and atheromatous condition of the aorta are themselves effects of old-standing high arterial tension and the aortic second sound will be loud and ringing even when there is a double murmur, or the changes in the aorta and valves and blocking of the coronary arteries may be due to syphilitic disease of the arterial system, which is not necessarily attended with high blood pressure.

The atheromatous changes in the aorta, while ultimately exhibiting extreme forms of degeneration such as calcareous patches begin originally as inflammatory exudations. The inflammation however, is so insidious and chronic that no clinical evidence of its progress is recognisable except that its presence may be inferred when physical signs of dilatation of the ascending aorta or of the arch can be made out. Occasionally subacute aortitis reveals itself by symptoms.

CASE 4.—In November 1899, a man, aged 50 years, who had previously been under my care for various ailments, came to consult me, looking ill and complaining of pain in the chest. He had a spasmodic cough and his voice was cracked, the left pulse was smaller than the right. These symptoms were highly suggestive of aneurysm but no confirmatory physical signs were obtainable. A loud systolic aortic murmur not previously present, was heard over the entire heart. The maximum intensity was at the right second space but it was reinforced along the course of the aorta. The aortic second sound was not accentuated. This patient remained under observation for some months. He refused to believe that there was anything serious the matter with him and could not be persuaded to rest. The course of the case was extremely erratic. The pain in the chest varied in degree but could never be called severely anginoid. From time to time he looked fagged and worn and his eyes were sunken. His nights were often bad and disturbed by the beating of the heart. The pulse was never tense and was usually below the normal frequency (60 54) sometimes small and weak at others large and lax. The difference between the right and left radials did not last. Soon after I first saw him a soft diastolic murmur was developed. It was sometimes audible at others not, but at length it disappeared. All symptoms subsided in about six months but he was left with a loud systolic murmur and a sharp second sound suggestive of thin parchment like aortic walls. The patient is still actively engaged in business. There can be no doubt that there was inflammation along the whole course of the arch of the aorta. The orifice of the left subclavian was at first apparently narrowed by swelling of the tunica intima. Fortunately the coronaries were not implicated.

In acute aortitis, which is very rare, there may be frequent anginoid attacks while the patient is lying in bed without any apparent exciting cause if the mouths of the coronary arteries are blocked by the swelling of the internal tunic of the aorta. A case has occurred very opportunely in the out patient practice of my son which will be related.[1] In a large proportion of the cases of angina the condition known as arterio sclerosis is present in a marked degree. The radials are not only full between the beats of the pulse but the coats are thickened and firm the vessels are tortuous and can be rolled under the finger and followed up the forearm. The radials and the brachials at the bend of the elbow can often be seen to be thrown into curves with each pulsation. The aorta is dilated. It is not always easy to make this out by percussion but it is indicated very distinctly by the loud, low pitched sometimes ringing aortic second sound heard for a considerable distance outside the right border of the sternum and across the manubrium. In some cases the maximum intensity is shifted from the second to the third space by elongation of the ascending aorta carrying the base of the heart downwards. Occasionally a slight tracheal tug can be felt.[2] The angina, however does not stand in any direct relation with the degree of dilatation of the aorta but is dependent on interference with the coronary circulation. Angina may supervene in a comparatively early stage of the general arterial disease before the radials are much thickened or distinctly tortuous and before the aorta has become dilated if the coronaries happen to be involved in a swollen patch of exudation from the first. In syphilitic disease of the arterial system, while there may be valvular lesions dilatation of the aorta, or aneurysm the blood pressure may not be high. It is the part played by high blood pressure or high arterial tension in angina which affords us an opening for treatment which may alleviate and sometimes cure. The cases in which the prognosis is most unfavourable and in which we can do least for the relief of the patient are those in which the physical signs are negative. This is particularly the case in fatty degeneration of the heart. In a less degree the remark is applicable to the cases in which, with angina there are little thickening of the radials and little dilatation of the aorta in consequence of premature implication of the coronary arteries.

The treatment of angina, then, resolves itself into the treatment of high arterial tension. The resistance in the peripheral circulation which gives rise to this I place primarily in the capillaries and it is attributable to the presence in the blood of impurities which provoke this resistance. The object before us then, is to prevent the formation and to promote the elimination of these toxins. We simplify the diet, reducing the amount of animal food, and especially of the richer meats, bearing in mind also the fact, pointed out by Dr G Oliver, that boiled meat raises the arterial tension much less than roast meat. Meat extracts of all kinds will be forbidden. It may be worth while in some cases to order a strict milk diet and to enforce absolute rest. The patient must, of course, be placed under the best obtainable hygienic conditions as regards air and climate and should take daily such exercise as he is capable of without bringing on pain. Exercise may be supplemented by judicious massage and resisted movements. By way of promoting elimination a tumbler of water should be drunk night and morning hot or cold—perhaps also an hour before meals. The alkaline salts also are eliminants, particularly the potassium and lithium salts and may be given to aid the action of the water. Certain mineral waters are useful in this respect. A more definite effect on arterial tension is obtained by mercurial aperients and iodides presumably through their eliminant action possibly also through their influence on metabolism. Most striking reduction of arterial tension follows the administration of a single grain of calomel pilula hydrargyri, or hydrargyrum cum creta nightly or every second or third night, with just sufficient of one or other of the vegetable or saline aperients to secure an efficient action of the bowels. Colchicum or ipecacuanha seems to enhance the vaso dilating effect. The iodides in addition to lowering the tension by promoting elimination may have some resolvent effect on the chronic aortitis which impairs the elasticity of the aorta and blocks the mouths of the coronary arteries.

The mild mercurial aperients and the iodides, then form the basis of the medicinal treatment of the cardio vascular condition which gives rise to angina. With them will be associated tonics or other remedies which may be indicated by functional derangement of any kind. Quite the most important of these is dyspepsia with flatulent distension of the stomach. The direct vascular relaxants, amyl nitrite and nitro glycerine, are invaluable for the relief of the paroxysms but their influence on the blood pressure is far too brief to have any beneficial effect on the arterial tension. The nitrites and erythrol tetranitrate have a more persistent vaso dilator effect and seem in some cases to aid materially in diminishing the frequency and severity of the paroxysms. A medical friend to whom I recommended the erythrol attributed to it immunity from attacks which he enjoyed for many years. A single recent case of aortic stenosis and insufficiency may be related.

CASE 5.—An officer aged 31 years consulted me on Nov 9th 1904 on account of pain on exertion or change of temperature beginning in the left elbow, shooting up to the neck and extending to the cardiac region. He might have this pain on waking from a dream in the early morning. He presented all the physical signs of combined aortic insufficiency and stenosis. The pulse was visible but full between the beats and not collapsing but bisferiens in character there were a distinct carotid throb great hypertrophy and dilatation of the left ventricle reduplication of the first sound in the apex region which could be felt as well as heard, loud double aortic murmur the diastolic murmur being conducted down the sternum rather than towards the apex and entire absence of the aortic second sound. The history was remarkable. He had never had rheumatism or syphilis or fever. He had served six years in India and five in South Africa and was in Ladysmith during the siege. The pain came on some time afterwards 18 months before he consulted me and at first was severe at night after a hard day's work and was gone in the morning. It had only assumed the characteristic features of angina after his return to England in March, 1904. He looked old and battered. His complexion was sallow with red patches. As he sat the head could be seen to move with each heart beat and the crossed leg was kicked forwards.

The first two cases of angina without valvular lesion are brought together as contrasts. In one a sudden fatal termination took place before any considerable change could be recognised in the aorta, illustrating early implication of the coronary arteries; in the other the aorta was enormously dilated and angina had existed for years without proving fatal.

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[1] is case is published in our present issue p 1412.—Ed L.

[2] I was at one time disposed to speak of this class of angina as vasomotor in contradistinction to angina from fatty degeneration of the heart but the term is employed by various writers in a different sense.

CASE 6.—A woman, aged about 60 years, whom I had seen from time to time from 1892 for gouty pain and who had well-marked Heberden's nodules, complained for the first time in July, 1896, of pain behind the sternum and down the left arm on going upstairs. She was particularly liable to this in the afternoon. She suffered from obstinate constipation and looked older than her years. The pulse was very tense, the apex beat and right ventricle impulse were powerful, and the sounds were loud, the aortic second being accentuated. Hydrargyrum cum cretâ with extractum colchici and pilula colocynthidis cum hyoscyamo were given two or three times a week and arsenic and strychnine after food. Two months later she was much better and rarely had pain. In December, all treatment having been given up, she got up from her chair one afternoon and was walking across the room an hour after rather a large meal of minced chicken and mashed potatoes when she fell forwards dead.

CASE 7. *Angina; dilated aorta.*—A City man, aged 58 years, complained of gradually increasing pain in the cardiac region on exertion, shooting to the back and left shoulder and down the left arm. He has now to stop after walking 20 or 30 yards. The pain is more easily induced after food. He can lie down and has no pain lying or sitting. He had been compelled to give up business 18 months previously on account of the pain and had suffered from it for about five years altogether. Except that he was pale he did not look ill. The pulse was sudden, short, and unsustained, suggestive of aortic regurgitation; the artery was large and thin-walled, not emptying when the hand was raised. There was no visible carotid throb but the brachials were tortuous and visible at the bend of the elbow. No impulse or apex beat could be felt. The dimensions of the heart were not much altered but there was dulness for three quarters of an inch to the right of the upper sternum and here the second sound was loud and ringing with a musical tone. This second sound could be followed across the manubrium to the pulmonic area, showing that the aorta was dilated and thin-walled along the whole of the arch. The first sound was short; the tracheal breath sounds were conducted to the manubrium by the enlarged vessel but no tracheal tug was detected. A month later, after taking iodide of potassium (three grains), liquor arsenicalis (five minims), with tinctura cinchonæ composita and spiritus ætheris nitrosi, and resting more, he had much less pain but on exertion he had perfectly characteristic angina. The physical signs were the same but a slight tracheal tug could be felt and the left jugular vein was full and did not empty on deep inspiration so that the innominate of this side was compressed.

CASE 8. *Sudden death.*—An engineer, aged 57 years, was first seen in September, 1904. He had suffered from pain across the upper chest since August, at first while walking home after the day's work, which was hard and responsible, and more recently two or three times in the day. The pain did not shoot down the arm. The pulse was small and full between the beats; there was no apex beat or cardiac impulse but the dulness extended to the left of the normal limits. The first sound was weak, the aortic second accentuated and reinforced along the course of the arch. A slight tracheal tug could be felt. Rest and change were ordered; a mild mercurial aperient was given every other night or twice a week, as were small doses of potassium iodide. Erythrol tetranitrate was also ordered to be taken. Two months later, after giving up work and spending a month at Bournemouth, he was apparently better. He had intervals of three or four days between the attacks of pain and they often occurred between 3 and 6 A.M., beginning with a sensation in both hands, severe pain then extending across the upper chest and lasting two or three minutes. The right radial and carotid pulse was larger than the left and there was evidence of increased dilatation of the third part of the arch of the aorta, in dulness to the left of the manubrium and reinforcement of the aortic second sound here. It had also a lower pitch and a ringing character. A slight tracheal tug was recognisable. There was no impulse or apex beat. The treatment was continued on the same lines. A month later he died suddenly.

The following case is given to illustrate angina from syphilitic disease of the aorta. It was not dilated and the blood pressure was not high.

CASE 9.—A man, aged 59 years, consulted me in June, 1899, for pain which, according to his own account, was always latent in his left arm about the elbow and was roused by slight exertion and was then felt in the cardiac region and shot up the neck into the shoulder and down the arm. It had been very severe and brought him to a standstill when walking. The pulse was weak and unsustained though the artery was full between the beats. It varied in volume and force. The dimensions of the heart were normal; no impulse or apex beat could be felt; the sounds were weak, the first was short, and the aortic second was scarcely audible; there was an indistinct reduplication of the second sound over the right ventricle. He was a *bon vivant*, but before I saw him had been cut off smoking, coffee, and brandy. There was a history of syphilis. A blister had been applied and he had taken potassium iodide with strychnine and spartein. Benzo-naphthol had also been given for the relief of flatulence. The pain was less severe than it had been but he always ceased to walk when it came on. He looked well and had a good appetite; he slept well. The iodide was continued in five-grain doses with arsenic, ammonia and bark, and pilula hydrargyri (one grain) with pilula rhei composita and hyoscyamus was given twice a week. Nitro-glycerine tabloids were taken when the pain was severe. I saw him at long intervals. No change of note took place in the symptoms or physical signs. After a time slight albuminuria, which appeared fitfully at first, became permanent, the specific gravity of the urine being about 1014. I saw him last in December, 1902, by which time he was confined to his room and he died suddenly shortly afterwards.

The opinion has been entertained that the condition of the heart commonly found after death from angina was fatty degeneration in association with calcareous degeneration of the coronary arteries. It is only in a certain proportion of the cases, however, that there is the advanced degeneration in which the fingers sink into the softened walls and the heart almost falls to pieces by its own weight. The physical signs of fatty heart are chiefly negative. The dimensions are normal unless fatty change has supervened in a heart previously hypertrophied or dilated. No impulse or apex beat can be felt; the first sound is short and weak; the second, both aortic and pulmonic, is also very weak. The interval between the first and second sounds may be shortened, the ventricle not going through with its systole. The rate may be slow. All these conditions, except, perhaps, the approximation of the first and second sounds, may be present in cardiac asthenia, particularly if the heart is overlapped by the lungs. Sometimes a fairly good second sound is so masked when the lungs meet in the middle line that it is scarcely audible, but it will be heard in the carotids. We do not, therefore, make a hasty diagnosis of fatty heart. The pulse may be of great assistance. A sustained pulse at once negatives advanced fatty degeneration. On the other hand, calcareous degeneration of the radials or a thin inelastic condition of the arterial walls will be confirmatory of degeneration of the heart. Paralysis of the diaphragm will be evidence in the same direction. Fatty heart and fatty diaphragm not infrequently go together. It has seemed to me that the paroxysms last longer in fatty degeneration of the heart. The two cases mentioned of agonising pain going on through the night were examples of this condition.

CASE 10. *Angina.*—A medical man, aged 50 years, consulted me in June, 1898. He had gout at the age of 24 years and some years previously to my seeing him had suffered from asthma, for which he had been twice to Mont Dore. He had for some time been subject to a burning sensation in the upper cardiac region on ascending an incline, or going upstairs, or walking against a wind, which brought him to a standstill and caused him to burst into a cold perspiration. A sensation radiated down both arms. Nitro-glycerine gave instant relief. The pulse was small but not otherwise noteworthy; in particular it was not tense. The dimensions of the heart were normal; there was no impulse or apex beat. The aortic second sound was slightly accentuated. He went to Homburg and on his return was so much better that he resumed work and could walk six or seven miles. Going uphill, however, or facing a wind, excitement, nervousness, or night air, brought on pain which he described as an exaggerated heartburn over the sternum with neuralgic radiations down both arms. I saw him again on Nov. 7th as on the 6th, after a railway journey and eating sandwiches at 9 P.M., he had been seized at 4 A.M by extremely severe pain He had to get out of bed and kneel down and water ran out of his mouth. He had not his nitro glycerine at hand and the pain lasted one and a half hours, when he got a tabloid and was at once relieved. The physical signs were as before, the sounds perhaps weaker. After undressing a post systolic murmur of a frictional character was heard for a short time at the right second space which disappeared but was again reproduced on standing up Potassium iodide was now given with arsenic and nux vomica. I saw him for the last time in January, 1899 He had continued to attend more or less to his practice but had recently had a return of pain in the centre of the chest and down the arms on very slight exertion He had to rest after he got upstairs at night and again after taking off his drawers and socks, and he had had to stop two or three times between the Charing Cross Underground station and Northumberland avenue. He had pain after undressing in my room, during which the pulse, previously soft, became small and the artery was full between the beats He died the same night and the following instructive account of the final symptoms was sent to me by his partner —

> It appears that on his way home he was observed to be very ill by a fellow passenger who knew him and was so uncomfortable about him that he left his own compartment and went to the doctor's to see how he was [illegible]
> about his face a [illegible]
> would rather p[illegible]
> an attack of an [illegible]
> fact to his wife [illegible]
>
> [illegible] a further dose I persuaded him first to try the effect of hot stimulant—whisky, two ounces in hot water—hoping thereby to obtain vaso motor relaxation, but this, too, failed to ease him and I accordingly acquiesced in his demand for a further dose and gave him two minims more. This appeared to give some relief The paroxysms beca[illegible]
> fuller, and the [illegible]
> warmer and the [illegible]
> he was about to [illegible]
>
> [illegible] s wife—not
> [illegible] o inject as a
> [illegible] strychnine
> [illegible] y prolonged
> [illegible] hat he had
> [illegible] commenced
> [illegible] ectum His
> [illegible] rallied again
> [illegible] it soon after
> the pulse stopped finally

I have spoken of dilatation of the stomach as capable of giving rise to attacks closely simulating the paroxysms of true angina This condition may in cases of angina or of any serious heart disease precipitate the final event and be the immediate cause of a fatal issue Naturally, also, it may contribute to bring on attacks, as, indeed, may a hearty meal. In almost all cases angina is induced more readily by exercise soon after food This makes it very important that the upper limit of the gastric resonance should be carefully ascertained in all cases of angina

I have actually witnessed a death due to dilatation of the stomach I was asked to see a patient a short distance from town From the description of the case, which was clear and accurate in every detail, it was obviously one of true angina and probably of fatty heart The stomach was seen to be distended and in the course of the examination it had just been pointed out that the upper line of resonance corresponded with the fifth rib and the base of the ensiform when the patient became *slightly convulsed and unconscious and* died before our eyes.

CASE 11 —A man, aged 73½ years, was seized with pain in the chest and shortness of breath on his way to the City on Nov 28th, 1894, and turned aside to consult me. He had shot during the autumn and the first time he had any symptoms of the kind was not more than ten days previously, but from the 25th he had had pain, shortness of breath, and a sense of hollowness on walking each day. The dimensions and sounds of the heart were normal, the stomach resonance came very high and was extensive He went into the city against my advice and later in the day took a railway journey into the country. He died suddenly on going to bed that night after a heavy dinner

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Lecture

ON

THE TREATMENT OF PUERPERAL INFECTION.

Delivered at the Medical Graduates' College and Polyclinic on March 8th, 1905,

BY FREDERICK J. McCANN, M D. EDIN., F R C S. ENG, M R C P LOND.,
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GENTLEMEN,—Nothing has so much retarded progress in the elucidation of the causation of the so called puerperal fever as the repeated attempts made to prove that it is a special disease differing from infection of wounds in other situations in the body This has also affected to a great extent the rational treatment of the disease, whether that treatment be prophylactic or curative

Childbed fever is wound fever due to the action of bacteria implanted in the wounds of the genital tract following delivery of the child No conditions could be more favourable for the spread of infection than those which obtain in the genital passages *after labour* There are wounds of the perineum of varying degree, wounds of the vagina, and wounds of the cervix. Added to these the interior of the uterus is a large, hollow wound lined by loose tissue in which the spaces are filled with blood and serum and at the placental site recent thrombi hang into the cavity. Further, the increased development of the lymphatic and vascular system of the uterus and the rapid changes occurring during the puerperium favour the spread of infection, whilst the proximity of that large lymph sac, the peritoneal cavity, constitutes a special danger.

Although there may not be large tears present in the cervix, vagina, or perineum after every labour there are innumerable small tears and fissures and surfaces from which the epithelium has been shed. If in addition the passages have been devitalised by long continued pressure or instrumental manipulation bacteria will grow and flourish in greater profusion The principal sites of infection are (1) the interior of the uterus, especially the placental area, (2) the cervix, and (3) the vagina and perineum The same organisms which produce infection of wounds in the body generally are found to be the cause of puerperal infection and they are (1) streptococci, (2) staphylococci, (3) *bacillus coli communis*; (4) gonococci, and various [illegible] organisms Krönig, examining 179 cases of [illegible] the following [illegible] eptococci and [illegible] al, 50 cases four due [illegible] 3 Sapræmia, 50 cases In 43 the organisms did not grow in the usual culture media, 32 of them being pure anaerobes

As in wound fever, so in childbed fever two principal varieties may be distinguished. (*a*) Wound intoxication, and (*b*) wound infection

(*a*) *Wound intoxication* —This is produced by organisms growing in dead matter (blood, wound secretions, necrosing placenta) During *their growth these organisms manufacture* certain poisonous substances which, when absorbed, cause a putrid intoxication, to which the term "sapræmia"

(Matthews Duncan) has been applied. Examples of wound intoxication are not uncommon in practice and are seen after abortion or full-time labour where portions of placenta or membrane retained in utero have become infected. The body temperature rises to 102° or 103° F., with or without a preceding rigor. The patient looks and feels ill; her pulse is rapid and she is drowsy, although natural sleep may be absent. There may be an icteric tinge in the skin, nausea or vomiting, and diarrhœa with offensive stools. The offending piece of dead tissue is removed and all may be well. If, however, the necrotic change in the interior of the uterus is widespread a condition is produced to which the term "putrid endometritis" is applied. Lining the interior of the uterus there is a well-marked layer of necrotic material, dirty greyish-green in colour, containing in its superficial portions various saprophytic organisms. Beneath the necrotic layer a well-marked layer of leucocytes exists, forming a granulation wall (nature's barrier) which prevents the further invasion of the saprophytes, protects the living tissues, and hastens the separation of the necrosed tissue.

Wound intoxication does not necessarily imply retention of necrosing tissue but may be caused by retention of the lochial discharge in utero—lochia metra; indeed, retention of the lochial discharge in utero is the commonest cause of one-day fever during childbed. The amount of retained discharge in utero may be considerable and in one case which I saw in consultation, after passing a dilator into the uterine cavity, a coffee cupful of pus was evacuated. Such retention is easily caused by a blood clot or piece of membrane obstructing the outflow of the discharge. Changes in the bladder and bowel, and even "getting up too soon," have been held to explain this retention.[1] The possibility of ante-partum infection of the liquor amnii where early rupture of the membranes has occurred must also be borne in mind. Occasionally gas-producing bacilli find their way into the uterus, producing the condition known as "tympania uteri."

(*b*) *Puerperal wound infection.*—Under this head are included the severe and frequently fatal examples of so-called "puerperal fever." The vast majority of such cases are due to streptococcal invasion, the streptococcus being the organism already well known to surgeons as the cause of erysipelas, phlegmon, pyæmia, and septicæmia. The following scheme serves to outline the methods of puerperal wound infection: 1. Local changes: infection of the wounds in the perineum, vagina, cervix, and of the endometrium. 2. Spread of the infection from the wounds: (*a*) by the blood-vessels producing thrombo-phlebitis, pyæmia, and septicæmia; and (*b*) by the lymphatics producing suppurative metritis (metritis dissecans), puerperal parametritis, perimetritis, and peritonitis.

Of the local changes the so-called puerperal ulcers are of importance. These ulcers are greyish-white in colour, vary in thickness, and are situated in the vulva, vagina, and cervix. Such ulcers have been misnamed "diphtheritic," but it must be remembered that the diphtheria bacillus plays no part in their causation, although this bacillus has now been proved to be one of the rarer causes of puerperal infection. These ulcers have the same structure as putrid endometritis, if allowance be made for the alteration in anatomical position—i.e., beneath the grey slough there also exists a granulation wall exerting a beneficent protective action. The rapidity in the growth of the streptococci is so marked that in a short time the whole genital tract becomes infected. If the original infection be situated in the cervix and endometrium the uterine discharge soon infects any wounds of the vagina and vulva, whereas infection of the vulva may be observed to have spread within 24 hours to the uterine cavity. The discharge from the "puerperal ulcers" is a small quantity of thin sero-pus until a well-marked granulation wall forms, when the discharge becomes more profuse and purulent in character. The more profuse the discharge of pus and the sooner it occurs the better the prognosis. When the uterine cavity is invaded a condition is produced to which the term "streptococcal or septic endometritis" is applied. Lining the cavity is a thin necrotic layer teeming with micro-organisms; beneath this an imperfect, small-cell infiltration layer (granulation wall), whilst micro-organisms permeate the muscular wall to the peritoneal coat, spreading along the lymphatics. When healing occurs the granulation layer becomes well developed, playing the part of an efficient filter. The infection may spread to the tubes and from occlusion of the abdominal ostia accumulation of pus follows, leading to the formation of a pyosalpinx. The placental site is, however, the important position from which a rapid spread of the poison takes place. The results produced through the spread of infection by the blood-vessels and lymphatics have already been mentioned but it is necessary to indicate what is meant by the term metritis dissecans. In this condition the uterine wall becomes infiltrated with pus and actual abscess formation—a true uterine abscess—may develop.

Having outlined the pathological anatomy, we now turn to the all-important question of treatment. All are agreed that prophylactic treatment is of prime importance, for if thoroughly and conscientiously carried out, puerperal infection will become an extremely rare disease. A labour should be conducted with the same care as one of the capital operations in surgery and the more clearly this is understood and appreciated by medical men and nurses the less will be heard about puerperal infection. It is difficult to make a naturally careless person, whether medical or lay, into a careful person, hence it is necessary to formulate rules for prophylactic treatment. 1. Careful antiseptic precautions before, during, and after labour. 2. Examine per vaginam as seldom as possible. Employ the abdominal method as an alternative. 3. Avoid prophylactic douches unless there be a gonorrhœal or septic discharge. 4. Repair all perineal lacerations after delivery. 5. Nurses should not be permitted to examine and all douches should be given under direct medical supervision.

The method of infection is, in the overwhelming number of cases, *contact infection*, and therefore anything which is brought in contact with the patient must be surgically clean. Many observers blame sewer gas as a cause of infection. I have never seen a case which I believed to be due to sewer gas and I have grave doubts if it ever causes puerperal infection. In arriving at a decision in this matter contact infection would have to be excluded. Concerning the necessity of restricting the number of vaginal examinations I fancy all are agreed, but it is of even greater importance to appreciate the necessity of surgical cleanliness before an examination is made. I am convinced that many men do not trouble to cleanse their hands properly before making an examination. The care of the hands should be an important duty in the life of every medical man. There is no excuse for a medical practitioner having dirty hands or nails, whatever class of practice he may possess. In the conduct of the third stage of labour it is imperative to refrain from contact with the genital tract except hæmorrhage or adherent placenta call for local manual treatment. The repair of perineal lacerations is an important aid in retarding the risks of infection and for this purpose silkworm gut[2] is the best suture material to employ. If the tear involve the rectum catgut should be used for the rectal sutures. With regard to the administration of douches some may say that a busy practitioner has not time to be able to exercise supervision. It is, however, better to avoid douching than to have a douche carelessly administered. Some years ago I suggested the employment of injections of serum as a prophylactic in cases where septic complications were likely to occur, in order to anticipate some of the dire results which may accrue. This special mode of employing serum will increase in usefulness when more trustworthy preparations are obtainable.

The curative treatment may be divided into (*a*) local treatment; and (*b*) general treatment.

Local treatment. 1. *Putrid endometritis.*—It is difficult to determine where a case of sapræmia ends and one of septicæmia begins, for the two processes may be combined. Hence it is a good rule in practice that when the temperature rises to 102° F. and is not due to other obvious causes sepsis should be suspected, the interior of the uterus explored, and a careful bimanual examination made of the appendages and broad ligaments.

In treating cases of puerperal infection it is necessary to do the work thoroughly and for this reason the patient should have an anæsthetic. It is far better to clean out the interior of the uterus once thoroughly than to make several more or less ineffectual trials without an anæsthetic. A medical man can always obtain a colleague to give the anæsthetic, and this additional trouble is well repaid if it prevents a death during the puerperium, than which there is nothing more harmful to the practitioner's reputation Having anæsthetised the patient and placed her in the lithotomy position you should systematically cleanse the genital tract from the vulva to the fundus of the uterus The external genitals should be washed with soap and water (preferably ether soap) and after removal of the soap swabbed with pledgets of wool, soaked in 1 in 2000 corrosive sublimate lotion The vulvar hairs should be cut short and carefully cleansed, or if the patient is very dirty the vulva should be shaved If the perineal wound has suppurated all stitches should be removed at once in order to establish free drainage "Puerperal ulcers," wherever situated, should be touched with tincture of iodine or pure carbolic acid The vaginal canal should be swabbed out carefully with 1 in 2000 corrosive sublimate, and in doing this, as in all other manipulations adopted in the treatment of these cases, the utmost gentleness should be employed so as to avoid opening up fresh surfaces for infection Any attempt at "violent swabbing" should be unhesitatingly condemned

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[1] Producing a kink in the uterine canal.

[2] Silkworm gut should be boiled for half an hour and then placed in a solution of 1 in 1000 corrosive sublimate. It can be carried in the obstetric bag, contained in a small stoppered bottle.

I have found the employment of rubber gloves to be of great service in the treatment of puerperal infection These gloves should be boiled in a clean pot for five minutes and are easily slipped on the hands after dipping into a solution of lysol The rubber gloves protect your own hands, protect your patient and protect your other patients from being infected Whereas it is universally recognised that hand sterilisation is probably impossible, rubber gloves can be rendered sterile, and as there is little risk of puncture they are specially suitable for puerperal cases Their cost is small—2*s* 6*d* —and I would recommend every practitioner to buy two or three pairs At the same time it is essential to cleanse the hands as carefully as if gloves were not to be worn I do not put on the gloves until I have cleansed the external genitals The posterior vaginal wall is retracted by means of a metal speculum All the instruments employed should be made of metal throughout They should be boiled for half an hour, then placed in a solution of 1 in 40 carbolic lotion ready for use The cervix is now seized with a vulsellum but the uterus should not be pulled downwards to any great extent If the cervix is not sufficiently dilated one or two metal dilators should be passed in order to facilitate the introduction of the finger

In palpating the interior of the uterus it is an advantage to use the middle finger and at the same time with the external hand to push the fundus of the uterus slightly backwards Aided by the straightening of the uterine canal thus produced and the increased length of the middle finger a more thorough exploration of the cavity can be obtained With the finger in utero you determine if there be anything in the cavity, and here let me say that if there be some retained product in utero and you remove it the patient will probably get well The bad cases are those where nothing is found in the cavity of the uterus In the vast majority of cases the finger is quite able to remove any retained products and no instrument is required After this digital exploration the uterine cavity should be swabbed out with pledgets of wool or small squares of gauze[3] These should be prepared ready in a bowl of 1 in 4000 corrosive sublimate They are partially wrung dry and then wound round a pair of long uterine forceps and used gently to swab the interior of the uterine cavity The meshes in the gauze are advantageous in removing smaller pieces of tissue These swabs are applied until the uterus is thoroughly cleansed and if carefully done this is most effectual This method, which I have employed for several years, obviates the necessity of using an intra uterine douche and is, I believe, more effectual There is the further advantage that the only instrument required is a pair of long forceps I do not advise packing the interior of the uterus with gauze, although if carefully done there is no serious objection to its use The gauze should be removed in 48 hours If an intra uterine douche be employed the same precautions as to gentleness and thoroughness are required The solution should be weak and used in large quantity—four or five pints of a 1 per cent lysol solution or a 50 per cent solution of alcohol Boiled water or normal salt solution (a teaspoonful of common salt to the pint of water) is convenient to use, but unless it has been possible to carry out all the manipulations with great care and cleanliness it is better to employ the former solutions I have said nothing about the use of the curette in the treatment of these cases The finger can easily remove what should come away, whilst the curette only opens up fresh channels of infection Moreover the uterine wall is so soft that it is necessary to be very careful lest considerable damage should be done If curetting be attempted a blunt instrument should be used with great gentleness

Whatever method of intra uterine treatment be adopted it is well to give the patient vaginal douches twice daily of 1 in 4000 corrosive sublimate which wash away any discharge accumulating in the vaginal canal The administration of ergot is helpful in promoting uterine involution As has been said, the majority of cases of putrid endometritis if intelligently treated get well It is otherwise with the second group of cases—viz , those of septic or streptococcal endometritis

2 *Septic endometritis* —The local treatment of these cases is carried out on the principles already detailed in the treatment of putrid endometritis Here, however, the curette should certainly not be used, as the micro organisms have already penetrated deeply into the uterine muscle and are beyond the reach of intra uterine treatment On examining the interior of the uterus it will probably be found to be quite smooth and it is these cases which are the most dangerous Careful swabbing of the interior of the uterus should be employed, as has already been described, and for these cases also it is to be preferred to douching Intra uterine douching[4] is, however, largely practised and some authorities claim to have had good results from constant irrigation with very weak solution—e g , 2 per cent boric acid Whichever method be employed it is better to be done once thoroughly than to make repeated ineffectual attempts Indeed, there is a distinct danger in subjecting these patients to too much local treatment, for where there is a general infection other means must be employed to combat the microbic invasion Intra uterine treatment is further contra indicated where septic phlebitis or parametritis exists

It must be clearly understood that there are considerable shock and constitutional disturbance associated with intrauterine treatment in puerperal infection The temperature usually rises and even a rigor may occur, although there may be ultimately a fall in the temperature For this reason it is important that the patient should not be too frequently examined as so often happens in bad cases The anxious friends are probably desirous of obtaining another opinion if the patient is not rapidly improving and probably the interior of the uterus is again explored I am convinced that many patients would do well if they were really left alone, as rest is one of the best of all therapeutic agents If there be a widespread infection local intra uterine treatment will not avail and if the uterus has been once explored and proved to contain nothing no further intra uterine manipulation should be attempted

General treatment Serum —It must be admitted that up to the present time the results obtained from the employment of serum have been disappointing Moreover, in the majority of published cases other methods of treatment had been emplo [illegible] ult to determine the partic [illegible] treatment Recently more [illegible] and by cultures made from the lochial discharge it is possible to determine the variety of micro organisms present This is a most important step and although a trustworthy serum has not yet been produced no doubt further experiments will succeed in obtaining a trustworthy polyvalent serum The serum may, as already suggested be employed as a prophylactic where septic complications are likely to occur—e g , serious obstetrical operations In other cases it is necessary to begin this treatment early in the disease giving 20 cubic centimetres two or three times in the 24 hours if needful Professor Bumm[5] of Berlin has recently published in the *Munchener Medicinische Wochenschrift* for 1904 No. 25, the results of treatment with Aronsohn's serum, which appear to be more encouraging, but still in the very severe cases no serum as yet manufactured seems to be efficient *It is*, however, to be hoped that an efficient serum may yet be put upon the market

In the treatment of puerperal infection it is necessary to maintain the patient's strength by the frequent administration of a fluid, easily digested diet and, above all, by the free administration of alcohol in large doses which are well borne in this disease. Tepid sponging with vinegar and water is comforting to the patient and tends to reduce the temperature. Immersing the patient in a cold bath for ten minutes, which is cooled gradually three degrees lower, followed by the employment of a cold douche, may be tried in desperate cases. Poultices applied to the hypogastrium are beneficial in peritonitic cases and for the same purpose ice-bags may be used. The subcutaneous injection of normal saline solution is a valuable remedy, assisting in the elimination of toxic material.

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[3] French obstetricians employ an instrument like a bottle brush made of strong quills called an "écouvillon"

[4] 50 per cent. alcohol, 1 per cent carbolic solution, 1 per cent. lysol

[5] He finds the serum acts best in severe streptococcal endometritis, phlegmasia alba dolens, and pure septicæmia, without localisation

Drugs.—Quinine is still a drug upon which reliance may be placed in the treatment of puerperal infection but I do not recommend you to give it in very large doses, for I have found that smaller doses are quite as efficacious. Sulphate of quinine given in doses of from three to six grains every three or four hours, combined with carbonate of ammonia in an effervescent mixture, is a good prescription. To this may be added tincture of digitalis, tincture of nux vomica, or liquor strychninæ hydrochloratis, according to the condition of the pulse. This effervescent mixture can be taken even in the presence of the nausea and loathing of food which are so common in this disease. Another drug which is very valuable in puerperal infection is calomel which should be given in frequently repeated small doses in order to maintain a slight amount of diarrhœa.

In two severe cases which I recently saw in consultation the administration of calomel had more effect in reducing temperature than large doses of quinine. When quinine and calomel were given together the temperature fell and the patient appeared to be better, but when quinine was given alone no lowering effect on the temperature was noted; indeed, it became slightly elevated. Calomel was given alone and a marked improvement resulted. In one of these cases the temperature rose to 107° F., but under this treatment both patients completely recovered. During the administration of calomel you should watch for signs of mercurialism. This does not happen so frequently if diarrhœa is produced by the medicine. In one patient who exhibited marked tenderness of the gums the calomel did not produce diarrhœa. When signs of mercurialism exist the drug should be discontinued and sulphate of magnesia should be given. As the condition of the patient improves on the quinine and calomel treatment a change may be made and large doses of perchloride of iron may be substituted, together with sulphate of magnesia to keep the bowels acting regularly. If you give the perchloride of iron when there are nausea and slight vomiting it is not well borne by the stomach, whereas the effervescent quinine mixture rarely disagrees. I advise you, then, to begin with quinine and calomel and in the later stages to administer perchloride of iron and sulphate of magnesia. For the relief of pain, if severe, some preparation of opium may be required. You may inject morphine subcutaneously or give it in a suppository; but I believe it is better to be avoided. It is not wise to attempt to control the diarrhœa unless it is excessive and then the administration of Dover's powder will be found useful, given in doses of from ten to 30 grains.

Surgical treatment.—The presence of a purulent collection in the pelvis calls for prompt surgical treatment. Parametric abscesses must be opened and drained. Where the pus is situated in the lumen of the Fallopian tubes (pyosalpinx) or in the substance of the ovary (ovarian abscess) immediate operation is required. If the swellings are adherent and accessible from below the pus should be evacuated by vaginal section; in other cases the abdominal route is indicated. Hysterectomy has been advocated and adopted in the treatment of puerperal infection but it has only a limited application. Where a general infection is present the removal of the uterus is not only attended by very grave risk but could not be expected to benefit the patient. If, however, there is localised infection confined to the uterine walls hysterectomy is indicated and the results obtained are good. Abscess formation in the uterine walls and infected myomata are the conditions which usually call for this operation. In those distressing cases of criminal abortion where the uterine wall has been perforated hysterectomy might be tried if the general condition of the patient were favourable. As an adjunct to other methods of intra-uterine treatment, especially where peritonitis exists, an opening may be made into Douglas's pouch by incising the posterior vaginal wall. This method was strongly advocated by the late Dr. Pryor of New York, who also recommended packing the pelvis with gauze. It is better, however, to drain the pelvis with one strip of gauze which should be removed in 48 hours. A gauze drain acts well if the peritoneal effusion is serous. If it is purulent a tube is to be preferred.

A REPORT ON 100 CONSECUTIVE ABDOMINAL HYSTERECTOMIES (ATTENDED WITH RECOVERY), PERFORMED AT THE MIDDLESEX HOSPITAL AND THE CHELSEA HOSPITAL FOR WOMEN.

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SOME cynics among surgeons regard statistics as "lies in figures" calculated to impose upon the credulous. It is somewhat interesting in this connexion to mention that a statistician of some note who flourished in 1660, Herman Conring, was a professor of medicine and politics. It is quite certain that in medicine, using the term in its broadest sense, statistics or the "employment of figures" is an important means of investigation. Indeed, whatever view cynical writers take in regard to the use of statistics "it is impossible to get over the fact that in meteorology, medicine, and other physical sciences statistical inquiries are plainly and obviously examples of the employment of a method, like microscopy, spectrum analysis, or the use of the telescope" (Hooper). It is worth recalling that one of the earliest examples of statistical writing, from the medical point of view, in this country dealt with *Bills of Mortality* relating to London, 1666. In considering a statistical statement of any kind the first thing is to understand the point or points requiring elucidation and the source of the facts. The object of the present communication is to demonstrate that with the strict application of Listerian principles in the form known as aseptic surgery it is possible for a surgeon to perform abdominal hysterectomy successfully in a well-found hospital 100 times consecutively for a variety of uterine diseases. The abstracts of cases supporting this statement have been compared with the hospital books by the officials in charge of them at the time the operations were performed. Mr. F. Lionel Provis and Mr. J. Howell Evans allow me to state that they verified the references for the Chelsea Hospital for Women; whilst Dr. W. F. Victor Bonney and Mr. Aslett Baldwin sanction the statement that they have verified the references to the patients treated at the Middlesex Hospital. An account of the first 58 cases in the list appeared in the *Clinical Journal* of April 20th, 1904, p. 1, but in the present communication an additional (or supplemental) account is given of the patients' condition. For these subsequent notes I alone am responsible and the source of the information is given in all cases where the request met with success. Great care and pains have been taken to secure these reports in order to show that in the majority of instances the patients derived benefit from the operation, for it is necessary to remember that *recovery* from an operation is not always equivalent to *success* from an operation. A careful study of these supplemental reports is very instructive and shows that in the majority of cases the patients require six months or even a year to obtain the full benefit of the operation, especially those who were profoundly anæmic from profuse menorrhagia.

It is important to point out that these operations were not only performed in a public institution but were carried out in the hospital theatre accessible to qualified medical men and women; every operation in the list was witnessed by members of the profession other than those of the official staff of the hospital. In no case was an exploratory operation performed or any case abandoned as too difficult. Operative treatment was not refused to any patient save those with very extensive cancer and, except in this dreadful disease, there was no picking and choosing. Throughout this communication the term "sub-total hysterectomy" will replace the cumbersome expression "supravaginal hysterectomy" as signifying the removal of the body of the uterus with a

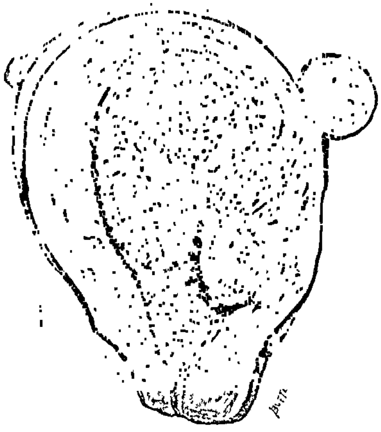
variable portion of its neck. This change of terms is desirable, for the operation which has given me the best results is not quite what would be called a "panhysterectomy" [illegible]
covered [illegible]
careful [illegible]
vaginal hysterectomy led observant operators to notice that those cases did best in whom the supravaginal cervix had been most freely removed; as a matter of fact, in the majority of my operations classed as supravaginal hysterectomy the only part of the uterus left is the vaginal portion of the cervix and after the operation is completed the united surfaces of the peritoneum merely appear as a slightly raised ridge across the pelvic floor, so that a surgeon inspecting the operation area from above would imagine that a total hysterectomy had been performed. On the other hand, if the cervix be examined from the vagina six months after the operation it will appear natural to the eye and touch. This is a matter of importance, as the operation in no way impairs the pelvic floor or hinders the function of the vagina. For this method the term in familar use among Parisian surgeons, "sub-total hysterectomy," is peculiarly suitable. The morbid conditions of the uterus which rendered radical operation necessary in these patients fall into five groups: fibroids and adenomyoma, 81; cancer, four; sarcoma, one; chronic inflammatory disease of the uterus, four; and fibrosis, ten cases; these causes indicate the widening scope of hysterectomy.

Fibroids.—In 81 patients hysterectomy was performed for these tumours, including two cases of the remarkable disease known as diffuse adenomyoma of the uterus. The commonest condition which induced these patients to submit to operation was profuse and long-continued bleeding from the uterus. The ages of the patients varied from 27 to 69 years. It is necessary to draw attention to the fact that out of a total of 81 hysterectomies for fibroids 13 of the patients had reached the age of 50 years and upwards and in each of them it was necessary to perform a serious operation for a disease which is generally believed to become harmless about the forty-eighth year of a woman's life. Two of these are worth some special remarks. Case 72 had been known to have a uterine fibroid many years and she ceased to menstruate in her fiftieth year. In consequence the tumour diminished very materially. When she attained her sixtieth year the fibroid began to cause so much trouble with the bowel and bladder that she had to seek relief. A large tumour blocked up the inlet of the pelvis and pushed the cervix low into the vagina. At the operation I found a large conical fibroid firmly fixed in the pelvis like a cork; it required a fair effort to extract it and, as in all those exceptional cases which require surgical interference after the menopause, the operation was singularly easy and almost bloodless. The tumour had a transverse diameter of 4½ inches, a vertical diameter of 5½ inches, and in horizontal circ[illegible]
was a spinster [illegible]
ments will affo[illegible]
this fibroid blocked the pelvis.

The oldest case in this series is in some respects the most interesting. The patient (No. 91 in the list) had attained her sixty-ninth year and she knew for a quarter of a century that her abdomen contained a tumour which by its size and weight had been a source of great inconvenience and often actual distress. This woman when placed under my care had been suffering from profuse uterine hæmorrhage and it was on this account that she deliberately sought the aid of surgery. The tumour equalled in size and hardness the head of a man. She was very fat, had an umbilical hernia, and unfortunately her urine contained sugar to the extent of 12 grains to the ounce. By rest and diet the amount of sugar diminished and I performed hysterectomy. The uterus contained a fibroid with an average diameter of 12 inches (30 centimetres) which yielded the odour of stale fish and the uterine cavity contained a degenerating tumour with the microscopic characters of cancer. On account of the glycosuria the operation was quickly completed, occupying from the time the anæsthesia was begun to the application of the dressing 22 minutes. The patient recovered easily and quickly. She left the hospital on the eighteenth day for her home. In a letter reporting her subsequent condition Mr. J. C. R. Braine-Hartnell, in expressing his satisfaction that the operation had been undertaken, states that the previous 20 years of her life had been "20 years of misery." Such a case tells its own tale.

If I had been bent on selecting cases for the purpose o making good statistics it would have been easy in regard t this old lady to urge the presence of sugar in the urine a a bar to operation, and doubtless some practitioners woul have deemed it a manifestation of surgical prudence. It is however, useful to remember that operating on bad cases i very apt to ruin statistics but it frequently saves lives, an this is the main consideration.

Diffuse adenomyoma.—Among the fibroids there were tw examples of this condition; they are included with them because, in these two cases, the uterus also containe typical fibroids, and the clinical signs of the disease ar indistinguishable from those which indicate the existence o submucous fibroids and the treatment eventually required i the same—namely, hysterectomy—on account of the long continuing exhausting menorrhagia, which rest, drugs, an repeated curetting fail to cure.



A uterus in sagittal section showing diffuse adenomyoma, from a spinster 32 years of age. The gland spaces were cystic and filled with gelatinous material.

Fibrosis of the uterus.—The prominent symptom which renders hysterectomy necessary in this disease may be described as rebellious menorrhagia, for it defies rest, drugs, and repeated curettings. Dr. A. H. Freeland Barbour recently brought a case of this disease before the Obstetrical Society of Edinburgh[1] and the communication clearly shows that he appreciates the leading features of the morbid anatomy of this affection, which, as he states, is essentially one affecting the arteries of the endometrium before the menopause. Dr. Barbour also recognises the most important clinical aspect of the condition—namely, the manner in which the bleeding and the enlargement of the uterus simulate cancer of the corporeal endometrium and that in the way of treatment hysterectomy alone gives good results.

In the cases in the following list the operation performed was sub-total hysterectomy unless otherwise specified.

CASE 1.—A single woman, aged 49 years; fibroid; profound anæmia; Jan. 19th, 1903. This patient had been an invalid for several years. She writes, Jan 10th, 1905 "I have been earning my living as a governess housekeeper and never had one day in bed since the first month after the operation."

CASE 2.—A married woman, aged 33 years; fibroid, hæmorrhage and pain; Jan. 19th, 1903. *Bilateral oophorectomy had been performed five years previously for menorrhagia but without good consequences.* Reported in good health from Africa Jan. 25th, 1905. Letter from medical attendant.

CASE 3.—A single woman, aged 44 years; fibroid; hæmorrhage; Jan. 19th, 1903 "I am better now than I have been for the last ten years and people cannot understand how it is that I look so well after all the misery that I have been through before the operation." Patient's letter, Jan. 7th, 1905

CASE 4.—A married woman, aged 49 years; adenomyoma; Jan. 26th, 1903. "I saw the patient to-day; she expressed herself as feeling perfectly well; in fact, better than she had felt for years." Letter from medical attendant, Jan 5th, 1905.

CASE 5.—A married woman, aged 45 years; fibroid; hæmorrhage; Feb. 2nd, 1903. "I consider that I am very fortunate to be so well as I am as I have had no pain in my stomach since the operation, the only thing I perspire very much and flushing, but that is nothing to the pain I was in before the operation." Patient's letter, Jan. 11th, 1905.

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[1] THE LANCET, Jan. 21st, 1905, p. 163.

Case 6.—A married woman, aged 35 years. A very large fibroid; March 2nd, 1903. Reported herself on her birthday, Jan. 9th, 1905. In excellent health.

Case 7.—A married woman, aged 35 years. Fibrosis; menorrhagia; March 2nd, 1903. In excellent health September, 1904, and placed her sister under my care for hysterectomy (see Case 82).

Case 8.—An unmarried woman, aged 48 years. Fibroids; hæmorrhage; March 9th, 1903. Re-entered the hospital for vesical calculus, July, 1904. Uterine stump quite free from the bladder.

Case 9.—An unmarried woman, aged 48 years. Fibroids; hæmorrhage; March 16th, 1903. Reported herself one month after operation with œdema of one leg.

Case 10.—A married woman, aged 52 years. Fibroids; hæmorrhage; April 6th, 1903. "I really enjoy life, which I never did before." Patient's letter, Jan. 25th, 1905.

Case 11.—A married woman, aged 35 years. Fibroids (? sarcoma), April 13th, 1903. In good health Jan. 10th, 1905. Letter from patient.

Case 12.—An unmarried woman, aged 45 years. Large and rapidly growing fibroid; April 13th, 1903. This patient has been under treatment at home for recrudescence of disease in her knee which afflicted her when she was a child. Letter from patient, January, 1905.

Case 13.—An unmarried woman, aged 35 years. Fibroids; hæmorrhage; April 20th, 1903. "My health is really good and strong, I am able to follow my work as a nurse (in a hospital for infectious diseases). Previous to operation my life was unbearable." Patient's letter, Jan. 16th, 1905.

Case 14.—A married woman, aged 38 years. Fibroids; profound anæmia; May 4th, 1903. "My health is very satisfactory." Letter from patient, Jan. 6th, 1905.

Case 15.—A married woman, aged 53 years. Fibroids; bilateral ovarian cysts; May 11th, 1903. "I have greatly improved." Patient's letter, Jan. 7th, 1905.

Case 16.—A married woman, aged 37 years. Fibroids; bilateral pyosalpinx; May 11th, 1903. "I am in good health except that I have at times sharp pain in the right side of the abdomen." Letter from patient, Jan. 6th, 1905.

Case 17.—A married woman, aged 43 years. Fibrosis; profuse menorrhagia; May 25th, 1903. "I am fairly well with the exception of frequent headaches and nerve troubles." Letter from patient, Jan. 15th. 1905.

Case 18.—An unmarried woman, aged 49 years. Fibroids; profuse menorrhagia; June 1st, 1903. "She is perfectly well." Letter from medical attendant, Jan 5th, 1905.

Case 19.—A married woman, aged 54 years. Fibrosis; menorrhagia; June 15th, 1903. Left for Ceylon some weeks later.

Case 20.—An unmarried woman, aged 45 years. Fibroids, very large; July 6th, 1903. "Feeling better than I have for years." Jan. 8th. 1905.

Case 21.—An unmarried woman, aged 47 years. Fibroids, very large, July 7th, 1903. In the October following (the operation) was able to commence work again. Patient's letter, Jan. 7th, 1905.

Case 22.—An unmarried woman, aged 52 years. Fibroids, very large; July 11th, 1903. "I am very well." Jan. 7th, 1905.

Case 23.—A married woman, aged 37 years. Fibroids; hæmorrhage; cyst of the right ovary; July 27th, 1903. (Middlesex Hospital.) "Enjoying the best of health." Patient's letter, Jan. 10th, 1905.

Case 24.—An unmarried woman, aged 46 years. Cancer of the body of the uterus; August 3rd, 1903. (Middlesex Hospital.) Letter returned, "Gone away," Jan. 10th, 1905.

Case 25.—An unmarried woman, aged 53 years. Fibroids and cancer of the body of the uterus; August 13th, 1903. (Middlesex Hospital.) This case was drained and she left hospital with a sinus. This closed some months later. She now complains of pain in the left side. Jan. 9th, 1905.

Case 26.—A married woman, aged 46 years. Fibroid and ovarian dermoid; August 17th, 1903. (Middlesex Hospital.) "She enjoys better health than she has done for years." Letter from medical attendant. Jan. 10th, 1905.

Case 27.—A married woman, aged 51 years. Fibroids; hæmorrhage; August 20th, 1903. (Middlesex Hospital.) "Is perfectly well as regards the operation for fibroids." Letter from medical attendant, Jan. 9th, 1905.

Case 28.—An unmarried woman, aged 47 years. Fibroid, degenerating; hæmorrhage; Sept. 7th, 1903. "I am beginning to feel much stronger." Letter, Jan. 16th, 1905. As a matter of fact, I can state that this patient is very well.

Case 29.—A married woman, aged 45 years. Fibroid, degenerating; hæmorrhage; Sept. 7th, 1903. "Her condition is much better than it has been for years." Letter from medical attendant, Jan. 6th, 1905.

Case 30.—An unmarried woman, aged 42 years. Fibroid; profound anæmia; Sept. 7th, 1903. In good health, September, 1904. Personal visit.

Case 31.—A married woman, aged 24 years. Septic endometritis; Sept. 7th, 1903. In good health when she left for Africa. Autumn, 1904.

Case 32.—A widow, aged 49 years. Fibroid; cancer of tube; Sept. 14th, 1903. Known to be in good health six months later and contemplating re-marriage.

Case 33.—A married woman, aged 32 years. Fibroid; hæmorrhage; Sept. 14th, 1903. "You will be pleased to hear that I was able to conduct and manage more business last summer than in any previous year." Jan. 7th, 1905.

Case 34.—A married woman, aged 31 years. Fibroid; hæmorrhage and degeneration; Sept. 21st, 1903. "For the relief of the operation I am most thankful. I hardly know myself, I feel so well." Patient's letter, Jan. 26th, 1905.

Case 35.—A married woman, aged 44 years. Fibrosis; hæmorrhage; Sept. 28th, 1903. Good report from medical attendant, Jan. 6th, 1905.

Case 36.—An unmarried woman, aged 40 years. Fibroid; profound anæmia; Oct. 19th, 1903. Had some trouble from a stitch but is now all right. Jan. 13th, 1905.

Case 37.—An unmarried woman, aged 23 years. Cancer of the cervix. Total hysterectomy, Nov. 2nd, 1903. Seen at frequent intervals since operation; in good health, October, 1904.

Case 38.—A married woman, aged 33 years. Fibrosis. Suspected to be cancer of the cervix; Nov. 9th, 1903. She is first-rate, is fat, and looks well. Letter from medical attendant, Jan. 10th, 1905.

Case 39.—A married woman, aged 38 years. Fibroid, very large. Dermoid; Nov. 16th. 1903. "I have now better health than I have ever had." Jan. 7th, 1905.

Case 40.—An unmarried woman, aged 44 years. Fibroid, large and growing; Nov. 23rd, 1903. "Fräulein —— is so well since her operation." Letter from her friend (Case 1), Jan. 10th, 1905.

Case 41.—An unmarried woman, aged 38 years. Fibroid: profound anæmia, Nov. 30th, 1903. "My condition is, on the whole, very satisfactory." Patient's letter, Jan. 11th, 1905.

Case 42.—An unmarried woman, aged 55 years. Fibroids; pain; Jan. 11th, 1904. Convalescence slow, and Jan. 5th, 1905, her medical attendant writes: "Is now able to take up her school duties so that when we bear in mind the wreck she was at the time of the operation I think it is remarkable."

Case 43.—An unmarried woman, aged 50 years. Cervix fibroid; retention of urine; Jan. 11th, 1904. "I still feel a weakness in the left side but beyond that I feel better and can walk better than I have done for some years." Letter from patient, Jan. 7th. 1905.

Case 44.—An unmarried woman, aged 59 years. Cancer of the body of the uterus; total hysterectomy; Jan. 18th, 1904. Suspicions of a recurrence, March 18th, 1905. Letter from medical attendant.

Case 45.—A married woman, aged 37 years. Fibroids, septic; Jan. 18th, 1904. In excellent health. Seen personally on Jan. 23rd, 1905.

Case 46.—An unmarried woman, aged 42 years. Cervix fibroid; Jan. 25th, 1904. "My health is now excellent." Letter, Jan. 7th, 1905.

Case 47.—A married woman, aged 52 years. Fibroids; hæmorrhage; Feb. 8th, 1904. Recovered slowly. "She looks the picture of health and feels quite well." Letter from medical attendant, April 2nd, 1905.

Case 48.—A married woman, aged 42 years. Fibrosis; profuse menorrhagia; Feb. 15th, 1904. Sent a post-card from the Matterhorn to show that she could climb a mountain in the summer, 1904.

Case 49.—An unmarried woman, aged 37 years. Subserous fibroid and diffuse adenomyoma; very profuse menorrhagia; March 7th, 1904. This patient, a surgical nurse, suffered from asthma and it was thought that if the metrorrhagia was stopped the severity of the asthmatic attacks might be lessened. This hope has not been realised, though the patient's general condition is greatly improved.

Case 50.—A married woman, aged 44 years. Fibroid; very large and painful; March 7th, 1904. This patient (a monthly nurse) writes, Jan. 16th, 1905: "I am pleased to say I am much better: the only thing I have to complain of, I have to hold my abdomen just by the navel when I cough or sneeze."

Case 51.—An unmarried woman, aged 43 years. Fibroid; profuse metrorrhagia; March 14th, 1904. This patient, a surgical nurse, writes Jan. 16th, 1905: "Quite well, having no pain or discomfort of any kind."

Case 52.—An unmarried woman, aged 42 years. Fibroid; excessive menstruation; anæmia; March 21st, 1904. "Patient never remembers feeling better." Letter from medical attendant Feb. 27th, 1905.

Case 53.—A married woman, aged 33 years. Fibroid; menorrhagia; March 21st, 1904. Total hysterectomy. Good report from the patient March 1st, 1905.

Case 54.—A married woman, aged 48 years. Fibroid; metrorrhagia; bilateral hydrosalpinx; March 21st, 1904. Patient is very well. Letter from medical attendant, Feb. 27th, 1905.

Case 55.—A married woman, aged 45 years. Cervix fibroid; menorrhagia; March 28th, 1904. Patient reports herself in good health. Letter, Feb. 28th, 1905.

Case 56.—A married woman, aged 43 years. Sarcomatous fibroid; intense pain; March 28th. 1904. Patient died in June, 1904. Dr. —— writes that she had much less pain after the operation.

Case 57.—An unmarried woman, aged 29 years. Fibroid; soft myxomatous; menorrhagia; profound (toxic) anæmia; March 29th, 1904. Patient keeping in good health. Letter, Feb. 28th, 1905.

Case 58.—An unmarried woman, aged 56 years. Fibroids; pain and dysuria; April 12th, 1904. Convalescence slow but satisfactory. Letter from patient, Feb. 27th, 1905.

Case 59.—An unmarried woman, aged 32 years. Fibroids; menorrhagia and pain; April 12th, 1904. In good health December, 1904. Personal visit.

Case 60.—A married woman, aged 52 years. Fibroids; excessive metrorrhagia; April 15th, 1904. Good report from the patient, Feb. 23rd, 1905.

Case 61.—An unmarried woman, aged 39 years. Fibroids; pain; April 15th, 1904. This patient had two large parovarian cysts removed on March 16th, 1903; the left ovary was not removed, nor were there any evidences of fibroids. Soon after this operation she began to suffer from profuse menstruation and pain and the former became so profuse as to interfere with active life. She writes, Feb. 28th, 1905: "I am much better since my last operation."

Case 62.—A married woman, aged 42 years. Fibroids; cystic ovaries and distended Fallopian tubes; April 16th, 1904. (Unable to trace this patient; she was in good condition when she left the hospital.)

Case 63.—An unmarried woman, aged 41 years. Cervix fibroid; menorrhagia; cancer of the colon discovered in the course of the operation, April 18th, 1904. Resection of the sigmoid flexure for cancer in the Middlesex Hospital, September, 1904. The patient subsequently reported herself in good health.

Case 64.—A married woman, aged 33 years. Chronic inflammatory disease of the uterus, tube, and ovaries; total hysterectomy, April 25th, 1904. Good report from the patient, Feb. 28th, 1905.

Case 65.—A married woman, aged 31 years. Fibroids; red degeneration; pain and menorrhagia; May 2nd, 1904. April 2nd, 1905, the medical attendant writes: "She is now quite well, but a month or so after her return home she had an attack of hemiplegia which cleared up completely."

Case 66.—A married woman, aged 40 years. Fibroids; profuse menorrhagia; May 9th, 1904. "Health much improved since the operation." Letter from patient, March 16th, 1905.

CA [illegible] ears. Fibroids obstructing labo [illegible] May 9th, 1904. The patient was [illegible] ood health January, 1905.

Case 68.—A married woman, aged 37 years. Cervix-fibroid; retention of urine; total hysterectomy and both ovaries removed May 16th, 1904. The patient made a slow convalescence. April 2nd, 1905, the medical attendant writes: "Looks very well; she has flushings and the symptoms of the menopause."

Case 69.—An unmarried woman, aged 48 years. Fibroids; May 16th,

1904. In good health March 13th, 1905. Letter from medical attendant.

[illegible] much more [illegible] good. Letter, March, 3rd, 1905.

CASE 73.—A married woman, aged 48 years. Fibroids; profuse menorrhagia; July 4th, 1904. Reported herself at the hospital, Feb. 27th, 1905, in good health.

CASE 74.—A married woman, aged 48 years. Fibroids; menorrhagia; July 4th, 1904. The patient was reported well, Feb. 23th, 1905, by her medical attendant.

CASE 75.—A married woman, aged 38 years. Fibrosis; metrorrhagia; July 11th, 1904. "The patient is much better." Letter March 3rd, [illegible]

[illegible] d to be in good health two months [illegible] menorrhagia; [illegible] Convalescence [illegible]

CASE 83.—An [illegible] roids; metrorrhagia; Sept. 28th, [illegible] (Middlesex Hospital) [illegible] patient (a nurse in a county asylum) says she feels better than she has done for years. Letter, March 28th, 1905.

CASE 84.—A married woman, aged 40 years. Fibroids; metrorrhagia; total hysterectomy, Oct. 3rd, 1904. No report since leaving the hospital.

CASE 85.—A married woman, aged 48 years. Fibroids; septic; continuous metrorrhagia; total hysterectomy, Oct. 3rd, 1904 "Her health has improved wonderfully since the operation." The patient left for India in November. Letter from medical attendant March 3rd, [illegible]

[illegible] roids; Oct. 3rd, 1904. [illegible] 1905 [illegible] vix fibroid; tightly [illegible] ient had done extra- [illegible] from medical attendant, March 31st, 1905.

CASE 83.—A married woman, aged 46 years. Fibroids; three of very large size and one impacted in the pelvis; Nov. 14th, 1904. "My wife is better now than she has been for years." Letter, March 6th, 1905.

CASE 89.—A married woman, aged 33 years. Fibrosis; persistent *bleeding; Nov. 14th, 1904. Good report from the patient*, March 31st, 1905.

CASE 90.—A [illegible] rrhagia; marked anæm [illegible] I have ever had it." [illegible]

CASE 91.—A [illegible] ngerous bleeding; dial [illegible] he body of the uteru [illegible] writes, April 4th, 1905, [illegible]

CASE 92.—A *married woman, aged 30 years. Fibroids, profuse* menorrhagia; marked anæmia; Nov. 28th, 1904. The patient made an excellent convalescence.

[illegible] oids; pain and [illegible] her work as a [illegible] h 28th, 1905 [illegible] uterus, active [illegible] 4. No report [illegible] *broids, small but* [illegible] pian tubes; total [illegible] e extraordinarily [illegible] 1905. [illegible] ibroids, pain and [illegible] from the patient Feb. 15th, 1905.

CASE 97.—A married woman, aged 35 years. Fibroids; menorrhagia; profound anæmia; Dec. 19th, 1904. Good report from the patient, March 10th, 1905.

CASE 93.—A married woman, aged 41 years. Fibroids; menorrhagia, anæmia; Dec. 19th, 1904. Letter from patient, Feb. 3rd, 1905. "Getting quite strong again."

[illegible] patient Feb. 3rd, 1905, and March 20th, 1905.

In addition to the 81 patients from whom the uterus was removed for fibroids and diffuse adenomyoma there were eight women in whom myomectomy or enucleation was performed, and one woman, aged 28 years, from whom a large soft fibroid weighing 14 pounds was removed from the round ligament of the uterus. This tumour grew into the abdomen like a subserous stalked fibroid. Each of these patients made an uninterrupted recovery. Myomectomy and enucleation are justifiable procedures in women [illegible] in married women so anxious [illegible] willing to run serious risks on the [illegible] children. Experience, however, teaches this stern lesson: after the enucleation of a fibroid in the procreative period of life a woman is 20 times more likely to grow more fibroids in her womb than to conceive successfully.

Brook-street, W.

ON PNEUMOCOCCAL SORE-THROAT WITH NOTES OF A FATAL CASE.

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AMONG the acute inflammations of the faucial region there is one, pneumococcal angina, which has not apparently as yet received in this country the attention it deserves. At a recent public examination not a single candidate even mentioned this condition in discussing the differential diagnosis of diphtheria. Pneumococcal inflammations of the fauces and larynx are, however, well worthy of attention on account of the close clinical resemblance they may present to other acute inflammations of those regions, especially diphtheria.

The occurrence of inflammatory lesions of various mucous membranes, with or without membranous exudation, in association with pneumonia and broncho-pneumonia has been recognised for many years. A very remarkable case of this kind is recorded by Cary and Lyon.[1] But examples of primary inflammation of the faucial region are much more uncommon. Jaccoud,[2] T. K. Monro,[3] and others have placed on record cases of membranous sore-throat of pneumococcal origin which clinically were very like diphtheria. The [illegible] I am about to relate differ widely [illegible] example of another variety of [illegible] the "angine érythémateuse [illegible] authors.

Referring to the probable frequency of acute membranous tonsillitis and pharyngitis of pneumococcal origin, Foulerton[4] remarks that "the exact bacteriological identification in these cases is rendered difficult by the fact that the organism is a frequent parasite of the healthy mouth. But the number of cases in which there are the formation of a false membrane and destruction of the superficial layer of the epithelial membrane associated with the presence of the coccus in predominant numbers and without any of the other bacteria —B. diphtheriæ, streptococcus pyogenes, *and* saccharomyces albicans—which are known to cause similar lesions, leaves little doubt as to the fairly frequent occurrence of an acute membranous pharyngitis due to this cause."

A healthy, well-nourished boy, aged three and a half years, was seized with sudden illness on Oct. 24th, 1903. The prominent symptoms were sore-throat with great pain on deglutition and high fever, which had persisted. There was no initial vomiting nor had there been any signs of laryngeal implication or of pulmonary trouble. He had only taken small quantities of milk with much difficulty. He was admitted to the Middlesex Hospital on the fourth day of illness in *the following condition.* The face was pale with a dusky malar flush. The respirations (40 per minute) were not laboured. The pulse *(120) was soft, full, and regular.* The glands at the angle of the jaw were moderately swollen on both sides and very tender. The skin was dry and hot (temperature, 103° F). There were no signs of desquamation and no puffiness. There was no discharge from the nose or ears. A careful examination of the heart and lungs revealed no abnormal signs. A specimen of urine passed soon after admission gave a positive result to Ehrlich's diazo reaction; it was free from albumin. The uvula, soft palate, and faucial pillars on both sides were slightly œdematous and intensely red and glazed. Both tonsils were somewhat swollen and intensely injected. There were no exudation of any kind and no plugging of the follicles of the tonsils. The posterior wall of the pharynx could not be seen. The tongue was rather thickly furred and the breath was very offensive.

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[1] American [illegible]

[2] [illegible]

[4] Transactions [illegible] 293.

Progress of case.—8000 normal units of diphtheria antitoxin were injected on admission and a swab was taken from the throat for bacteriological examination. The temperature ranged high throughout the illness, exceeding 103° every day and only once falling as low as 101°. On Nov. 7th the appearance of the throat was much the same. There were no signs of exudation. The patient had great difficulty in swallowing and frequent regurgitation of fluid through the nose. The enlarged spleen could be felt below the ribs [illegible] The swab cultures yielded an abundant [illegible] but no bacilli were present. Widal's [illegible] a negative result. No signs of broncho-pneumonia [illegible] There were considerable enlargement [illegible] of the glands at the angles of the [illegible] to feed through a nasal tube [illegible] enemata of milk and beef tea had been [illegible] since the 8th. On the 11th there were signs of cerebral [illegible] The child was curled up to one side with the [illegible] and the knees bent up. He strongly resented all interference, cried out at sudden noises, and had definite photophobia. No paralytic symptoms were observed. During the last two days the fœtor of the breath had increased and become distinctly gangrenous. On the 9th the throat was still intensely red and glistening, but to-day (11th) the whole of the uvula and the adjacent portions of the soft palate were brown and sloughing. There were no signs of peeling and the urine remained free from albumin. The nutrient enemata were omitted on account of rectal intolerance. On the 14th the temperature had been more remittent since the 11th and the patient was growing rapidly weaker. The throat was sprayed frequently with chlorine water but without appreciable effect on the fœtor and unsuccessful attempts had been made to irrigate the naso-pharynx with antiseptics. There was now a grey gangrenous slough involving the uvula and the palatal arches. The respirations had risen from 30 to over 70 per minute and signs of broncho-pneumonia had made their appearance in the left lung, both in the upper and lower lobes. Death took place on Nov. 15th, the twenty-second day of illness. There was slight diarrhœa during the last three days. There was no nasal discharge at any time.

Necropsy.—A post-mortem examination was made 31 hours after death, the weather being cold. The body was emaciated and somewhat rachitic. No beading of ribs could be seen. There was some excoriation at the right angle of the mouth. The whole of the soft palate, both pillars of the fauces, and the tonsils formed a large greenish gangrenous mass. The glotto-epiglottic fold and pyriform sinuses were also discoloured and bathed by a thin greenish purulent discharge. The sloughing area reached as far forwards as the hard palate. The glands at the angle of the jaw and those of the posterior triangles were much enlarged. The right pleura contained two and a half ounces of thin reddish pus. On the posterior aspect of the left pleura, just on a level with the bifurcation of the trachea, was a circular patch of softening. The œsophageal, bronchial, and mediastinal glands were enlarged. The bronchi were congested and contained some thick purulent exudation. The upper lobe of the left lung was congested. There was one small gangrenous patch on the posterior aspect. The lower lobe was riddled with patches of broncho-pneumonia which were becoming gangrenous. The largest gangrenous cavity was of the size of a hazel nut. There were similar changes in the right lung. A gangrenous patch of the size of a walnut was in the upper lobe and there were areas of collapse in the lower lobe. The heart was natural. The stomach was contracted and healthy. The œsophagus was healthy. The kidneys were somewhat enlarged and cloudy. There were cloudy swelling and much post-mortem discolouration in the liver. The spleen was enlarged and congested. As regards the head, the scalp, calvaria, and sinuses were natural. There were slight congestion of the pia-arachnoid and some excess of cerebro-spinal fluid. No meningitis was present. The brain substance was natural.

Bacteriology.—Cultures obtained post mortem from the pharynx and lungs were examined by Mr. A. G. R. Foulerton, who informed me that the diplococcus pneumoniæ was present in predominating numbers, together with a bacillus (probably the result of post-mortem infection) in smaller quantity. The diplococcus was tested on a mouse and found to be of normal pathogenicity for that animal.

The difficulties surrounding the clinical diagnosis in this case were very great. The child was too young and too desperately ill to permit of any really satisfactory examination of the naso-pharynx being made. Diphtheria antitoxin was injected as a precautionary measure only, for the sudden onset, severe initial symptoms, and persistent high temperature did not lend support to this view of the case. The absence of all exudation on the tonsils and fauces and the total absence of any signs of desquamation excluded the diagnosis of scarlet fever. On the whole, the appearance of the fauces and soft palate on admission more nearly resembled erysipelas than anything else but the very moderate degree of œdema militated strongly against this view. The possibility of a pneumococcal inflammation of the pharynx was carefully considered but could hardly be maintained in the face of the negative result of the first bacteriological examination. I am satisfied that the pharynx was the site of primary infection. The lungs were repeatedly examined and no signs of broncho-pneumonia or other lesion detected until the later stages of the illness when gangrene of the palate was already well marked.

The occurrence of gangrene in pneumococcal inflammations of mucous membranes is well established. Munro's patient recovered with a perforation of the faucial pillars and I may fitly refer here to a remarkable case which came under my notice some time ago and was placed on record by Foulerton.[5] The patient, aged 26 years, had suffered from a "quinsy" a fortnight before admission to the Middlesex Hospital and had been ill ever since. He died from pyæmia three days after admission. The necropsy revealed an almost universal pneumococcic gastritis, with extensive necrosis of the glandular layer of the mucous membrane of the stomach. There was a deepish ragged ulcer in the right tonsil. It seems probable that in this case the primary lesion was a pneumococcic infection of the right tonsil, though this was not proved bacteriologically.

I am indebted to my colleague, Dr. J. Kingston Fowler, for permission to mention a case of membranous laryngitis arising in connexion with an acute pneumococcal inflammation of the lungs. The patient, a man, aged 38 years, was admitted in the fourth week of an acute illness with signs of consolidation in the left lung. He lived for 34 days after admission, during which period the greater part of both lungs became consolidated. The necropsy revealed a very extensive pneumonia of both lungs with a small smooth-walled gangrenous cavity at the posterior apex of the left lower lobe. There was a patch of toughish adherent membrane on one of the vocal cords from which Mr. Foulerton obtained a pure culture of diplococcus pneumoniæ. This organism was also present in preponderating numbers in the cultures obtained from scrapings of the lung tissue just outside the cavity in the left lung. The patient had not presented any laryngeal symptoms.

A striking example of pneumococcal laryngitis has been recorded by Seuvre.[6] The case is that of a boy, aged eight years, in whom symptoms of laryngeal obstruction supervened in the course of an attack of "grippe." Tracheotomy had to be performed and pneumococcus in pure culture was obtained from pieces of membrane coughed up through the tracheotomy tube. It is clear from a consideration of recorded cases that pneumococcal pharyngitis may present different clinical forms. French observers who have paid some attention to the subject describe the following varieties:[7] (1) the suppurative; (2) the pseudo-membranous; (3) the follicular; (4) the inflammatory or erythematous; and (5) the herpetic.

The erythematous form was first described by Rendu and Boulloche.[8] The appearance of the fauces described by these observers agrees very closely indeed with that presented by my patient in the earlier stages of his illness. The etiology of their case was interesting. The patient, a nurse in a children's hospital, slept in a dormitory from which during the week preceding her illness three other nurses had been warded with acute pneumonia. Her illness developed very acutely with chills, intense headache, and high fever and subsided by crisis with profuse sweating and diuresis after a duration of only 36 hours. There were no pulmonary symptoms.

An altogether similar case is recorded by Gaultier[9] in a young man. Crisis occurred on the fourth day after an acute onset with rigor. There was a short relapse with recurrence of pharyngeal inflammation after an afebrile interval of six days. A fatal termination in pneumococcal pharyngitis is quite exceptional if one may judge by the recorded cases, and the occurrence of gangrene, which determined the bronchopneumonia in my patient, is also rare. Monro's patient furnishes the only other instance of this that I have come across.

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[5] Loc. cit.

[6] Quoted by Cary and Lyon, loc. cit.

[7] Consult E. Gaultier, Thèse de Paris, 1896, and Sophie Weinberg, Thèse de Paris, 1895.

[8] Bulletin de la Société Médicale des Hôpitaux, May, 1891.

[9] Loc. cit.

The local signs of pneumococcal pharyngitis are in no sense distinctive. The membranous form may closely simulate diphtheria and a bacteriological examination alone reveal the true nature of the case. Somewhat similar appearances are also met with in some cases of streptococcal inflammation of the throat[10] but here the exudate is usually thinner and looser in texture and less adherent than in pneumococcal or diphtheritic inflammations. More reliance may be placed, in my opinion, on the early symptoms and mode of onset. In pneumococcal sore-throat the onset is usually quite sudden, often with rigor or chills, the initial symptoms are severe, and the temperature rises rapidly to 103° or higher—a grouping of symptoms strikingly like those of pneumonia and very rarely met with in anything like the same degree in diphtheria or even in streptococcal pharyngitis. The disease tends to run a short course—from two to five days—but to this there are exceptions. The erythematous form of the affection is most likely to be mistaken for scarlatinal angina and here the diagnosis—apart from bacteriological findings—must rest mainly on the absence of other signs of scarlet fever. It is worthy of note that a considerable number of the recorded cases of pneumococcal sore-throat have been in adults.

Chandos-street, W.

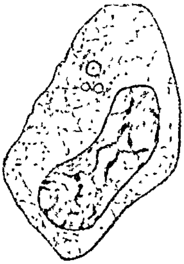
ON THE

RESEMBLANCES EXISTING BETWEEN THE "PLIMMER'S BODIES" OF MALIGNANT GROWTHS AND CERTAIN NORMAL CONSTITUENTS OF REPRODUCTIVE CELLS OF ANIMALS.[1]

BY J. BRETLAND FARMER, F.R.S.;
J. E. S. MOORE;
AND
C. E. WALKER.

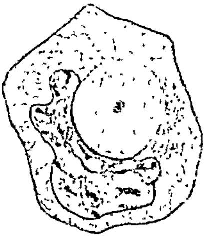
IT is proposed in the present communication to present the results of investigations bearing on the nature of those remarkable structures known as "Plimmer's bodies."[2] As is well known, these are found in many cancerous growths and are most commonly encountered in the younger or growing regions of the tumour. They appear in the form of vesicles and they consist essentially of a fairly well-defined wall containing a clear space in which is suspended a small darkly staining granule (Figs. 1 and 2). They are most commonly to be met with in tumours of a glandular or glandular-epithelial origin.[3] They lie in the cytoplasm of the cancer cell and usually in close proximity to the nucleus. In size they vary from excessive minuteness to that of the nucleus itself.

FIG. 1.



Example of "Plimmer's bodies" from scirrhus of the breast: three small "bodies" in an an archoplasm.

FIG. 2.



Later stage in the development of the "bodies."

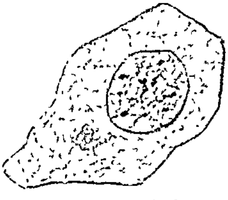
The special interest attaching to them depends on the fact that they have commonly been regarded as peculiar to cancerous cells, although Honda[4] believes that he has occasionally also encountered them in inflammatory tissues. They have been variously interpreted. Some investigators have regarded them as parasitic organisms, more or less intimately connected with the etiology of the disease, whilst others have seen in them a differentiation of the cytoplasm of the cancerous cell itself. It has been suggested also that they might be derived from the centrosomes within the archoplasm,[5] but the observations of Benda[6] that centrosomes coexisted independently of them in the cell has rightly been held to disprove this hypothesis.

Our own investigations indicate, however, that there are good grounds for reconsidering the whole position and a comparison of the processes that normally obtain during the final stages of development of the reproductive elements in man and the other mammalia appears to us strongly to suggest that a parallel between the Plimmer bodies of cancer and certain vesicular structures occurring regularly in the gametogenic, but not in the ordinary somatic, cells may be found to hold good.

It was shown by one of us[7] in 1895 that during the prophase of the heterotype (first maiotic) mitosis of the spermatogenetic cells the archoplasm undergoes a highly characteristic and peculiar metamorphosis. In normal somatic, or premaiotic, cells the archoplasm is seen to lie beside the nucleus as a dusky mass of protoplasm in which are contained the centrosomes. That is, the attraction sphere consists of the archoplasm *plus* the centrosomes. But during the prophase of the heterotype mitosis these constituents become separated. The centrosomes are found to lie *outside of*, and detached from, the archoplasm. At the same time the archoplasm itself undergoes a change. It becomes vesiculated and finally, at the close of this cell generation, it is lost in the general cytoplasm of the daughter cells.

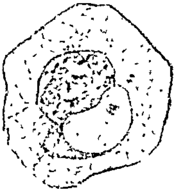
In the prophase of the second maiotic division (homotype) the same phenomena recur. When the homotype mitosis is over the constituents of the sphere, or at least some of them, enter into direct relation with parts of the spermatozoon which arises by further differentiation of the cell. As regards the archoplasm, with which we are more directly concerned, it is again seen to contain a number of minute vesicles which continue as before to grow in size, whilst each contains a single refractive and stainable granule (Fig. 3). Subsequently several of these vesicles fuse together so that at a later stage in the metamorphosis of the cell into a spermatozoon there only remains a single large clear body, bounded by a distinct membrane, containing in the centre one or more darkly staining granules (Fig. 4).

FIG. 3.



Spermatid of mouse (early stage).

FIG. 4.



Spermatid of man (later stage).

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[10] Weinberg: loc. cit.

[1] A paper read before the Royal Society on May 11th, 1905.

[2] Plimmer: Practitioner, vol. lxii.

Brewer Croft Cancer

clxxiv.

xv. This author was
to the archoplasm, but
trosomes precluded his
nature of the bodies

ellschaft fur Chirurgie,
1902.

[7] Moore: Internationale Monatschrift fur Anatomie und Physiologie, vol. xi.

This body, originally described by one of us in 1895 as the archoplasmic vesicle, is a very conspicuous and apparently constant feature peculiar to the spermatogenetic cells of, at any rate, the vertebrata and it has since been encountered beyond that group by other observers. When fully developed it often assumes a size approximating to that of the nucleus. Indeed, the latter is often deformed and made to assume a crescentic or cuplike shape owing to the enlargement of the adjacent archoplasmic vesicle. The vesicle and its contents ultimately form the so-called "cephalic cap" of the spermatozoon.

The remarkable similarity between the structure just described and those known as Plimmer's bodies will have become obvious. It is not, perhaps, accidental that just as in the case of nuclear divisions, so also in the cellular inclusions, a parallelism between the cells of reproductive tissues and of cancer cells should be found to exist. But we do not on this account regard the cells of cancer as *identical* with those of the sexual cells, as we were careful to point out in our first communication in 1903. But the resemblances between what we have termed gametoid and the true gametogenic cells now seem to be even more significant than they appeared to be at that time. Both classes of cells are autonomous to a very high degree and both possess the faculty of continuous or intermittent multiplication independently of the tissue requirements of the organism. And finally both exhibit cellular and nuclear metamorphoses which not only, *mutatis mutandis*, resemble one another, but differ materially from those pertaining to the normal somatic cells.

It is possible that the malignant elements are the outcome of a phylogenetic reversion, as was suggested by Sir William Collins, but the matter is obscured by the disturbing influences that have been operative during the actual ontogeny of the cells and tissues from which these elements have sprung. If this be so the connexion apparent between gametoid and the true reproductive cells will acquire a still deeper significance. But we propose to reserve the discussion of this question for another occasion.

In thanking those who have helped us with material we would mention especially Mr. Plimmer himself who has most kindly placed preparations at our disposal. We would further record our indebtedness to the Imperial Cancer Research Fund for a grant in aid of our investigation.

ACUTE AORTITIS.

By WALTER BROADBENT, M.A., M.D. Cantab., M.R.C.P. Lond.,
ASSISTANT PHYSICIAN TO THE SUSSEX COUNTY HOSPITAL.

Acute aortitis is so rarely seen that the following case seems worthy of record.

A man, aged 45 years, came to my out-patient department at the Sussex County Hospital on March 1st complaining of pain across the left chest after partaking of food. He said that for three months he had had some discomfort in the upper abdomen an hour or more after meals and for about ten days there had been definite pain in the lower part of the left chest, mainly late in the afternoon, which he attributed to indigestion. He did not look ill. His tongue was slightly furred and his bowels were regular. His pulse was 80, the artery was a little above the normal size, the walls were not much thickened, and the wave was very easily compressible, not collapsing. The apex beat was in the vertical nipple line two inches below the nipple; the impulse was poor. On auscultation a moderate first sound, a second sound, and a short diastolic murmur were heard. At the pulmonic and aortic cartilages there were soft second sounds and a short diastolic murmur. In the neck the second sound was distinct. There had been no rheumatic fever. No history of syphilis was obtained. There was no tenderness in the epigastrium and the stomach was not dilated at all. The pain never spread to the arm and the man thought that food had more to do with it than exertion, but as the physical condition of the stomach seemed good and that of the heart doubtful a mixture containing spirit of nitrous ether and strychnine was ordered.

A week later the patient came again saying that the pain had become steadily worse and for four days it had been shooting all over his chest and down his left arm. It was now exceedingly severe and the attacks were almost continuous. He looked pale, anxious, and worn, though a week before his appearance had been healthy. His pulse was 96 and was very easily compressible. The apex beat was barely perceptible and the first sound was weaker than before. He was sent to the hospital for admission and an hour later, just after getting into bed, he died suddenly.

At the post-mortem examination the most striking feature was the bright red colour of the first three inches of the aorta inside and outside. The aortic valves were found to be practically competent by the water test. They were thickened and showed signs of atheroma. The mouths of the coronary arteries were almost completely occluded and only a bristle could be passed through either. A calcified plaque formed part of the obstruction to the right but the other was blocked by swollen intima. Areas of old atheroma were scattered on the aortic walls, and, in between, the intima was bright pink and swollen in patches, the appearance corresponding closely to the water-colour drawing in Sir William Broadbent's work on "Heart Disease" (third edition). Outside the adventitia was red and injected. This extended up to about the origin of the innominate artery. There was no spread of inflammation into the left ventricle. The heart muscle seemed firm.

Dr. F. G. Bushnell kindly cut sections of the aorta and heart muscle. In those of the aorta there was a perivascular infiltration with leucocytes round the vasa vasorum of the aortic wall, more marked in the outer coat. The sections of the heart muscle stained in Sudan III. and osmic showed a singular absence of change. The striation of the muscle and the nuclei appeared normal and no fatty or fibroid degeneration was found; all that could be seen was a slight pigmentary deposit near the nuclei. No bacteriological investigation was made.

As in previously recorded cases this was an acute inflammation attacking an aorta already damaged by atheroma. The primary cause of death in this case must have been the blocking of the orifices of the coronary arteries by the swelling of the intima, since one cannot imagine the heart continuing to beat for long when only a bristle could be inserted into either coronary artery, and the condition of the heart, free from fatty degeneration or fibrosis and with the muscle in apparently good condition, shows that the obstruction to the blood-supply was not of long duration. The clinical history of the case also bears this out, there being no true attack of angina pectoris until four days before death and then there was a rapid increase in the number of the attacks.

The duration of the disease from the first symptom which could be called cardiac pain was only 17 days, the usual length being from two to six months, but Dr. F. J. Poynton relates a case of sudden death[1] due to acute aortitis with no history of previous illness. He gives details of two cases but in neither was there any inflammatory obstruction of the coronary arteries; in one there was fatty and in the other fibroid degeneration of the heart wall, and in both he describes the nuclei of the muscle fibres as staining indistinctly and the striation as feeble, and he attributes the fatal termination to these changes. In the case described above there were none of these degenerations of the cardiac muscle.

Brighton.

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[1] The Lancet, May 20th, 1899, p. 1352.

Medical Golfers' Association *v.* Bar Golfing Society.—The annual match between teams representing the Medical Golfers' Association and the Bar Golfing Society took place at Woking on Saturday, May 20th. A year ago the match was played at Burnham Beeches and after an exciting finish the barristers gained a victory by one point. For Saturday's match strong teams were chosen and fair golf was witnessed, the Bar being easily victorious. The following took part in the match. Medical Golfers' Association: Dr. A. W. Daniel, Dr. W. J. Howarth, Mr. H. Dane, Dr. Percy Kidd, Dr. C. Webb, Dr. F. F. Caiger, Dr. H. P. Hawkins, and Dr. H. Low. Bar Golfing Society: Mr. H. W. Beveridge, Mr. J. Crabb Watt, Mr. L. Mossop, Mr. C. F. Parton, Mr. H. T. Wright, Mr. F. S. Jackson, Mr. R. H. Balloch, and Mr. M. Shearman, K.C. In the singles the Bar scored seven points to one scored by the Medical Profession, while in the foursomes the Bar won by three points.

A REGULATING CHLOROFORM INHALER.

BY A. G. LEVY, M.D. LOND.,
ANÆSTHETIST TO GUY'S HOSPITAL; ASSISTANT ANÆSTHETIST, NORTH-WEST LONDON HOSPITAL.
(From the Laboratory of Pathological Chemistry, University College, London.)

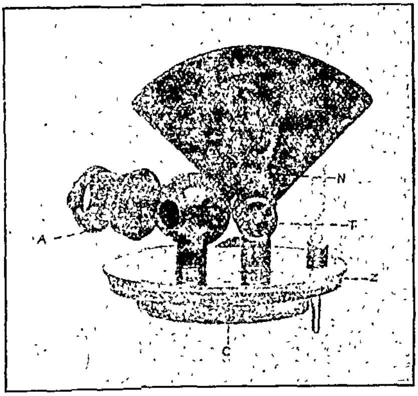
THIS apparatus is a simplified and improved form of that which I described recently to the Royal Medical and Chirurgical Society.[1] It is unnecessary to enter very fully here into the details of the methods employed and the principles involved in the construction and use of the appliance, as these matters were fully discussed in the paper referred to.

The complete apparatus is shown in Fig. 1, and in Fig. 2 some parts of it are seen from behind. In order to indicate more clearly its intimate construction I have provided a diagram (Fig. 3) of its main portion as if seen from above in a plane projection.

The apparatus may be described as consisting of a face-piece and a body which communicate through the medium of a length of wide-bore aluminium pressure tubing. This tubing is connected to the face-piece (F, Fig. 1) by a double junction in the form of two hollow metal globes, which rotate upon one another and upon the mount of the face-piece. Upon the summit of the one globe (that further from the face-piece) is fixed a light hinged aluminium valve, opening outwards and providing for the escape of the expired air. The double joint enables one to dispose the tubing conveniently.

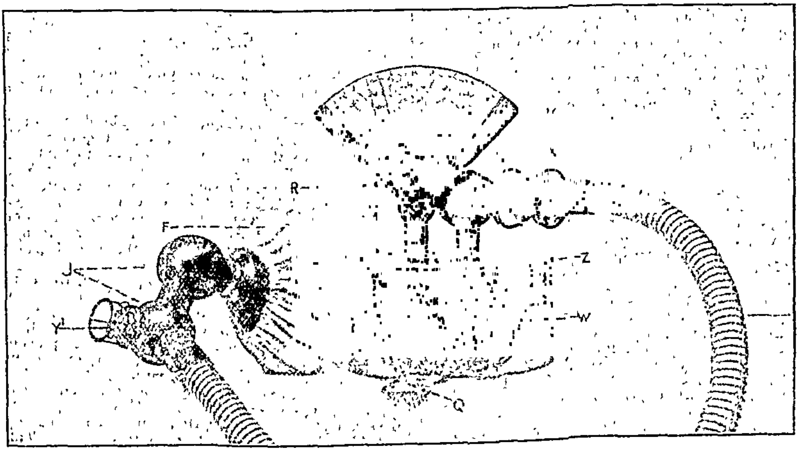
The body consists of the following parts. A shallow circular vessel, 11 centimetres in diameter and 2·7 centimetres in height, contains the chloroform (C, Figs. 2 and 3). This vessel forms part of the cover of a bigger vessel (W, Fig. 1) which is filled with hot water and constitutes a water bath, the thin copper bottom of the chloroform vessel alone separating the chloroform from the water. A spout (*s*, Fig. 3) is fixed in the cover and from it the chloroform chamber is filled through an opening in the bottom of the latter. Two ounces of chloroform are required to fill the chamber up to a level indicator (a small loop of wire) which is fixed in the spout. There are two tubular apertures (15 millimetres in diameter) in the roof of the chloroform chamber (*i* and *o*, Fig. 3) which provide for the ingress and egress of the air current, which is directed from one to the other in a circular direction around the chamber and over the surface of the chloroform by means of the vertical partition and circular walls, the position of which is indicated by the dotted lines (*p*, Fig. 3). The inlet (*i*) may be closed and opened by the tap (*t*), this being itself manipulated by the index lever (*h*), which travels over the scale plate (*y*). The outlet tube communicates directly with the metal globe (*g*), and through it with the aluminium tubing, an aluminium valve, inclosed in a glass observation chamber (X, Fig. 1), being interposed at the junction. The globe (*g*) has also a circular air inlet (A, Fig. 2) 18 millimetres in diameter, which is permanently open.

FIG. 2.



Back view.—The cover removed from the water bath, showing the exterior of the chloroform chamber (C), the aperture for the pure air (A), and the aperture (N) leading to the tap.

FIG. 1.



G, Globe in which air and chloroform currents mix. H, Index-hand. Q, Foot, which is clamped to the edge of a table. R, Thermometer. X, Glass valve chamber (containing inspiratory valve). Y, Scale

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[1] Transactions of the Royal Medical and Chirurgical Society, 1904-05; THE LANCET, Nov. 26th, 1904, p. 1496.

When inspiration is performed through the face-piece air is drawn in from two sources—viz., pure air through the hole (*a*) and vapour-laden air through the circuitous route of the chloroform chamber *viâ* the tap, as shown by the dotted arrows in Fig. 3, and these two currents intermingle in the globe (*g*) and form a complete mixture in their course through the aluminium tubing. During expiration reflux is prevented by the inspiration valve (v^2) and the expired air escapes through the valve on the face-piece. The proportions and dispositions are such that when the tap is fully open between twice and three times as much pure air passes in through the hole (*a*) as passes in at the tap. The chloroform-laden current is thus diluted to between one-third and a quarter of its original strength and at any definite temperature of the water bath a mixture of definite percentage is drawn to the face-piece. By partially closing the tap less air passes over the chloroform and proportionately more through the aperture (*a*), so that a mixture of greater dilution is inspired. For each position of the tap handle a definite percentage dilution is marked upon the scale.

FIG. 3

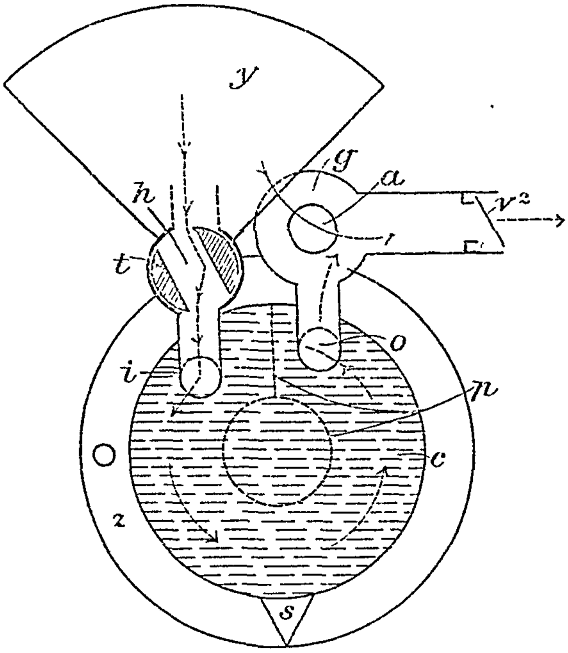


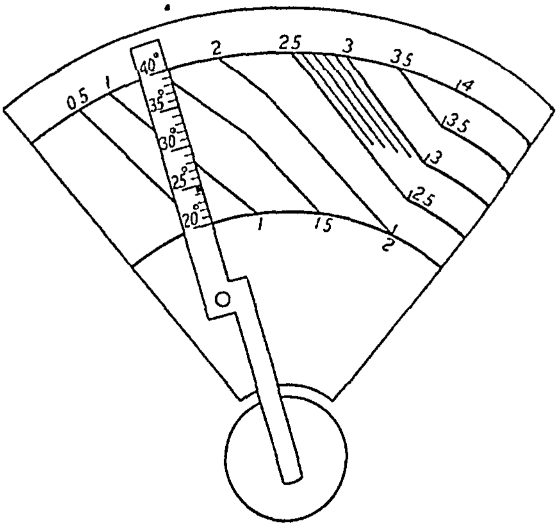
Diagram of the apparatus as if seen from above in plane projection. The air aperture (*a*) is shown as if in the front of the mixing globe (*g*). The horizontal shading represents the chloroform surface, as if seen through the cover. The dotted lines represent structures as if seen through transparent superstructures. The arrows indicate the course of the air currents. *i*, Inlet to chloroform chamber. *o*, Outlet from chloroform chamber. *p*, Partitions. *s*, Spout. v^2, Inspiration valve.

The water surrounding the chloroform has a higher specific heat than has the latter and it is thus able to maintain the temperature of the chloroform which would otherwise tend to fall to a low level during abstraction of heat in the course of its evaporation. The water bath is filled with hot water (at 40° C.) in order to increase the vapour-yielding capacity of the chloroform and this is necessary because a strong vapour current is required in view of the subsequent dilution which occurs. Whilst the temperature of the water, and hence also of the chloroform, remains constant (other physical conditions being the same) the percentage of vapour inhaled depends solely upon the position of the index hand, and the percentages at a temperature of 40° C. are marked off at 0·5 per cent. intervals along an arc at the top of the scale plate (see Fig. 4).

As the water gradually cools down to the temperature of the room provision is made for reading off percentages at lower temperatures. A thermometer (R, Fig. 1) is therefore provided to indicate the temperature of the water bath. It is graduated between 20° and 40° C., and this graduation is reproduced upon the face of the index hand. By prolonging the percentage divisions of the top arc diagonally downwards and across the scale plate, as shown in the figure, the percentages may be read of any temperature to within 0·5 per cent. Thus in Fig. 4 the index hand indicates at 40° a little over 1·5 per cent. and at 34° between 1 and 1·5 per cent. The scale may preferably be divided by lines indicating differences of 0·1 per cent., as is shown in one section of the figure. The position and course of the major divisions (at intervals of 0·5 per cent.) were determined by a series of densimetric estimations of vapour aspirated by a suction bellows working under constant conditions.

The maximum percentage of vapour for which the instrument is graduated is 4 per cent. at a temperature of 40° C., but if an available 4 per cent. vapour be deemed inadvisable—as, for instance, when anæsthetising children or as a precautionary measure in inexperienced hands—the water bath may be filled at a lower temperature, say at 30° C., yielding a maximum of 3 per cent. only. The maximum obtainable becomes progressively more limited as the water bath cools, and as the higher percentages are only required in the earlier stages of an operation this offers no disadvantage.

FIG. 4.



Index hand and scale.

In order to avoid agitation of the chloroform which would raise the percentage of vapour,[2] it is necessary to fix the water bath to the table by a clamp provided with the instrument.

As the chloroform is used up its level falls and this results in a deficiency of about 0·1 per cent. for every half ounce evaporated. This error may in the ordinary course of an operation be neglected, but if for any special reason great accuracy be required the chloroform must be replenished every half hour.

An essential principle of the apparatus is the apparently anomalous one of heating up the chloroform to yield a strong vapour, which is subsequently weakened by dilution with pure air, and it is now necessary to explain the reason of this procedure. The condition imposed of propelling an air current over an evaporating surface by the suction power of human inspiration is far from an ideal one, for the air current takes up a greater or less proportion of vapour according as its passage is slow or rapid, or, in other words, according as a weak or strong draught is induced in accordance with the variable action of the human respiratory pump. The following experiment serves to illustrate this fact. Conditions similar to those of human respiration were reproduced by employing a suction bellows of variable capacity worked by a wheel and crank. The air aperture (*a*) being blocked suction was made by the bellows over the chloroform surface, thus obtaining an undiluted chloroform current. The water bath was filled at 20° C. and the capacity of the bellows was set at 550 cubic centimetres. By turning the bellows wheel a strong intermittent draught was produced and the percentage of vapour taken up was 3·6. When, however, the capacity of the bellows was reduced to 160 cubic centimetres the percentage of [illegible] Fig. 5.) It is seen, therefore, [illegible] roform surface is contra-indicated. However, by drawing a large proportion of the draught through the air aperture (*a*) the current through the chloroform chamber is only a fraction of the whole and is therefore [illegible] current. Now the percentage [illegible] currents does not increase, as [illegible] in the *same proportion* as th[illegible] case of quicker-moving current[illegible] Fig. 5.) The indication, therefore, is to allow only slow currents, which take up a large percentage of vapour, to pass over the chloroform and to dilute them with pure air down to respirable mixtures. If we presume that one-third the total air inspired passes through the chloroform chamber and that two-thirds enter the air inlet it may be deduced from the percentage chart (Fig. 5) that the following mixtures would be obtained with both the apertures open, when the temperature is 20° C.

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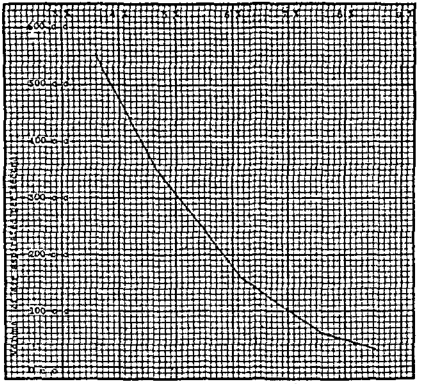
[2] Sharply jarring the apparatus causes a rise in percentage of one quarter of that indicated at the moment on the scale.

FIG. 5.—CHART SHOWING THE PERCENTAGES OF VAPOUR IN THE CHLOROFORM CURRENTS.



[illegible] up [illegible] orm [illegible] ater [illegible] ion [illegible] vapour, a current of half this rate—viz., 275 cubic centi- [illegible] slower currents the increase in value of the percentage of vapour is seen to be much smaller, rather less than one-seventh.

TABLE I.

Draught during aspiration.	Percentage of chloroform in the mixture.
*550 cubic centimetres per second	2·0 per cent.
360 „ „	2·2 „
160 „ „	2·6 „

* Aspiration of 550 cubic centimetres per second results in a current of $\frac{550}{3} = 183$ cubic centimetres per second over the chloroform. Reference to the chart shows that a draught of 183 cubic centimetres per second takes up 6 per cent. of vapour, therefore the resulting mixture is at 2 per cent.

It is seen that the percentages at different rates of draught are approximated but not sufficiently so for clinical purposes; at percentages over 2 the differences would be magnified. Therefore advantage is taken of another natural law to bring the readings into closer approximation. This is the law of the viscous flow of fluids.[3] It will be observed that whilst the pure air enters through a simple thin-walled aperture, the chloroform current flows through a series of tubes and passages, which introduce a measure of resistance to its flow. Now this resistance is of such a nature that it acts relatively more powerfully on slower-moving currents, and thus in the case of weak suction the disproportion between the air current and the chloroform current becomes greater than in the case of strong suction.[3] In this way is induced a greater dilution at low suction pressures than at the higher suction pressures. For example, suppo[illegible] in Table I. (viz., [illegible] becomes, by reason of the viscosity effect, [illegible]nd of two to one (as it is in the case of stronger suction of 550 cubic centimetres per second) then the 160 cubic centimetres will contain 120 cubic centimetres of pure air and 40 cubic centimetres at 8·2 per cent. (see chart) and the resulting mixture will be at 2·05 per cent. instead of 2·6 per cent.[4]

The *following table of tests performed upon the apparatus* serve to demonstrate that the apertures and parts of the apparatus have been so adjusted experimentally that the required effect is in fact obtained.

TABLE II.

Draught per second during aspiration.	Index 2 per cent. Temperature 40°.	Index 4 per cent. Temperature 40°.	Index 2 per cent. Temperature 20°.	Index 3 per cent. Temperature 30°.
550 cubic centimetres	1·9	3·9	2·05	3·0
450 „ „	2·0	4·0	2·05	—
360 „ „	2·1	3·8	2·15	3·0
160 „ „	2·1	3·55	1·9	2·9
60 „ „	—	—	—	1·54

The capacity to which the pump was regulated is the volume of air sucked in a second and is a measure of the strength of draught of air through the apparatus.

When considering the above table in its relation to human respiration it should be noted that a total intake of 550 cubic centimetres of air in a single second is a respiratory effort of more than ordinary force under chloroform anæsthesia and that 160 *cubic centimetres in a second* represents a feeble type of breathing. The suction of 60 cubic centimetres per second *is below the range of human respiration* but is introduced to show the exaggerated viscosity effect during very weak suction. This, of course, is a safeguard in the case of failing respiration.

Variations in the length of pause between the suctions is negligible as a modifying factor and so the above tests definitely show that there occur no substantial deviations from the indicated percentages as a result of variation in respiration and that it is impossible for breathing of a low dynamic type to result in a raised percentage, but that, in fact, under these conditions the percentage tends to fall in value.

At *the expense* only of a slight increase in bulk certain advantages over my earlier pattern of inhaler have been attained. These are chiefly as follows:—

1. A considerable simplification, the only manipulation involved being the adjustment of the index hand.
2. The more perfect blending of the chloroform vapour with the air. The mixture is in consequence more readily respired, there are less tendency to cough and to hold the breath and a diminished liability to excitement.
3. A free entrance and unobstructed passage for the air, causing an absence of any sense of resistance except in the case of very exaggerated breathing.
4. The maintenance of the percentage indicated on the scale for any given position of the index hand, through a greater range of force of suction.
5. The construction of the whole of the apparatus of metal parts to facilitate cleansing and to insure greater durability.

In conclusion, I have to acknowledge with many thanks the facilities provided me by Dr. Vaughan Harley for working at this subject in his laboratory.

Devonshire-street, W.

[illegible] law that *flow through an aperture is* [illegible] square root of the driving pressure, [illegible] tubes, is directly proportional to [illegible]

[4] *As a matter of fact* the obstruction offered to the flow of the chloroform current is insufficient to induce a retardation to the full theoretical extent, otherwise the vapour percentage of a mixture at 160 cubic centimetres per second would be considerably less than 2.

PURULENT OPHTHALMIA AND THE TREATMENT BY ARGYROL.[1]

BY GEORGE E. WHERRY, M.C. CANTAB., F.R.C.S. ENG.,
SURGEON TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

THE remarks now offered to you are founded on 50 cases of purulent ophthalmia which were brought to Addenbrooke's Hospital during a period of five years before 1900. Of these 50 cases 37 were cured, either entirely or without any serious damage. In five cases both eyes were hopelessly lost, and in three of them the sloughing of the cornea was so extensive as to allow of the loss of both crystalline lenses. In the remaining eight there was serious impairment of vision of one or both eyes resulting in corneal opacities, partial staphyloma, pyramidal cataracts, and other lesions. Two of the patients affected were twins, and there was one instance of the disease happening twice in the same family. Six died during or shortly after treatment for syphilis, meningitis, and other maladies. One case of arthritis occurred which possibly was of the nature of so-called gonorrhœal rheumatism, but the gonococcus was not looked for in the fluid effusions of the joint. In one case a purulent discharge from the nose made one wonder that this event did not happen more frequently, but the nasal passages are very rarely infected. Several cases of syphilitic "snuffles" were noted. With one exception both eyes were affected, but in several one eye was infected later than the other, and in these probably the contagious matter was introduced, not at birth but later by fingers or towels. It usually happens that the infant is brought to the hospital by a neighbour, the mother being still in bed or not yet strong enough for the journey. In 31 cases no medical man was in attendance during the confinement; several children were illegitimate With regard to the nurses employed, one, Nurse E , had been in attendance on the mothers of eight infants, Nurse C. on five, Nurse M. on four, but sometimes a neighbour gave help at the labour and neither nurse nor medical man was present.

The amount of damage done in the cases with partial recovery is not easy to estimate, and the ultimate result is very difficult to forecast because an apparently slight lesion may cause great impairment of vision and an apparently large mischief may clear away wonderfully. An important consideration to bear in mind is that the cornea has its own rate of growth and is peculiar in that regard, attaining its full surface area at five years old. So that we look through the same sized windows at five as we do at 40 years. The cheerful point is that clear cornea, except in perforated cases, *grows* while the surface area of the opacity or scar diminishes.

It is well to understand that very serious consequences may follow a purulent conjunctivitis which is not gonorrhœal. Not long ago I saw an example in an infant with one eye only affected in an otherwise healthy female child. There was a resulting opacity, now nearly clear, but both nystagmus and slight squint have appeared, so that though the cornea clears the case has still a serious aspect. About the mode of contagion: of course, usually the poison was obtained from the mother's passages during the birth of the child. Several of the cases had been bathed with milk, most often the mother's milk. In this connexion I may mention the disgusting practice, among alien populations about Smithfield, of bathing the child's eyes with the mother's urine. The mode of onset also suggested that some cases had been inoculated later than birth.

It is curious to note that in gonorrhœal ophthalmia of adults the right eye is more often affected than the left, no doubt from the more free use of the right hand in self-inoculation; also that a large number of cases give a history of a pre-existing blepharitis as pointed out by Mr. E Nettleship, which would make the tendency to a fidgety rubbing of the eyelids and thus render inoculation more probable Some are of opinion that the blepharitis renders the conjunctiva more vulnerable to the gonococcus poison. Certainly the conjunctiva defends itself in an admirable way against all microbes except a very few and suppuration cannot be established easily in the conjunctival sac so as to be kept up without these special cocci. This is well seen in the old cases of pannus which were sometimes treated with jequirity seeds to excite suppuration, for it was found very difficult without gonorrhœal pus to excite purulent inflammation sufficient to cure the pannus, and the gonorrhœal pus was used occasionally with good success and permanent cure as to the pannus and trachoma.

But the bacteriology of this subject is apart from the purpose of this paper. A word as to the prevention of the disease and of its terrible results. 1. In order to get the cases earlier papers of warning have been printed for me and during the past 15 years have been given to suitable distributors, relieving officers, and others. 2. It was useless to appeal to those in charge of the charity which employs the nurses in the poor districts. So soon as it was discovered that this disorder often depended upon "something improper" the ladies would not stir in the affair. To a few nurses I have given bottles of drops to use in suitable cases of newborn children, especially when the mothers have vaginal discharge, but I have no control over these nurses and no supervision whatever over cases in which there is neither medical man nor nurse to attend at the labour. Of this I am assured, that if nurses were armed with argyrol drops the disease would be greatly checked.

Knowledge comes but wisdom lingers. We have known of this contagious malady for many years. The discovery of the gonococcus has not done much to diminish its ravages. Our knowledge is greater but we are not yet wise enough to stamp out the disease and it appears to me a matter for sad reflection that this diabolical microbic malady is as prevalent in this district as it was 20 years ago In 1885 Sir William Bowman stated before the Local Government Board that 30 per cent. of the inmates of the blind asylums had lost their sight in this way and there were at least 7000 persons in the United Kingdom blind from this cause and to these an equal number might be added to represent those suffering from the effects of the malady in less severe forms.

These cases on which the foregoing remarks are founded were observed before the use of argyrol. A few words now as to the use of this remedy which I have tried in a large number of cases. It is a silver salt; as such it is used in cases when nitrate of silver would otherwise be suitably applied The solution as standardised at the factory in Philadelphia is diluted to make a 50 per cent. or 25 per cent. for drops of usual strengths. It does not cause pain, it is not followed by irritation of the lids, and the staining of chocolate-brown washes off the lids or cheek without permanent mark and weak corrosive sublimate takes the stain off quickly. It has its greatest value in checking suppuration from the conjunctiva and in some most unpromising cases it has proved to be the best remedy.

At the extremes of life in infancy and old age, with the eye during growth or the eye during degeneration, the treatment of disorders needs watchfulness and special care. It is most useful in purulent ophthalmia and while not wishing to discredit old and tried remedies I must speak well of argyrol. Frequent ablutions of the conjunctival sacs and the careful use of the irrigation-can and swabs by a nurse of experience are as much needed with argyrol as with the old drops of protargol or silver nitrate.

In the hospital during the past 12 months almost the only case of conjunctival suppuration which has not been successfully treated with argyrol is the following. The patient was a female child, aged six years, with profuse suppuration filling the conjunctival sacs, causing dusky red swelling of the lids and threatening destruction of the cornea of both eyes. Argyrol drops, nitrate of silver, and other remedies all failed. Thick polypus like granulations lined the lids. The child had a sore-throat and both in the exudations from the throat and in the pus from the conjunctiva were found the Klebs Löffler bacilli. The pus formation had continued during ten days, no remedy making any impression. As soon as 12,000 units of antidiphtheritic serum were injected this treatment cleared the eyes of discharges and no further injection of serum was needed. Except that an abscess formed in the neck there was a wonderfully complete recovery in a few days both of the eyes and health generally. Slight nebulous cornea alone remained. It was interesting to note in this case that there was no response to the remedies used until the antitoxin had been injected. Another point of interest is that there was during ten days thick pus discharged from the conjunctival linings and not the usual membranous exudation of diphtheria.

Next, to relate briefly the case of a woman, over 70 years of age, who had lupus of the face for 30 years. The end of the nose and portions of the face were destroyed and active tuberculous disease affecting both eyes had caused a hypopyon ulcer in one eye. Argyrol drops used every eight hours proved successful in causing complete absorption of the pus in the anterior chamber, relief from pain, and as much improvement in the general condition of the eye as could be expected. It is well to note in this place that the argyrol drops are carried by the tears into the nose and in this patient the nostrils affected by the lupus would have shown any results of irritation if such had chanced, but though the raw surfaces of the ulcerated nostrils were stained by the fluid it was rather useful than otherwise as an application to the lupus sores.

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[1] A paper read before the Cambridge Medical Society on April 7th, 1905.

Like an embarrassed sportsman who puts up too many hares I fear to give you too many details and in giving you these remarks, leaving out much to make my paper suggestive rather than exhaustive, there are plenty of gaps left for others to observe and to report upon. You will see that argyrol puts in a great claim for your favourable regard both in the treatment and prevention of purulent ophthalmia.

Cambridge.

IS MAN POLTOPHAGIC OR PSOMOPHAGIC?

BY HUBERT HIGGINS, M.A. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,
LATE DEMONSTRATOR OF ANATOMY AT THE UNIVERSITY OF CAMBRIDGE AND ASSISTANT SURGEON TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

PART II.[1]—THE PRACTICE OF POLTOPHAGY.

IN Part I. I stated a case for poltophagy *versus* psomophagy in man, relying for my main argument on the fact that structure is crystallised function. When using such a point as this it is almost irresistible not to carry it further into the psychical equipment for the choice of foods and the indications necessary to determine its quality and quantity. To wild animals it would seem to be as necessary to be able to adjust their food to their needs as that of obtaining water or oxygen, for the penalty of inefficiency is generally death. What conditions have arisen, it may be asked, that the existence of such a faculty should even be questioned in man? What compensation has civilisation provided in its place? Mr. Horace Fletcher put this point to me with admirable clearness and brevity in 1901 by telling me "that if one insalivated and masticated one's food and ate what one liked the rest took care of itself." Three years' experience has lead me to have a growing conviction of the substantial truth of Mr Fletcher's contention. This apparently simple but really difficult proposition is the one that this paper mainly deals with, because it is an absolutely essential part of any intelligent appreciation of the phenomena observed during the practice of poltophagy. To express this psychical equipment in the case of animals one makes use of that much-abused term "instinct"; in the case of man one speaks of appetite and taste. Appetite has become a much less vague term in consequence of the labours of Pawlow. It is to be hoped that taste will yield up its secrets to the determined assaults of Dr. Kiesow of Turin.

I have first dealt with appetite, then taste with points dealing with foods, afterwards I have briefly considered the acquirement of the habit of poltophagy, also changes in the fæces and the large intestine.

[illegible]

this passionate desire for eating that unerring and untiring nature has linked the seeking and finding of food with the commencement of the work of digestion. That this factor, which we have now so carefully analysed, stands in closest relation with a phenomenon of daily life—namely, appetite—may easily be predicted. That agency which is so important to life and so full of mystery to science becomes at length incorporated into flesh and blood, transformed from a subjective sensation into a concrete factor of the physiological laboratory. We are justified in saying that appetite is the first and mightiest exciter of the secretory nerves of the stomach."

It would be impossible to have any conception of the nature of poltophagy without looking on appetite as the most essential part of the phenomena presented by its practice. It is important to tell those commencing the practice that they should on no account eat without appetite and that they should cease as soon as appetite ceases. It will be useful to consider appetite from the following points of view:—

(*a*) *Variations in appetite.*—Appetite varies from a well-defined and decided preference for certain foods to an ill-defined general hunger, or the condition known as a poor appetite. Speaking generally, an individual is at his best with a decided appetite for one or more of the groups of foods described below.

(*b*) *The cessation of appetite.*—The end-point of a meal is very decided and well marked in poltophagy. It is quite exceptional to find that undecided end-point so well shown at the end of dinner, during the dessert stage with its sweets, fruit, biscuits, &c.

(*c*) *The frequency of meals.*—At variable periods of time after commencing poltophagy it may be said that in many people leading an ordinary sedentary life there is only one good appetite in the day and [illegible] meal, somewhere about mid da[illegible] any, is from five to eight in the [illegible] not to suggest to patients that their appetite is going to be immediately changed; that, for instance, they will not require breakfast. It is usually very much better for them to indulge their appetite. One patient did not omit breakfast for about two years after starting poltophagy, another was nearly a year. Abnormal frequency of meals soon ceases if patience is exercised. I recall one patient who commenced with five or six meals a day; after six weeks' treatment he had only one.

(*d*) *The absence of appetite.*—In the absence of appetite a patient must be encouraged not to eat even for two or three days. Good appetite and good digestion are generally the reward. In one case where there was an absence of appetite for periods of two, three, and four days with abstention from food there was decided hyperchlorydia at the same time.

(*e*) *Appetite and mastication.*—The question has often occurred to me whether in those commencing the practice the unaccustomed use of the muscles might not be a potent factor in producing the immediate diminution of appetite almost invariably noted.

(*f*) *Hunger.*—An interesting feature of the practice is that there is none of that uncomfortable faintness when a meal is passed over. On occasions when food is not obtainable for two or more hours over the accustomed time the appetite remains but without any discomfort; it might be described as postponed.

2. *Of taste and preferences for foods.*—An attractive feature [illegible] *eferred (the food* [illegible] st suitable. This [illegible] nd appetite even in those who are in process of regeneration. This idea is at first somewhat difficult to grasp, but it must be understood that a certain amount of interpretation of preference is necessary. For instance, a great fondness for the juice of oranges or grapes was replaced in its turn by a wish for salads. This was interpretated to show a want for vegetable salts. A solution of these salts was prepared by boiling finely divided vegetables in milk and was found to replace preferences for fruit and salad in many other cases besides the one in point. It will be convenient to deal with the question of preferences under the following heads.

(*a*) *Vegetable salts.*—Fruit, vegetables, &c., are called for in most cases. It is important to take the greatest care in obtaining the purest food and that it should be cooked in the best possible way

(*b*) *Fats.*—It is very remarkable that without exception all cases take a large amount of fat (about 100 to 150 grammes a day). This amount was taken by a patient who was losing two kilogrammes a week in weight When this appetite shows itself in a case it is better to provide, as well as the best butter, freshly separated cream, the purest form in which fat can be obtained. The quantity eaten is by no means constant, varying from day to day, while some days hardly any at all is required.

(*c*) *Starches, dextrins, sugars.*—It is noticed in some cases that the appetite for starch is replaced by a preference for dextrins, prepared either by frying bread or potatoes in butter or oil, or else thoroughly toasting bread. Dextrins, it must be remembered, are pepsinogens (Schiff). This may account for the popularity of the many patent foods now manufactured by the treatment of cereals by superheated steam. Starch itself is called for in the form of rice, bread, or potatoes. Preferences between these forms of starch curiously enough seem to be distinct.

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[1] Part I. was published in THE LANCET of May 20th, 1905, p. 1334.

(*d*) *Proteids.*—The appetite for this form of food is the least distinct (except in the case of meat). The want of proteid generally shows itself in the form of faintness or a condition of nervousness and irritability. It is certainly the least defined of the preferences (the reason possibly being that it is the tasteless ingredient of so many foods). In the case of meat, on the contrary, there is a very distinct and unmistakable want which occurs after physical strain, when the individual is not fit, or after such mental strain as travelling. A plausible explanation of this phenomenon is afforded by the work of Dr. Sloss of Brussels who showed that tetanised muscle gives off NH_3 instead of CO_2. Might not that fierce and unmistakable appetite for meat show that in consequence of merely temporary or more permanent degenerative changes there is need of proteid on the part of the muscle tissue?

(*e*) *Fluids.*—*Water:* Thirst often presents very interesting phenomena. There is a condition in which the body tends to store water; for instance, on days when an unusual amount of meat is taken there may be a well-marked thirst with an *increased intake of water. This excess water may be lost in* a few days, curiously enough accompanied by the loss (at least in one patient in whom analyses were being made) of as much as 16·5 grammes of NaCl in the day. In the early stages, thirst as well as the amount of urine, tends to be variable. In later stages no water is as a rule called for till midday, the urine gets low in amount, as in the case of Professor Chittenden.[2] The case of Professor Mendel, on the contrary,[3] resembles an early case in which the body makes use of more water. In the first instance, I take it, that economy is shown in the case of water as well as in the other ingredients of the ingesta. Another point is that the body supports a loss of water during exercise with much less urgent thirst. Another interesting observation has been made that, during the conditions of water storage, there is a decidedly increased blood pressure which diminishes when the water is lost. Might not the cause of high blood pressure be that when there is an increased quantity of water stored in the tissues, it exercises a pressure on the capillaries and so increases the blood pressure. *Alcohol:* A craving for alcohol has been known gradually to disappear during the practice of poltophagy. A preference for alcohol is shown when there is exhaustion due to over-exercise or in cold weather, but only in small quantities. The association found in the study of preferences of meat, tea, coffee, and alcohol, as concomitants of exhaustion, throws a suggestive light on the craving for stimulants. Might it not indicate a need of a degenerate body, and if this is found to be the explanation would not the treatment of such conditions be to look at them, not as a morbid manifestation of the brain, but as an indication of a physical state of degeneration? The most distinctly recognised preferences are fats, meats, vegetable salts, and starches (except in cases that prefer dextrins). Sugars in the form of sweets, pastry, bon-bons, and cakes belong to a group of preferences that, generally speaking, appear to give less subsequent satisfaction than do the stronger preferences; the end-point is not so distinct in sugars.

3. *The acquirement of poltophagy.*—In teaching suitable cases to practise this habit it is essential to bear in mind the nature of the complexity of the unconscious series of efferent and afferent impulses, movements, and secretions. In the process, psychical, ordinary, and special sensations, complex coördinated impulses to the muscles of the cheeks, the lips, the tongue, the jaw, the soft palate, and the pharynx all take a part that has been allotted to them in the long process of evolution. It must be remembered as well that the methods of the ingestion of food take the first rank in the order of the vital processes of the body. I will briefly state the means that experience has shown are most likely to be used in practice.

(*a*) *By counting the number of mastications.*—Interest has been taken in the number of movements of the jaw made in the disposal of food. This shows remarkable variations, even in the same individual; they seem to depend on many different causes. Recently I observed that a kangaroo gave over 80 mastications to a piece of bread. In a case that digested starch with difficulty it was often over 150 (see above, Starches). Mr. Gladstone, it is said, was in the habit of attributing his strength to masticating his food from 30 to 35 times. An inquiring friend of mine had the curiosity to count the number at a dinner at Cambridge from the spectators' gallery and found that it was more often from 60 to 70, so that in reality Mr. Gladstone was more poltophagic than he knew. He did not count his mastications, therein showing his habitual wisdom. I feel that it cannot be too much emphasised that there are numbers of cases in which attention to automatic acts is very decidedly harmful. So that this method, unless especially adaptable to certain cases, should be used with caution.

(*b*) *By hyper-mastication* (conscious retention of the food a long time in the mouth).—The objection to this practice is that it must interfere with the natural series of events by the continual inhibitory action of the will. It may be effected by pressing the tongue against the hard palate at its hinder part. N.B.—In the case of the digestion of starches this will cause the inhibition of the action of the ptyalin when part of the starch has been converted into dextrose.

(*c*) *Masticating until taste is absent.*—This, I take it, is *making a sensation (of which one takes other cognisance* than the agreeable one of pleasing the palate) mark the end-point of an unconscious and automatic series of events. Personally, I feel that the process of mastication and deglutition is complete in itself and so complicated that it cannot be interfered with by any arbitrary divisions of its periods by the will, except to its detriment. A useful plan that has stood the test of experience is to direct patients to commence by masticating one or two teaspoonsful of flaked wheat or else one of the many preparations of oatmeal once or twice in the day before meals. Afterwards the patients should be instructed in as much as is thought advisable of the nature of mastication, &c., and in understanding that there is only one thing which it is important for him to remember and that is not to push the food backwards against the soft palate with the tongue. Any symptom of revolt against the practice is, I believe, an indication of rest for a day or two.

4. *Considerations involving body habit.*—No one in the practice of the medical profession is without a great respect for habit and few cannot recall startling events following on too abrupt changes. It seems to make little difference whether it is a change from a bad to a good habit or *vice versâ*. The result of the exceptional opportunities that I have had of observing cases commencing and actually practising poltophagy is to have a far greater respect for what is called body habit. I recall one patient in particular who commenced the practice during hard work and who went on very well for two or three weeks, showing all the usual symptoms of improvement in health, increased power of work, &c. At the end of three weeks he lost weight and had his power of work seriously interfered with for some 18 months. In cases in which there is habitual strain or chronic disease, especially in nervous cases, as much care as possible should be taken in the early stages of the treatment. The ideal conditions would be an open-air life in the best climate available, with a possibility of perfect rest. Weight and the general condition require, of course, careful watching. The precautions to be taken with the more healthy must vary with individuals, but even in these cases care must be taken. These remarks must not be taken in any alarmist spirit but in such an early stage of a practice, which, though of the highest value for the treatment of chronic disease, is in its infancy from the point of view of practical experience, it is important to emphasise the difficulties of the treatment. As long as it is borne in mind that the practice involves a complete change of body habit it will, I feel sure, be found to present few difficulties in practice with the employment of the ordinary precautions that medical experience would suggest.

5. *Changes in the fæces.*—There is a very marked decrease in the weight of the fæces. The most conspicuous feature, however, is the absence of the ordinary fæcal odour. The form and character of the fæces may be classified as follows. (*a*) Mouldings of the sacculi of the large intestine which are of about the size of a hazel nut, smooth, and occasionally faceted. Their colour is occasionally dark green, more frequently dark brown, less frequently a lighter brown. There is a clean fracture, showing a marked dryness. They are usually covered with a thin coating of mucus. (*b*) Adherent forms of (*a*). The adherent masses are obviously formed by the adhesions of the sacculated mouldings; they

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[2] Physiological Economy in Nutrition, pp. 24-29.

[3] Op. cit., pp. 53-59.

are usually mixed with the isolated form of moulding described above. Their colour is generally lighter than (*a*) and they are usually a little less hard. (*c*) Rectal mouldings with indications of the sacculi mouldings. This form varies from that of an ordinary rectal moulding marked with wavy lines, to distinct and unmistakeable prominences showing the mouldings of the sacculi of the large intestine. The colour has a tendency to be lighter and the material to be of a softer consistency. (*d*) An ordinary unmarked rectal moulding which has a tendency to be of a lighter colour and less firm in consistency. (*e*) An unformed soft motion. The most common form is that of the isolated mouldings of the sacculi, the other forms being exceptional.

A very interesting form of evacuation is seen when there is intestinal irritation from any cause, when there is occasionally seen a series, as it were, of the forms described above, commencing with the isolated mouldings of the sacculi and ending with the soft unformed material. This might be thought to indicate that the difference in form merely shows the length of stay in the intestinal canal. In several cases the habitual length of time between ingestion and egestion (shown by taking charcoal) has been found to be about three or five days. There is not a daily evacuation in the early stages of poltophagy; there may be intervals of from one to two or as many as three or four days.

6. *Changes in the large intestine.*—All those who have had experience in the observation of subjects in the dissecting-room, &c., cannot fail to have noticed the large size of the sigmoid flexure commonly found; sometimes it is enormous. In one case in which the bowel had been large it is now very much smaller and muscular (more distinctly felt); the mouldings described above can be felt *in situ*. In this case there had been a period of trouble that was due to the accumulation of fæces in the neighbourhood of the cæcum. The question naturally occurs to one that in the event of a case having a large sigmoid flexure there might be some difficulty from atony, the bowel failing to deal with the diminished quantity of fæces. This may also explain the long intervals of time between the evacuations as noted above. The habitual state of the fæces can, I think, be an indication of the condition of the bowel, if not an indication of the state of the muscular coats, at any rate of the size of its lumen.

7. *Changes produced by poltophagy.*—The chief changes are: as regards appetite it tends to become well defined at the commencement of a meal, as well as to cease as definitely at the end. There is a marked increase of pleasure in eating. The taste for simple food becomes more pronounced, preferences are more defined (if care be taken to study and to indulge them). The fæces are lessened in amount and are odourless; on those occasions in which odour is present there is marked malaise and discomfort. The large intestine gets smaller and the fæces tend to remain a longer time in the bowel. In all cases it can be said that there is an extraordinary change in the general health, much more of the joy of living, increased power of work, and freedom from the infinitely troublesome concomitants of chronic disease. It can be safely said that practically without exception there has been a remarkable improvement.

8. *Conclusion.*—In this paper I have brought together a few observations the result of some three years' experience in what one must feel is almost a new branch of knowledge. The opinions expressed here are of the order of those ideas of so provisional a character that they are subject to frequent alterations as experience is gained, some points being strengthened, others abandoned, a state of affairs characteristic of such an inquiry. There are many points, and especially those of the nature of speculations, it would have been wiser perhaps to have omitted. They are brought forward as suggestions and hints, the most speculative of which even may prove to be useful to those who may be tempted to pursue the same line of inquiry. The conviction grows that the careful study of the psychical preferences of the body, whether degenerating, regenerating, or healthy (?), will reveal unsuspectedly important principles in the science
shows the great need of s
state of health and fitness
for instance, to compare a [illegible]
not. One of the greatest services that Professor Chittenden has rendered in his work on the economy of nutrition is to have used as many means as he could to measure the condition of the subject he was observing. He was singularly fortunate in that Dr. Anderson, holding the unique position of physiologist to a gymnasium, was able to give him his assistance. It will be obvious to those who read Dr. Anderson's able reports that he has made full use of his opportunities for observation. It is not too much to say that there is no problem among those vexed questions of sociology which does not need the quieting influence of scientific measurement. Not only the unhealthy and inefficient but the criminal, the pauper, &c., requires some sort of measurement before they are condemned to the curious means of regeneration used in our prisons and workhouses. Such work as that of Professor Chittenden points the way along which one can hope to find that the long martyrdom of man to vagueness and ignorance will give way to a scientific knowledge of regeneration and humaniculture.

I cannot terminate this paper without far too short a reference to the history of Mr. Fletcher's labours in this field of knowledge. For years he persisted in advancing his plea for investigation to almost anyone who would listen to him and it was not until he met Mr. van Someren that he had a sympathetic and intelligent hearing. The latter wrote a striking and interesting paper, which was read at the meeting of the British Medical Association, entitled "Was Luigi Cornaro Right?" The paper was afterwards read at the International Congress of Physiology at Turin. The result of their long visit to Cambridge was to excite an interest in the question at Yale, where Professor Chittenden carried out the work previously referred to. To both these gentlemen I owe a very special debt of gratitude; to Mr. Fletcher for the suggestion that has been the means of restoring my health, and to both of them for giving me the opportunity of having the experience which has enabled me to write this paper. If there is any difference of opinion on questions of practice between these gentlemen and myself I am sure that both of them have the same hope which I have—that the further investigation of these phenomena should be undertaken in their entirety by those organisations of science where alone it is possible to carry on so wide and comprehensive an inquiry to its logical conclusion.

Varese (Como), Italy.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TWO CASES OF IDIOPATHIC GENERAL CATARACT IN CHILDREN CLOSELY RELATED.

BY T. HUNTER, M.A., B.SC., M.B., CH.B. GLASG.,
CAPTAIN, I.M.S.; CIVIL SURGEON.

THESE two cases were brought together to the out patient dispensary at Fatehgarh, United Provinces, India. They were first cousins, the father of one child and the mother of the other being brother and sister. The home of one child was in Benares and that of the other in Amritsar, Punjab. They were accompanied to the dispensary by the father of the boy and the grandfather of both. These two men were strong healthy individuals. The grandfather had an incipient cataract in his left eye but no other defect or disease could be elicited on inquiry into the family histories. The people were respectable, well-to-do Hindus of the literary caste.

One of the patients was a boy, aged 22 months. He was a strong, healthy, and intelligent child, and showed no sign of rickets. He had a complete cataract in his right eye, pearly-white in appearance, and a slight haziness of the lens in the left eye. The defect in the right eye had been noticed by his friends for about one and a half months. Examination with the ophthalmoscope showed that it was mature. Both pupils reacted normally to light

The other patient wa
was a healthy, intelligen
To the naked eye the pupil [illegible]
but on examination with the ophthalmoscope glittering sectors were noted. The child was able to count fingers with this eye. The defect had been first noticed by the child's parents about 12 months prior to examination. Both

pupils reacted normally to light. The right eye was normal in appearance, emmetropic, and had a healthy fundus.

Fatehgarh, United Provinces, India.

A CASE OF SUPPURATION OF THE EYELID AND SUPRA-ORBITAL REGION FOLLOWING CAUTERISATION OF THE NASAL REGIONS.

By W. R. H. STEWART, F.R.C.S. EDIN., M.R.C.S. ENG.,
SURGEON TO THE EAR AND THROAT DEPARTMENT, GREAT NORTHERN CENTRAL HOSPITAL; CONSULTING SURGEON TO THE LONDON THROAT HOSPITAL, ETC.

THE patient, a boy, aged 16 years, consulted me on Friday, Jan. 6th, for nasal obstruction. Both inferior turbinates had their mucous membranes hypertrophied. I cauterised the right side and sent him home with instructions to keep quiet indoors. These instructions he carried out as follows. The rest of that day (Friday) he spent walking about London. On Saturday he went shopping in the morning and to a theatre in the afternoon. On Sunday he went to church in the morning and visiting in the afternoon. On Monday morning he felt pain in the eyebrow; he, however, drove to Putney for a dance that evening. On Tuesday, notwithstanding pain, he again went to the theatre. On Wednesday he returned home and went to bed. On Friday he came to me—a bitter east wind was blowing—and I found the supra-orbital region and eyelid swollen and œdematous. The following week I freely incised both places and found a large amount of pus. After this the boy did well. Never having come across a similar sequel I think it worth recording as emphasising the necessity of care, even after a simple cauterisation, more especially in bad weather.

Devonshire street, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procœmium.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.

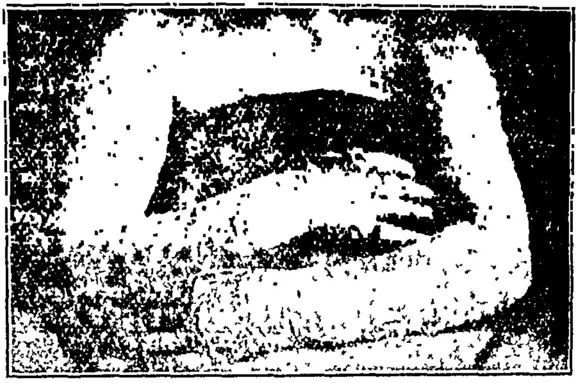
A CASE OF PSORIASIS DIFFUSA.

(Under the care of Dr. WHEELTON HIND.)

FOR the notes of the case we are indebted to Mr. Eric E. Young, house surgeon.

The patient, a female aged 18 years, was admitted to the North Staffordshire Infirmary on March 10th, 1905, under the care of Dr. Wheelton Hind, suffering from psoriasis diffusa. A year previously she had first noticed an eruption commencing on the forearms and the legs and this had rapidly spread. She attended the out-patient department for many months with little or no benefit, various drugs and applications being employed. At one time it was thought to be a case of specific disease but a long course of mercury and iodide of potassium produced no change in the condition. As she steadily got worse and the eruption continued to spread without showing any signs of disappearing she was admitted to the hospital and the first photograph shows the condition of her arms and hands. The photographs of the legs and trunk were not a success and therefore are not published. The face was not affected though the patient stated that she had had a scaly eruption on the cheeks. The nails also were normal. The whole of the arms, the forearms, the hands and fingers, the thighs, the legs, and the dorsum of the feet were covered with dense silvery scales, both the flexor and extensor surfaces being equally affected. Great pain was complained of in the hands owing to the cracking and excoriation of the skin and she could not even hold a pen within the fingers. Numerous patches of variable size were also present on the anterior and posterior aspects of the abdomen and thorax. The temperature was normal and the patient's general health did not seem to be in the least affected.

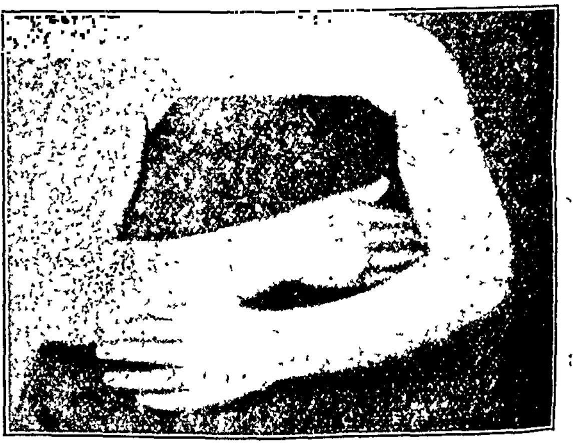
FIG. 1.



Condition of patient before treatment.

Treatment was carried out in the following manner. A daily morning bath was given for half an hour in water boiled with bran and at a temperature of 95° F. After the bath the body was rubbed with salicylic acid ointment (10 per cent.). Two grains of thyroid extract in the form of tabloids were given night and morning, and the patient was ordered a mixture containing four minims of arsenical solution and 20 grains of citrate of potassium three times a day. The dose of arsenical solution was quickly increased to ten minims and in a week the amount of the thyroid extract was increased to five grains night and morning. The second photograph, taken ten days later, shows very markedly the effects of the treatment. The patient has now left the hospital but has been ordered a course of treatment by thyroid extract and arsenic.

FIG. 2.



Condition of patient after treatment.

Remarks by Mr. YOUNG.—The foregoing case is, to my mind, of sufficient interest to place on record if only because it shows how a patient who has been attending the out-patient department of a large hospital for some time may occasionally derive much benefit from a short period of proper and efficient treatment when admitted as an in-patient. I must express my gratitude to Dr. Hind for so kindly according me his permission to publish the notes and to reproduce the photographs of the case.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

A CASE OF ANTHRAX SUCCESSFULLY TREATED WITH SCLAVO'S SERUM.

(Under the care of Mr. J. LIONEL STRETTON.)

THE patient, a female, aged 17 years, was sent to the Kidderminster Infirmary and Children's Hospital by Mr. H. L.

Miles on April 24th, suffering from a well-marked malignant pustule situated in front of the right ear. She was employed as a spinner and she stated that she remembered scratching her ear with a hairpin a week previously. Two days later she felt an irritable papule which gradually increased in size. The pustule involved the lobule of the ear, the anterior wall of the auditory canal, and the adjacent portion of the cheek. There was a considerable amount of œdema and swelling extending forwards to the malar region and downwards into the neck. Her general condition was satisfactory. Examination of the serum from some of the surrounding vesicles showed large quantities of anthrax-like bacilli. She was immediately admitted and 40 cubic centimetres of Sclavo's serum were injected above her abdomen. There were no local reaction and very little general effect, her highest temperature (100° F.) being reached in 50 hours. The swelling gradually subsided and she was discharged cured in six days.

It was intended to save some tubes of serum for cultivation experiments but this was unfortunately forgotten. On the second day some tubes were taken and were then sent to the Clinical Research Association. The report upon them was as follows: "On direct examination no anthrax bacilli could be found. Media were inoculated and cultures containing the streptococcus pyogenes, staphylococcus pyogenes albus and aureus, and some rod-shaped organisms were obtained, but no colonies of the bacillus anthracis were present."

Remarks by Mr. STRETTON.—This is the fifth case treated in this country by Sclavo's serum without operation and the fourth successful one. I have already reported a case treated by the combined method of excision and inoculation and I am still of opinion that this method ought to be adopted in all cases where it is possible freely to excise the pustule. In this case it was quite impossible and I therefore felt fully justified in using the serum alone. The case was certainly a bad one and from my experience I should have expected a fatal result. How far this was averted by the use of the serum it is impossible to say but the results so far are certainly encouraging. It is interesting to note that no bacilli were found in the serum which was taken 36 hours after the injection, although it was previously teeming with them.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Morbid Anatomy of Myasthenia Gravis.—Morbid Growth from Angora Ewe.—True Hermaphroditism in a Leghorn Fowl.—Congenital Malformation of Lower Extremities.

A MEETING of this society was held on May 16th, Mr. RICKMAN J. GODLEE, the Vice-President, being in the chair.

Dr. E. FARQUHAR BUZZARD read a paper on, and showed specimens illustrative of, the Morbid Anatomy of Myasthenia Gravis. The central and peripheral nervous system in cases of this disease had been often examined by a number of competent observers but had not shown constant changes. During the last few years attention had been drawn to the occurrence of hypertrophy or tumours of the thymus gland associated, in certain cases, with deposits of lymphoid cells in the skeletal muscles, by Weigert, Goldflam, Hun, Link, and others. Dr. Buzzard had examined post mortem five cases of myasthenia, in three of which there were no marked naked eye changes. In one case, that of a woman, aged 29 years, there was a [illegible] grammes and having the [illegible] of the normal gland in [illegible] ...sented the features of a simple hypertrophy and was noticeably free from eosinophile cells, large numbers of which are generally found in the enlarged glands of children. In another case there was found a large mass in the anterior mediastinum in the position of the [illegible] appearance. [illegible] growth and [illegible] lower part [illegible] fluid. Secti [illegible] connective tissue between which were large masses of small round cells and very few definite concentric corpuscles. The walls of the cystic portion showed similar features but contained occasional Hassall bodies. In the three other cases the thymic remains did not present any features which could be considered abnormal. The central and peripheral nervous system was carefully examined in all cases but no constant or important changes were detected. The investigation of the muscles and of the visceral organs yielded positive results of a constant kind in all five patients. The most important and characteristic of these was the presence of small foci of cells resembling lymphocytes scattered irregularly between the cells of a glandular organ. The term "lymphorrhage" might be applied to these collections both on account of the characters of the cells of which they were composed and because their general appearance was suggestive of a capillary hæmorrhage with the distinction that the cells were not red blood corpuscles. A small empty capillary vessel lined by a single layer of endothelium was sometimes observed in the neighbourhood of these lymphorrhages. The latter had been found in a smaller or larger number of the muscles of each case but, in some instances, only after a prolonged search. The ocular muscles had been most fruitful in the three cases in which they had been examined. The only other changes in the muscles were presented by a few fibres which had become swollen and rounded, more hyaline or granular in appearance, and often showing a tendency to stain a paler hue with eosin or fuchsin. Lymphorrhages were found also in the liver, the adrenal bodies, the thyroid gland, and in the cardiac muscle, and in one instance a similar condition was detected in a posterior spinal root ganglion. In the glandular organs the cellular deposits were frequently unaccompanied by any other changes, but in a few instances, where the lymphorrhage was of larger size, the neighbouring gland cells had undergone degeneration or destruction. As a result of the investigation it was evident that the thymus tumours or thymus hypertrophy were not constant characteristics and that they must not be regarded as the origin of the other changes but rather as associated phenomena of frequent occurrence and great interest. The fact that in five consecutive cases similar microscopical changes had been found in the muscles and other organs went a long way towards establishing a definite morbid anatomy for the disease. The objection to that view, which might be advanced on the ground that previous observers had failed to describe these changes, was met by the very extensive search required to establish their presence and by the well-known truth that what was not particularly looked for was frequently overlooked. The absence of blood changes and of any alteration in the general lymphatic system rendered the origin of the lymphocytic deposits very obscure and little light could be thrown on the relation of the morbid changes to the clinical features of the disease.

Dr. W. E. DE KORTÉ showed a Morbid Growth obtained from the Anus of an Angora Ewe. The Angora goat was an importation into South Africa where this disease occurred and it was remarkable that the aboriginal goat of the country, the so-called Cape goat, was practically immune to this disease. The ewe was nearly always affected, though rarely the ram was also attacked, and then the penis was said to be the site of the disease. The apparent immunity of the male might, however, be due to their relatively small number in a flock compared to the females. The disease rarely, if ever, affected animals under two years of age, the age incidence being from two to four years. Particular strains of ewes appeared to be more susceptible than others, those having a peculiar whitish appearance about the anus, roots of the horns, eyes, and nostrils being particularly liable to the disease. The disease started as a small wart which gradually spread and the whole of the anus might become involved. It soon, however, underwent ulceration and presented a raw fungating mass which bled readily and emitted a horrible fœtor and became the abode of maggots and of bush lice. A further point of interest was the incurability of the disease; all sorts of caustics, including arsenious acid, had been tried without avail and after lingering on for some months the affected animal died in a cachectic condition. So well was the mortal character of the disease recognised that careful farmers invariably cut the throats of the diseased ewes as soon as it was detected and this was done not only on humanitarian grounds but because it was generally believed to prevent the spread of the malady in the flock, the ram being supposed to convey the disease from one animal to another. He had, unfortunately, not been able to make post-mortem examinations so he could not say whether metastasis occurred. As regarded the nature of the tumour there was some difference of opinion. Dr. E. F. Bashford, to whom the specimens were submitted, had no hesitation in saying that the growth was of a granulomatous character, though he did not give any particular reason for this conclusion. On the other hand, Mr. S. G. Shattock, Dr. R. T. Hewlett, and Mr. J. H. Targett thought the growth was an alveolar sarcoma. Dr. de Korté was of opinion that there were two forms of infection, the deeper one consisting of a fibrous network containing comparatively large nucleated cells. There were no blood-vessels in this deeper portion or any ulceration. The superficial portion of the growth was evidently of an ulcerative character and was no doubt the seat of a bacterial infection, which it could hardly escape, exposed as it must be from its situation to all sorts of contamination.

Mr. SHATTOCK and Dr. C. G. SELIGMANN exhibited and described in detail True Hermaphroditism in the Fowl. The ultimate criterion of sex was the structure of the reproductive glands; an abnormal disposition of the sexual passages or misdevelopment of the external generative organs might lead to ambiguity of sex during life, but such observations did not constitute the condition of true hermaphroditism. So far from viewing hermaphroditism as a phenomenon altogether abnormal Mr. Shattock and Dr. Seligmann held it rather to represent a reversion to the primitive ancestral form, for as one descended in the scale it became fairly common as a variation (e.g., in fish) and still lower it became the normal disposition in certain forms. The presence in the human embryo of a double set of sexual passages, male and female, and the undifferentiated state of the sexual glands on their first appearance, pointed to human descent having taken place through a hermaphrodite ancestry. The bird in question was a two year-old Leghorn fowl which externally exhibited the comb and wattles with the spurs of a cock but the tail of a hen. Its sexual physiology was quite negative. The dissection showed a well-developed *left* oviduct and a short diminutive *right;* a vas deferens was present on each side. The sexual glands were convoluted on the surface and of altogether an abnormal form. The left gland consisted of inactive tubuli; serial sections of its lower end revealed two ova unconnected with any tubular structures and provided with a proper follicular wall; the vitellus of each presented an eccentric oval space answering to a germinal vesicle. The serial sections proved the structures in question to be spherical and not cross sections of distended tubes, none of which were anywhere present. The sexual gland of the right side was the smaller and consisted of inactive tubuli like the left, but at one spot a group of tubuli was met with in which active cell proliferation and spermatogenesis were in progress, spermatozoa being present in the more central part of one of the tubuli. The glands were thus, taken together, bisexual; one contained ova, the other spermatozoa, and on the left side (on which ova were present) the oviduct was normal; each gland was furnished with a vas deferens Potentially, therefore, the bird was capable of performing to the full extent both male and female functions. Mr. Shattock and Dr. Seligmann had been led from these and other data to hold that the not uncommon and well-known change of plumage from female to male and more rarely from male to female, possibly indicated a bisexual character not necessarily of the generative glands and ducts but of the glands. They had clear evidence, from having such birds under observation, that where the duck after ceasing to lay assumed the male plumage its sexual proclivities underwent a corresponding change and it would "tread" the female bird. For the production of external male characters the experiments of Mr. Shattock and Dr. Seligmann had shown that the testicular tissue need not be in any way connected with a duct, and, moreover, that a very small piece would suffice to bring about the resul[illegible] I [illegible] lumage Mr Shattock and Dr. [illegible] material to ascertain whether [illegible] ıcing a male internal secretion [illegible] bird, either in the proper sc[illegible]

Mr. T. W. P. LAWRENCE said that tru[illegible] did exist in the human race and about [illegible] had been recorded. The organs from one of these cases were in University College Museum, a testicle on the one side and an ovary on the other. He mentioned another case which had a testicle in the right half of the scrotum and an ovary on the left side. She menstruated from 17 years old till the age of 43 years. She performed the functions of a female till the age of 36 years when she acquired male characteristics, after which she performed the functions of a male.

Mr. HENRY RUNDLE communicated a case (and the preparation and photographs were exhibited) of an Asymmetrical Congenital Malformation of the Lower Extremities. The patient was a male, aged ten years, first seen in 1884, an illegitimate child, well developed in all respects but for the remarkable deformity of the lower limbs. His legs were so short that when he stood erect with the arms dependent the tips of his fingers nearly touched the ground. The weight of the body was supported mainly by the right leg, the length of which was nine and a quarter inches, that of the left leg being 14½ inches. This difference in the length of the limb was partially compensated by the obliquity of the pelvis which was tilted to the right side. The patient died from pulmonary tuberculosis in the Royal Portsmouth Hospital in June, 1904, when the following condition of the limbs was found. In the left extremity the tibia and the fibula were of the full length and presented no marked abnormality except that both were slightly curved forwards and that the head of the tibia was unnaturally flat from before backwards. Articulating with the head of the tibia was an osseous element of triangular shape, three and a half inches long, which represented an ill-developed femur. On the right side the skeleton of the limb was considerably more misshapen and much the shorter of the two. measuring 13 inches as compared with 18 inches on the left. The fibula was five and a half inches long and except for its lower end was uniformly diminutive. The lower end had its normal relations and was of full size; the upper end did not articulate with the other bone of the leg. The shaft of the tibia a short distance from its lower end expanded into a broad triangular process, each of the upper angles of which was enlarged in a manner suggestive of an articular extremity. The outer of these, which was about three inches above the unattached upper end of the fibula, probably represented a greatly flattened head, whilst the inner was possibly an outgrowth of bone into the adductor muscles. The upper border of the triangular expansion was concave and bridged across by a ligamentous structure, with which an undersized patella was connected.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A meeting of this association was held on May 18th at the rooms of the Medical Society of London, Dr. R. Percy Smith, the President, being in the chair.—Prior to the discussion of papers Dr. C. A. Mercier drew the attention of the association to the remarkable state of things existing in the Youghal Asylum, Cork, and proposed the following motion:—

> This association is informed that the auxiliary asylum at Youghal is being carried on under the following conditions The staff consists, in addition to eight nuns, of eight male and five female attendants to 229 male and 149 female patients. For this population of 378 patients there is no resident physician. (In England no more than 50 can be detained in an institution without a resident medical officer.) The superintendent of the Cork District Asylum is held by the Lunacy [illegible] utenant responsible for the administration [illegible] d for the proper treatment of the patients [illegible] regulation of the committee of management he is [illegible] nor to see the patients there [illegible] of management of the Cork [illegible] Inspectors of Lunatics and [illegible] Lieutenant to be illegal. This association expresses its astonishment and profound regret that treatment of the insane so retrograde and so objectionable in character should be possible and trusts that steps will be taken at once by the proper authorities to enforce the law and to terminate so deplorable a mode of treatment of insane persons

The motion was seconded by Dr. G. Bower.—Dr. W. R. Dawson (Dublin) confirmed the particulars stated in the motion and read extracts from reports of Parliament when the subject was discussed there.—The motion was unanimously carried. —Dr. W. M. A. Smith opened a discussion on the Use of Hypnotic Drugs in the Treatment of Insomnia.—Dr. Robert Jones was of opinion that arterio-sclerosis was a very important condition in those cases in which great mental distress prevented sleep and he inclined to the belief that the effect of alcohol, which was used in asylums with a good deal of circumspection, was immediately to dilate the arteries in the cerebral cortex and to help sleep in that way. He had repeatedly used alcohol merely as a hypnotic and one extremely restless patient, who had not been taking his food was fed with a tube and given half a pint of stout twice a day with great benefit He regarded sulphonal as a deadly poison to the neurons and believed that he had seen incurability follow the use of it There was much to be said in favour of chemical restraint and he had found great benefit follow ten grains of calomel He referred to the question of fatigue and to Sir William Gowers's article on the subject He felt certain that he had seen cases in asylum in which the thoughtful administration of a hypnotic in puerperal cases had avoided insanity and in that he had the support of Dr G F Blandford's article in Quain's "Dictionary of Medicine"—Dr Blandford reminded the meeting that the subject was debated before the association not long ago and he had not altered his views since then There was much truth in what Dr H Rayner said on that occasion but *the view was carried too far All recognised the importance* of regulating the digestive organs and giving medicines accordingly but he was certain that he had seen cases in which the giving of narcotic drugs had prevented the patient drifting into insanity and he was in the habit of seeing cases at an earlier stage than those in asylums A restless patient who was suddenly put into a comfortable padded room in an asylum was very likely to go to sleep and he would not dream of giving drugs to such a one He confirmed Dr Jones's remarks about a large dose of calomel and he, too, looked upon sulphonal as exploded Hyoscine was not now mentioned much and appeared to have gone out of fashion It seemed to be a dangerous medicine but he would be glad to hear the *experience* of others on the point —Dr Fletcher Beach thought that much depended on the amount of sulphonal given Doubtless larger doses of it were given in asylums than for the treatment of nerve cases He had never administered more than 15 grains at the bedside and its use in cases verging upon insanity had been very beneficial —Dr Mercier was not sure that there had not been a wave of therapeutic Nihilism in the specialty Patients were sent to asylums in order to be detained under care and treatment, yet as soon as they arrived there the cry was that they must not be restrained If they were to be treated by the open door why should not that be done outside? He saw no objection to chemical *restraint* and *related cases* in which sudden breakdown had been treated with narcotics and been followed by immediate cure He also laid great stress upon a full stomach as a powerful aid to sleep —Dr Bedford Pierce defended sulphonal as he had found it a good friend, though he agreed that hypnotics should be very sparingly used —Dr W C S Clapham deprecated giving calomel to patients who had suffered from typhoid fever, and Dr E Kingdon said a good word for hyoscine $\frac{1}{75}$th of a grain *hypodermically —Dr F D* Savill advocated the taking of the arterial tension before administering hypnotics as most of them affected the arteries in some way —Dr Harry Corner believed that 90 per cent of the cases could be treated without hypnotics by mechanical and food aids, though much depended on the nurse He rarely gave hypnotics without regretting it —The President said that he had not seen any disagreeable after effects from hypnotics but he had known people complain of extreme weariness and exhaustion after veronal Dr Jones had referred to sulphonal as a deadly poison to the neurons but all the drugs which had been mentioned were deadly poisons to something He thought sulphonal should not be relegated entirely to the scrap *heap To some practitioners chloral and* morphine seemed about the only drugs of that class known —Dr Smith replied —Mr G T Hine, F R I B A (an honorary member of the association), exhibited and described the plans of the new London County Council asylum projected at Long Grove, near Epsom —In the evening the members dined together at the Café Monico ——A meeting of the Northern and Midland division of this society was held at the Retreat, York, on May 4th, Dr T W Macdowall *of Morpeth being* in the chair —*Dr H J* Mackenzie of York described a case of Neurasthenia followed by Melancholia The patient was a man aged 53 years who had suffered from indigestion for years and from neurasthenia for about five months Treatment and dieting had not benefited his indigestion and he had been steadily losing flesh One sister had been insane On admission to the Retreat he was very thin, weighing just under eight stones though a tall man He was much depressed and had a settled belief *that he could never be better* and that his stomach was dead and that it was useless to eat The sight or even the mention of food would bring on an attack of hysterical screaming He had soon to be fed forcibly for a few days and then he took food again himself, but he did not gain weight and his mental state grew worse He developed a hæmatoma auris which suppurated and had to be opened freely, but in the end it healed well and with little deformity At last he refused food entirely and had to be fed forcibly four times a day for about four months Under this treatment he improved physically, but it was not till he had gained about 20 pounds in weight that any marked mental improvement set in He improved steadily from this time and went home well after seven and a half months' residence He has remained well since

Dr [illegible]
in a [illegible]
and [illegible]
with [illegible]
exhibited all the symptoms of acute mania, were coincident with a menstrual period and each was succeeded by a lucid interval of six weeks The number of white blood corpuscles per cubic millimetre of blood was 16,000 at the beginning of the attack, rose to 24 000 at the height of the attack, and on recovery fell to 9000 The case was complicated with malignant disease, for which both breasts were removed in 1902 There has been a recurrence of this, which is being treated with x rays —Dr Thomas Johnstone of Leeds read a paper on Dementia Præcox He thought that the best translation of dementia præcox was *premature dementia, though it was usually* translated as adolescent insanity The mental symptoms varied according to the age at onset and the previous education and mental abilities In the present state of knowledge it was not always possible to tell whether a patient with adolescent insanity or dementia præcox would become rapidly worse or would make an apparent recovery Many cases of dementia præcox which apparently recovered relapsed late in life and showed symptoms of katatonic excitement or stupor or these conditions alternating and were called by some resistive melancholia The prognosis was very grave —Dr William Francis Menzies of Cheddleton Asylum, Leek, read a paper on Some Points connected with Tuberculosis in *Asylums* He explained that the *asylum death rate from* tuberculosis was not falling in ratio to that of the general population and claimed that a considerable percentage of cases of higher grade amentia and primary adult insanity were precipitated by the tuberculous infection These early cases were the source of most asylum tubercle and acted as foci from which others became infected In conclusion, he discussed the diagnosis and treatment of the disease —Dr Bedford Pierce gave details of two cases of Atonic Dilatation of the Stomach *successfully treated by* Stendall's method which principally consists in the continuous application of heat to the abdomen Abundant ordinary food is given at regular intervals Drugs are not administered A rapid gain in weight with contraction of the stomach was followed by recovery

EPIDEMIOLOGICAL SOCIETY.—At a meeting held on May 19th Dr B A Whitelegge, the President, being in the chair, Dr Arthur Ransome read a paper on the Significance of Phthisis Death rates, illustrated by charts showing those for England and Wales since 1838, for Scotland since 1871 for Ireland since 1861, and for shorter *periods in Liverpool* and Manchester the deaths *of males* and females being shown separately Until 1874 certification of the cause of death was not compulsory, but notwithstanding much admitted irregularity he believed that the returns as regards phthisis were approximately correct Phthisis was communicable but these curves showed that it was also endemic carrying off like percentages in successive years in each locality It also had a tendency to periodic waves something like the epidemics of the exanthemata at *intervals of about a dozen years*, and while *on the* whole falling in England and Scotland but rising in Ireland, the undulations in the curves for the two sexes corresponded in the great majority of instances He had been quite unable, even in the case of a single community as that of Liverpool, to trace any connexion between the mortality and the "weather" temperature or rainfall In England the mortality had fallen since 1838 from 3800 to 1100 per 1,000,000, or over 0 70 per cent In 1894, judging from the previous rate *of decline, he had predicted the practical* extinction in another 30 years, but these hopes were not likely to be fulfilled, the rate of decline having suffered to get all the water removed from the ends of the fingers and so they did not fit closely. The gloves should be cleansed, some powdered talc should be dusted into them, and then they should be sterilised in a steam steriliser. When taken out they were quite dry and slipped on easily. The talc also prevented accumulation of secretion in the fingers, so that if the glove should be accidentally pricked no fluid escaped. Of course, the hands were as carefully sterilised before putting on the gloves as if no gloves were used. In putting on the gloves the fingers should not be stroked with the naked hand, but a piece of sterilised gauze used for the purpose. As regards expense, a pair of gloves would last for several months. Mr. Campbell mentioned as other sources of contamination hairs and scales from the surgeon's and his assistants' heads and particles ejected from the mouth in speaking. Contamination in this way could be almost entirely avoided by taking care that the heads did not come in contact and that silence was preserved.—Dr. A. G. Robb then read a paper on Small-pox in Belfast, in which he gave a very full account of the recent epidemic in that city. Altogether there were 178 cases and nine deaths, giving a total death-rate of 5·05 per cent.

Harveian Society of London.—A meeting of this society was held on May 11th, Mr. C. B. Lockwood, the President, being in the chair.—Dr. Hugh Walsham read a paper on the Use of Roentgen Rays in the Diagnosis of Diseases of the Chest, illustrating his remarks by 63 lantern pictures. He first pointed out that the airless and unexpanded lung was as opaque to the x rays as were the other soft tissues of the body. He then proceeded to discuss the methods of examining the chest with the rays and gave a short description of the retro-sternal and retro-cardiac triangles seen by this method. He next passed on to the shadows of the normal chest and showed how the heart differed in its position with relation to age. Aortic aneurysm, fluid in the pleura, pneumothorax, and pyopneumothorax were then successively considered. The diagnosis of pulmonary tuberculosis, both early and advanced, by the x rays was illustrated by slides of this condition. Cavitation was then alluded to, Dr. Walsham maintaining that a small cavity could be detected by the x rays that would be missed by the ordinary methods of examination. Pulmonary emphysema and fibroid phthisis were also shortly discussed.—Dr. C. Theodore Williams referred to the difficulty of determining between aneurysm and new growth. and to the question of detecting early pulmonary tuberculosis.—Dr. E. Clifford Beale said that the movements of the diaphragm as seen with the screen were very important to note. The diaphragm as a rule appeared to move equally without any change of shape but in certain morbid conditions of one side the excursions of the diaphragm on that side were often found to be less than on the healthy side. He had never succeeded in seeing the action of the diaphragm in cases of hiccough. The aortic bulging seen by the screen was always noted to be freely pulsating and might not of necessity be a morbid condition at all. In a suspected case of early tuberculous disease of the lung he had seen by the screen that the bony framework of the chest was exceedingly narrow, although the patient had broad and well-developed shoulders, and in several of the slides shown that evening he had been struck by the manner in which the contraction of the upper part of the chest in tuberculous patients was demonstrated in cases where external appearances indicated no such contraction.—Dr. D. B. Lees asked whether radiographers claimed to be able to demonstrate the presence of disease at the apex of one lung in a very early stage. So far as he had seen radiography was unable to prove incipient apical tuberculosis until its presence was clearly demonstrable by careful light percussion. He concluded by referring to the case of an infant ten months old in which the diagnosis of the existence of a diaphragmatic hernia was confirmed by an x-ray examination.—Mr. R. Higham Cooper agreed that limitation of diaphragmatic movement was the earliest radioscopic sign in tuberculosis and had found this in several cases in which the physician had failed to make a diagnosis by ordinary methods; at the same time it sometimes happened that there was no x ray evidence to be found even when diagnosis was fairly clear by percussion and auscultation. It had once happened that a girl about 15 years of age whom he was examining with the fluorescent screen had an attack of hiccough. His attention was called to the hiccoughs by observing a curious sudden flattening of the dome of the diaphragm on the left side which he found occurred with each hiccough. It was curious that there was no alteration on the right side. There was no visceral disease, the girl being under examination for supposed foreign body. He had never observed radioscopically another case of hiccough.—Dr. H. W. G. Mackenzie said that he had at present a patient in St. Thomas's Hospital suffering from a large aneurysm of the arch of the aorta in whom in 1898—i.e., seven years ago—the diagnosis of aneurysm had been made by means of the x rays. He formerly thought that the diagnosis of aneurysm was too frequently and too readily made on screen examination but subsequent history had so often confirmed the correctness of the diagnosis that he now believed the x rays to be of great value in doubtful cases. Where the ordinary physical organs did not give evidence of tubercle his experience had been that the x rays failed to do so also.

Society for the Study of Disease in Children.—A meeting of this society was held on May 5th, Dr. George Carpenter being in the chair.—Mr. Sydney Stephenson showed a girl, aged four years, with Silver Deposit on the Cornea due to the application of solid nitrate of silver to an ulcer.—Dr. F. J. Poynton showed five children illustrating Combined Aortic and Mitral Disease. In one with a double mitral murmur a previously well-marked aortic diastolic murmur had completely disappeared. In another the aortic murmur had almost disappeared.—Dr. Theodore Fisher (Bristol) said that in his opinion harsh murmurs ascribed to aortic disease were sometimes due to other causes.—Mr. George Pernet showed a boy, aged eight years, with Generalised Alopecia.—Mr. Ernest Clarke said that he knew of a case in which high-frequency currents had proved beneficial.—Mr. Clarke showed a child with Bilateral Coloboma of the Iris, in the down and out instead of the usual directly downward position. There was no notch in the lens or the lids. Nystagmus was present, probably due to a very thin choroid and great refractive defect. He attributed the condition to intra-uterine inflammation rather than to arrested development in the closure of the fissure.—Dr. Edmund Cautley showed a child, aged 12 months, with Bilateral Periostitis of the Femur. The child had been brought up on a diet conducive to scurvy. She came under notice at ten months of age for swelling of the right knee and thigh of one month's duration and a similar condition of the left side for two weeks. She was anæmic, rachitic, wasted, feverish, and had two teeth but no discolouration of the gums. There were much swelling, pain, and tenderness. The right side diminished but at first the left leg became worse. An exploratory incision above the knee yielded no pus. The temperature subsided in a few days and recovery was steady and uneventful; the child gained 26 ounces in weight in four weeks. There was still considerable thickening of the lower half of each femur. He regarded the case as syphilitic on account of the symmetry, the course, the result of the exploratory incision, and the absence of signs of scurvy. There was almost certainly some epiphysitis as well. The mother had had one miscarriage.—Dr. F. Parkes Weber showed a girl, aged 11 years, with Wasting of the Left Leg and Right Hand and Forearm, beginning insidiously a year ago. Sensation and electrical response were deficient in the affected parts and there was reaction of degeneration in the muscles of the thenar eminence. He regarded the condition as a dystrophy of the peroneal type. There was no family history of the disease.—Dr. Cautley agreed that it was a form of peroneal atrophy and drew attention to the "claw-like" condition of the hand, the wasting of the vastus internus, and the presence of pes cavus. He had shown a case before the society three years ago which had begun at the exceptionally early age of 18 months. As in the case of Dr. Weber's patient there was no family history but the child had had measles. He thought that the sporadic cases were perhaps different in their pathology from the hereditary ones and often secondary to specific fevers.—Dr. Carpenter showed cases of Congenital Deformity of the Hands in several members of the same family, chiefly absence of the nails and the terminal phalanges of the little fingers. Two children, their mother, an aunt, an uncle, and some of his children were affected. The mother's father had two thumbs on each hand and his brother had webbed fingers.—Dr. Carpenter and Mr. J. P. Lockhart Mummery showed a specimen of Congenital

Hypertrophic Stenosis of the Pylorus treated by pyloroplasty The patient, who was an infant, aged three months, died on the morning following the operation —Dr L W Marshall (Nottingham) showed a specimen of Multiple Papillomata of the Larynx *from a boy, aged four years* —Dr J Porter Parkinson showed a girl aged seven years with Multiple Gummata and a baby four months old with Bilateral Birth Palsy of the Arms —Mr Hunter F [illegible]od showed a case of Primary Tuberculous Disease of the Middle Ear with secondary involvement of the cervical glands

EDINBURGH OBSTETRICAL SOCIETY —A meeting of this society was held on May 17th Dr N T Brewis the President occupying the chair —Sir J Halliday Croom read a paper on Some Curiosities of Curetting After discussing in detail some of the many theories of the primary etiology of cancer Sir Halliday Croom laid special emphasis on the extreme value of early diagnosis in malignant cases The only comparatively certain aid to this early diagnosis of cancer was got from the microscopic examination of the débris removed by the curette A soft friable enlargement *or growth of the cervix bleeding readily on examination* was not sufficient to diagnose cancer He knew of such cases which were now quite well years after the examination In sending specimens to a microscopist a sufficient amount should always be forwarded and always be accompanied with a short account of the clinical facts Even in cases where this rule had been observed errors might arise, as Sir Halliday *Croom* illustrated by some cases in [illegible] y seemed to refute the [illegible]opist Though such cases [illegible]ent to confirm still more [illegible]asing all diagnosis on the [illegible] *microscopically As to the* accidents which might follow curetting, Sir Halliday Croom cited a case in which stenosis of the os and retention of the menses for two periods simulating *pregnancy, had occurred in* a young married woman whom he had curetted after an incomplete abortion An illustration of perforation of the fundus by the curette was given in the history of a case where in *curetting after an abortion the practitioner had perforated* the fundus When seen in consultation there was a loop of intestine prolapsed in the vagina Though such cases are rare in this country many cases have been recorded, as Harvey s case quoted by Kelly in which six feet of intestine was cut off In Hessert s case the bowel was injured during curettage to such an extent that *resection of four feet was performed with a fatal result* The safest instrument was the finger for removing tissue after an abortion or labour Two cases were related showing the disappointments of curettage in which Sir Halliday Croom had operated for endometritis in the hope of rendering pregnancy more probable but *in each case* the results were opposite to those desired as the patients never *menstruated again and atrophic changes supervened* —Dr James Ritchie, Dr F W N Haultain Dr J W Ballantyne, Dr H M Church, Dr J Haig Ferguson Dr M Dewar, Dr W Fordyce, Dr J Lamond Lackie and the President made remarks on the paper, and Sir Halliday Croom replied

PATHOLOGICAL SOCIETY OF MANCHESTER —A [illegible] held on May 10th Dr A Donald [illegible]e chair —Sir William J Sinclair [illegible] the Association of Flexion of the *Uterus with Erosion and Cancer* —The President showed a Macerated Fœtus which had been retained in the abdomen for nearly four years The case was diagnosed as one of extra[illegible]œtus in Septe[illegible]hat time [illegible] The first of the [illegible]on went on to term and the child was born alive The first four months of the next pregnancy were uneventful, then she began to have severe abdominal pain and the temperature and pulse ran up Abdominal section was performed and the macerated fœtus was removed The patient made a good recovery but miscarried on the tenth day The macerated fœtus lay in a sac which on dissection was found to be one horn of a bicornate uterus The sac was inflamed and adherent to bowel and omentum at one point —Mr W P Montgomery showed an Embryoma removed *from the rectum* —Mr C Roberts showed and described a Retroperitoneal Multilocular Cyst Adenoma —Other preparations were exhibited as Card Specimens

Reviews and Notices of Books.

A Modern Utopia By H G WELLS In one volume London Chapman and Hall, Limited 1905 Price *7s 6d*

Mr Wells has written a fascinating book It is clever almost uncannily clever so beautifully written that the learning of the many and valuable lessons which the author has to teach becomes a veritable pleasure, and so suggestive that the reviewer has difficulty in keeping what he has to say strictly to the book, the temptation to digress upon a dozen contentious themes being of the strongest Mr Wells s A Modern Utopia differs from previous attempts to formulate an ideal world scheme by being kinetic and not static, to borrow his own phrase Previous Utopias have all imagined a finite and perfect condition of things which being reached no one would or could desire to improve upon All abuses *in these imaginary realms* are done away with legislation becomes unnecessary because there is neither crime nor incentive to crime kings are unnecessary because complete *order* prevails *among the people*, and wars are unnecessary because there are no national grievances Previous Utopias have, in short, amounted to the description of a sort of splendid and stagnant anarchy *in which laws* physical and moral are suspended, there being no further use for them Mr Wells s Utopia is alive his world state has developed out of existent conditions that we can all observe (the majority of us do not observe them at all because the majority of us are shamefully dull) and it should continue to develop on the lines laid down into something better No limit can be set to the possible improvements of a Utopia of the kinetic sort because as man puts behind him more and more solid knowledge his possible grip of what lies before him becomes more and more comprehensive *The acquisition of learning* by the world implies a fitness to acquire more learning and Mr Wells s *fantasy founded* on this truism, gains its marked realism thereby

In previous Utopias no notice has ever been taken of the possibilities *for development of the* human race that are offered by the increased use of mechanical contrivances and it is because Mr Wells does not admit of any limit *to the advantages that we may derive from* future discovery in natural science—using the words natural science in their most comprehensive sense—*that he has been able to write so extremely hopeful* a book For Mr Wells s belief in the possibilities of our world—or another world physically similar to ours, inhabited by persons of like *frailties and capacities to ourselves*—is gloriously hopeful Previous Utopias have always considered man as a rather degenerate animal, more or less anchored to the place where he was *born* and *condemned* to protect himself by his own puny muscular effort against the troubles of his environment For such people the simplest *method of framing a scheme for* ideal happiness would be to remove the chances of physical ill both from within and from without—Utopians should be a *chosen people protected elaborately from* all stress and misery The Utopia was consequently a carefully selected spot, a fertile and unknown valley or a settlement surrounded by an impregnable *rampart* Here wild beasts noxious insects, storms and tempests were unknown and into this place non Utopian persons could not penetrate Within such a city *of refuge by the operation of a* conjoint determination not to be criminal or dirty, ideal happiness should reign This was all very well when for example ten *miles an hour* was *considered* quick *travelling* and artillery had not made walls appear ridiculous *for defensive purposes*, but nowadays such a secluded retreat cannot be made to appear real or reasonable. All the world is nowadays open to all the world—with considerable difficulties, it is true, to be overcome. These difficulties in real life are being gradually removed, while Mr. Wells in his romance has simply and completely removed them. His Utopia is a planet similar to the earth in every respect upon which a population, which started similar in every respect to our own, has undergone development along sane and orderly lines, has placed a premium upon scientific and imaginative work, and has consequently succeeded to an empire over physical and natural potentialities which we on earth are without.

Throughout the book Mr. Wells makes the sanguine and, as we like to think it, sound assumption that man is a good fellow of generous instincts, capable of better things, and sorely hampered and overladen by the foolishness of bygone times. He imagines a condition of things when a train, itself a sort of moving city, would run round a world of our size in about ten days at an average speed of something over 200 miles an hour, tunnels, of course, being constructed in many places under the sea. Naturally, the necessity for little states and, comparatively speaking, little empires disappears. The whole population of the world is fluid instead of being so many sticky lumps adherent to certain localities. The inhabitants of Mr. Wells's world-state all talk the same language, there are no tariffs, no rivalries, no obstructions whatever to intercommunication; labour flows from the region where it is not wanted to the region where it is wanted, the State stands behind the worker to provide him with secure employment, and the splendid economy which results from a fusion of interests working according to design is achieved. All this the author pictures in such convincing language that we are almost compelled to ask why we cannot at once drop the existing condition of things and run our world on Mr. Wells's plan. It is of course his art that makes this proceeding appear really possible, for he points out carefully that the position in "A Modern Utopia" has only been achieved after generations of intelligent evolution. But his optimism has been able to believe that man, if he gave proper play to his instincts and impulses, would abolish by common consent many of the disorderly and vexatious conditions of life that find their ultimate expression in wars by land and sea, in deaths from starvation or hideous preventable disease, in divorce court revelations,—and so on. How this reformation of our sinful and ataxic old planet might be brought about and what the results would be to different classes of the population make up the bulk of the book.

How would such a world be ruled? Mr. Wells would have it ruled by a class which, out of compliment to the Japanese, he names the Samurai, who shall be the "voluntary nobility" of the world-state, their election being due simply to their own self-mastery and ability. The Samurai are a class who deny themselves certain luxuries and who show themselves to possess certain intellectual equipment. They are neither ascetics nor fanatics; they exhibit their powers of self-control by abstinence from sensual and frivolous pleasure, but there is none of the foolish abjurations which in the world's history have often made "holy man" and "silly ass" interchangeable terms. In return for their reasonable self-denial and their fixed resolve to attain to higher things and to look on the nobler side of life the temporal power of Utopia is vested in them. The children of such persons, being educated in the same atmosphere, would naturally tend to belong to the Samurai class, but there is nothing hereditary about the caste, Mr. Wells holding, in refreshing contradistinction both to reckless evolutionists and convinced reactionaries, that the operations of heredity are of too uncertain and complicated a kind to be depended upon for the breeding of a ruling class. Medical men are placed by Mr. Wells among the Samurai as a tribute to the nature of their work. Their functions are, of course, in his imaginary world-state, largely preventive. The abolition of poverty and haunting anxiety has removed enormous classes of diseases or complications of disease. General and sensible education has aided in simplifying pathology. A common language and free intercourse between all parts of the world have enabled epidemiology to stamp out the scourges that now decimate many peoples; and the medical man remains as the guardian of the health of the world-state, as adviser of the sanitary measures to be taken in the future developments of an immense community that is resolved never to be standing still, and as the wise and reasonable friend of a wise and reasonable folk.

We cordially recommend "A Modern Utopia" to all our readers. It is not quite an easy book to follow for several reasons, among which must be counted the absence of didacticism. This makes it necessary for the reader to do some of the thinking instead of contenting himself with assenting to or dissenting from cock-sure statements. Well, the book is thoroughly worth thinking about.

The Treatment of Diseases of the Eye. By Dr. VICTOR HANKE, First Assistant in the University Eye Clinic of Hofrath Professor E. Fuchs in Vienna. Translated by J. HERBERT PARSONS, B.S. Lond., F.R.C.S. Eng., and GEORGE COATS, M.D. Glasg., F.R.C.S. Eng. London: Hodder and Stoughton. 1905. Pp. 222. Price 3*s.* 6*d.* net.

WE are somewhat at a loss to understand why Mr. Parsons and Dr. Coats have translated this work. Not that we mean to disparage it, as the author might reasonably consider that it would be useful to those attending his demonstrations and would be a guide and a help to those who were students in Professor Fuchs's wards. It is a very fair *résumé* of the means of diagnosis and treatment ordinarily pursued in an ophthalmic hospital, putting aside operative proceedings and taking for granted that the student is familiar with optics, subjects that usually occupy considerable space in works of this kind. But when this has been said we fail to see that it offers any marked features of superiority to such treatises as those of Swanzy, Nettleship, and Jessop in England and several that have been published in America. The reader will find the names of a considerable number of new remedies, such as airol, dionin, largin, sodium sozoiodol, argentamin, ichthargan, xeroform, iodopin, europhen, gallicin, itrol, hetol, and others, but they are not very warmly recommended. Experience is required to recognise in what particular form of disease each may be useful and in the meantime delay may be occasioned by their procurement and application, thus neutralising any advantage they may possess over such well-approved remedies as alum, silver nitrate, and cocaine. In like manner the suggestions for establishing the diagnosis of certain forms of disease are not always given in such a way as to create much confidence; let us take, for example, diphtheria of the conjunctiva. The author states that the diagnosis of this condition is necessary but extremely difficult "since only a complete bacteriological examination with smears, cultures, and animal inoculations gives a conclusive result." The discovery of diphtheria antitoxic serum facilitated the differential diagnosis, though it is added "only true diphtheritic inflammations, though not all such, are cured speedily and with certainty." The parenthetic remark "though not all such" seems to introduce an element of uncertainty which is not very satisfactory either to the surgeon or to the patient. We are told that as soon as a membranous or a diphtheritic inflammation is perceived a bacteriological examination should be undertaken, an exact clinical history should be ascertained, and examination should be made of the genitals, the nose, the mouth, and the throat; but here again doubts, after taking all this trouble, obtrude themselves, for it is said in the very next sentence that "the presence of rods like the diphtheria bacillus is not diagnostic, since the xerosis or pseudo-diphtheria bacillus behaves similarly both to stains and in cultures and can only be distinguished by its virulence in animals." It seems that this proceeding might be resorted to in the first instance with advantage in the matter of time. In a final sentence the author states not very clearly that "the absence of bacilli, however, and the presence of cocci—pneumo-, gono-, staphylo-cocci—decide the diagnosis and the treatment to be chosen." For injections may be employed the three strengths of Behring's serum, the Vienna serum, or Merck's serum, containing from 600 to 1000 units in two cubic centimetres, either of which may be injected into the skin of the eyelid even of a child without danger. The injections are to be repeated daily in the same quantity and strength as long as membranes and infiltrates are still visible. It is noticeable that corneal complications are not influenced to any great extent by the serum therapy but must be treated according to the ordinary rules—namely, warm compresses of atropin. No reference is made to chlorine water which was at one time strongly recommended in diphtheritic affections of the eye. The cleansing of the conjunctival sac is ordered to be effected by a solution of 1 in 5000 of potassium permanganate, Kalt's irrigation with 1 in 4000 hydrargyri perchloride or chinosol, 2 to 10 per cent. protargol, and 10 per cent. itrol. Protective dressing should be applied to the sound eye if only one be affected. The work, as a whole, is sensibly written and is well up to date.

Atlas of Human Anatomy. By WERNER SPALTEHOLZ, Extraordinary Professor of Anatomy in the University and Custodian of the Anatomical Museum at Leipsic. Edited and translated from the Third German Edition by LEWELLYS F. BARKER, M.B. Toronto, Professor of Anatomy, University of Chicago. With a Preface by FRANKLIN P. MALL, Professor of Anatomy in the Johns Hopkins University, Baltimore. In three vols. With 935 illustrations, mostly in colours. London and Philadelphia: J. B. Lippincott Company. Small quarto, pp. 872. Cloth, £2 2*s*. net per set.

THERE is no doubt that an atlas such as this is a considerable assistance to the student of anatomy if it is used with proper discretion, but the ever present danger, which is fully recognised by all teachers of the subject, is that the presence of these pictorial aids breeds a neglect of dissection and dissecting-room study. We confess that we experience a feeling of regret when we see anatomical atlases in the hands of students in their earlier years, knowing by experience what to expect. To the more advanced student and those who have quitted the dissecting room these remarks are not intended to apply. Anatomy is a subject which, if the knowledge is to persist and to lead to practical results in the advance of medicine and surgery, must be learned directly from the body, and no models or atlases, however excellent they may be, can replace actual dissection.

As a work of art the atlas of Professor Spalteholz is deserving of very great praise and the amount of labour entailed in its production can be gauged when we learn that eight years of necessity elapsed between the issue of the first and the third or final section of the book. Practically all the drawings are from original preparations but at the same time are, so to speak, composite, the mean arrangement of structures being depicted. In all cases the right side of the body has been selected for illustration. We understand that most of the dissections were prepared by Professor Spalteholz himself. The original drawings are mainly from the hand of a well-known anatomical artist—Bruno Héroux.

The first volume, which is somewhat slender and consists of 236 pages, is entirely devoted to illustrations of the bones, the joints, and the ligaments. The illustrations of these structures do not appreciably differ from those with which English students are familiar and really convey an excellent idea of the actual structure. The plan of depicting the smaller bones of the skull surrounded by outline drawings of bones with which they articulate is excellent. Muscular attachments are marked in red outlines after the style made familiar to us by Holden and probably originated by Mr. Cornelius Hanbury. It is most unfortunate that in printing the muscular attachments on the fibula the "register" is displaced; this will inevitably lead to great confusion. Several plates to illustrate the arrangement of the cancellous tissue in the various bones have been introduced at the end of this volume.

The second volume, consisting of 239 pages, deals with regions, muscles, fasciæ, heart, and blood-vessels. Illustrations from all points of view have been introduced. The author apologises for the somewhat rigid appearance of the muscles which have been drawn from formalin specimens. The colour used for these structures is certainly an improvement on that in some atlases with which we are acquainted, but, nevertheless, it is still unnatural. The bursal sheaths of the different tendons of the hand and the foot are well brought out but the tendinous attachments of some of the spinal muscles are very indistinct. The heart and the blood-vessels are well represented but we notice discrepancies in the mode in which the origin of the subclavian trunk from the innominate stem is depicted in the different figures. It is a pity, too, that the various sacral nerve trunks are not named in the plate depicting the arteries of the pelvis. The author has, from pressure of time, been compelled to omit all illustrations of the lymphatics, which we consider a great defect.

The third volume is about equal in size to the other two combined. This important section illustrates the viscera, the brain, the nerves, and the sense organs. We do not consider the illustrations and the descriptions of the viscera superior, or, indeed, equal, to those which have recently emanated from English anatomists. The section on the nervous system is the best part of the whole atlas. The author has been fortunate in obtaining the assistance of Professor Flechsig Professor His, and Professor Eisler, from whose preparations some of the drawings have been made, whilst others are from specimens of Dr. Held. Colour printing has been resorted to freely to distinguish various tracts. We have found it difficult to distinguish some of the tints used when reading by artificial light although they are easily recognised by daylight.

Professor Barker of the University of Chicago is responsible for the English translation and has performed his task in a most satisfactory manner.

LIBRARY TABLE.

Essentials of Nervous Diseases and Insanity. By JOHN C. SHAW, M.D. Fourth edition, revised by SMITH ELY JELLIFFE, M.D., Ph.D. Illustrated. London: H. Kimpton. 1904. Pp. 196. Price 4*s*. net.—This little work is intended as an introduction to larger books and has evidently supplied a demand, at any rate in the United States, since the present is the fourth edition. In works of this kind the aim must be to compress into a limited space the essentials of what is usually an extensive subject and the results achieved often leave much to be desired. In the present instance it is expected that the student should read in conjunction with this volume Edinger's lectures on the Structure of the Central Nervous System and a monograph by W. Browning on the Vessels of the Brain in order to gain anatomical and physiological information which the limits of the present work made it impossible to include. The contents of the book are divided into seven sections, dealing respectively with the neuroses (functional disorders), with diseases of the peripheral nervous system, of the spinal cord and medulla, of the cerebral and spinal meninges, of the brain, with certain trophic diseases, and with mental diseases. The chapters under these sections cover the diseases of the nervous system and mind which are commonly met with. Summary descriptions of the essential features of these are of course all that can be expected and they are given, as far as possible, under the headings of etiology, pathology, pathological anatomy, symptoms, diagnosis, prognosis, and treatment. References are given to writings on the subject-matter of the more important chapters at the close of these and at the end of the work is a list of the chief periodicals which are devoted to the study of nervous and mental diseases in different languages. We observe that the subject of aphasia is treated under five headings, one of which is "true or intellectual aphasia," which does not appear to be a condition capable of separation from "motor," "sensory," or "associative" aphasia, as is here attempted. Amongst the insanities is a state described as "hysterical insanity," which is not, we believe, usually regarded as an entity and could not, we think, be distinguished as such from the description given. It is well known, of course, that hysterical symptoms are exhibited in some cases of mania. The description of the insanities due to alcohol leaves something to be desired. Adverse criticisms might in like manner be here and there advanced but on the whole the information which the book affords is as full as its purpose requires and it is also correct. The value of the work would be enhanced without appreciable addition to its size by including a chapter on methods of clinical examination in diseases of the nervous system. The text is elucidated by numerous illustrations.

Surface Anatomy. By T. GILLMAN MOORHEAD, M.D. Dub., M.R.C.P. Irel., Physician to the Royal City of Dublin Hospital; late Chief Demonstrator of Anatomy and Joint Lecturer in Applied Anatomy, Trinity College, Dublin. London: Baillière, Tindall, and Cox. 1905. Crown 8vo, pp. 150. Price 4*s.* 6*d.* net.—Quite a number of manuals of surface anatomy have been published during the last 12 months. Several of these have already been noticed in our columns. The volume now before us differs in no appreciable degree from its predecessors and possesses no feature of novelty. The book is arranged on the usual lines and the information given is accurate and fairly concise. Photographs from the model are reproduced to illustrate the surface markings of the body and several coloured outline diagrams show the relations of the thoracic and abdominal viscera to superficial bony points. We think that these diagrams might be considerably improved upon with advantage. With two remarks made by the author in his preface we cordially agree: the first is to the effect that the best model the student can employ is himself, and the second is that a knowledge of deep anatomy is essential before the facts of surface anatomy can be appreciated. We may further add that until the practical bearings of the facts given in books on surface anatomy are also appreciated the books form very dull reading.

Chemistry in Daily Life. By Dr. LASSAR-COHN. Translated by M. M. PATTISON MUIR, M.A. Third edition. London: H. Gravel and Co. 1905. Pp. 340. Price 5*s.*—We are glad to find that this little book is so widely appreciated, as is evident from the fact that a third edition, revised and augmented, has been called for. It is charmingly written and deals with those chemical phenomena which, as the translator says, are intimately bound up with our daily lives and after all it would be difficult to find many chemical phenomena which are not intimately bound up with our lives. Popular ideas as to what chemistry is are somewhat vague, the word chemical being often employed in a contemptuous sense, meaning disagreeable or poisonous substances, and the man dealing with them is often looked upon as a mysterious, if not an offensive, person. Yet after all water, air, chalk, ink, soda-water, alum, glass, and other familiar things are chemicals. Considering the size of the volume it is wonderful how the author has been able to include so many topics. He has done it with skill and the translator has rendered the story in simple and attractive terms. It is the sort of book that should be in the hands of every schoolboy and it would be saying little for his intellectual capacity if he failed to read the chapters with profit and pleasure.

The Food Inspector's Handbook. By FRANCIS VACHER, F.R.C.S. Edin., Medical Officer of Health of Cheshire. Fourth edition. Illustrated. London: The Sanitary Publishing Company. 1905. Pp. 231. Price 3*s.* 6*d.*—This little book is primarily intended as a guide for the use of food inspectors and that it has served its purpose satisfactorily is indicated by the fact that three editions have been issued since the publication of the first edition in 1892. It contains in a collective form the kind of information which is necessarily scattered otherwise over a number of works on special subjects. Thus besides the adulteration of food there are chapters on animals, carcasses, butchers' meat, poultry, game, fish, fruit, and vegetables, with a description of the appearance and the character of foods which warrant their condemnation as unfit for consumption or their approval as the case may be. Illustrations are given which are calculated to be helpful in the task of diagnosis. The chapters will be appreciated by all those occupying the important office of food inspector.

The Medical Annual: A Year-book of Treatment and Practitioner's Index. 1905. Twenty-third year. Bristol: John Wright and Co. Pp. 843. Price 7*s.* 6*d.* net. Stereoscopes 2*s.* or 2*s.* 6*d.* extra.—In this the twenty-third year of the "Medical Annual" it has been found necessary to bow to the inevitable and to adopt a larger page in order that height and width should be more proportionate. This volume therefore commences a new series which will differ only from its predecessors in requiring more room on the bookshelf. The change has been rendered necessary by the advance made in medical science. On the subjects of tropical diseases alone quite a number of affections are described which receive no mention in the latest text-books. The editor tells us that every paragraph "may be taken as something which has been left, after a repeated process of pruning," and every article is signed by a responsible editor capable of forming a valuable opinion upon the facts recorded. A selection of stereograms illustrating some diseases of the eye are included in the volume. These plates are reproduced from the stereograms in Neisser's "Stereoskopischer Medizinischer Atlas," edited by Dr. W. Uhthoff of Breslau. The letterpress accompanying them is a free and abridged translation of the German text by Dr. A. Hugh Thompson. For readers who have no suitable stereoscope the publishers provide a simple but effective instrument; directions for its use are given. The new volume is a worthy member of its series and is produced on the lines which have made the Annual so successful in the past. It is primarily intended as a work for rapid reference. We notice that in the official directory the name of Sir Henry F. Norbury is still given as that of the Director General of the Royal Navy Medical Department. The book is illustrated with 30 plates and many diagrams. There is a good general index.

JOURNALS AND MAGAZINES.

Archives of the Röntgen Ray.—In the issue for April is an interesting contribution by Mr. Robert Jones and Dr. David Morgan on Osseous Formations in Muscles due to Injury. The subject is treated very completely and the salient points, including radiographic appearances of 17 cases, are set forth in tabular form, and radiographs of several of the more interesting cases are reproduced. The article on the Treatment of Epilepsy by the X Rays, by Dr. Horace Manders, is also worthy of perusal. Full notes are given of a rather severe case treated by him and the result up to the time of writing had been most satisfactory. Dr. W. F. Somerville of Glasgow reports a case of severe hysteria successfully treated by high-frequency currents. The case was one of several years' duration and the symptoms were such that on one occasion the abdomen was opened by a surgeon with every reason for expecting to find a perforating ulcer of the stomach. Eventually electrical treatment was resorted to with the happiest results. Mr. T. J. Bokenham contributes a paper on the Position of Oscillatory Currents in Therapeutics and raises some very important considerations which many who practise high-frequency treatment would do well to take seriously to heart. The "Archives" does not confine itself to Röntgen Rays, and accordingly Dr. D. Chalmers Watson of Edinburgh records some important experiments made to show the influence of diet on the structure and the functions of the thyroid gland. Meat diet is the one particularly referred to and some interesting conclusions are drawn. From 1875 to 1899 the importation of meat into the country rose from 18 pounds to 45 pounds per head per annum and also there was an increase of 24 per cent. in the amount of land under pasture during this period. Concurrently thyroid medication has been found useful in a number of conditions which have no known relationship to the thyroid gland. His explanation is that "as a result of an excessive meat dietary there has been established, and is being established, in many subjects an alteration in the character of the thyroid secretion. When this alteration takes the form of a simple deficiency of the thyroid secretion the defect can be remedied by administration of thyroid gland." The paper may be compared with one by the same writer, which appeared in THE LANCET of Feb. 11th, 1905, p. 347.

The Archives of Physiological Therapy. Edited by CLARENCE EDWARD SKINNER, M.D. New Haven, Conn. Boston, U.S.A.: The Gorham Press, Richard G. Badger. Subscription $3.00 (12*s.*) per year.—This is a new journal "devoted to the diagnostic and therapeutic uses of electricity, radiant energy, heat, water, mechanical vibration, &c.," which it is intended to publish monthly. In conjunction with the editor are some 20 others more or less well known in the medical and scientific worlds. All the original articles in this first number consist of papers read at St. Louis in September of last year when meetings were held at about the same time by the electro-therapeutic section of the International Electrical Congress, the American Electro-Therapeutic Association, and the American Röntgen Ray Society. Dr. Maurice Benedikt of Vienna supplies a contribution to the Radio-Diagnosis of Diseases of the Head and Brain. The author has evidently directed no little time and study to this highly specialised branch of x ray diagnosis and his paper will be found of great interest by x ray workers and others. Dr. W. J. Herdman offers some novel suggestions for the treatment of Dupuytren's and allied contractions by a modified form of electrolysis. Other papers by Dr. W. H. White on the Action of High-frequency Currents and Dr. J. H. Kellogg on Phototherapy in Chronic Diseases, &c., assist in making up a very interesting number. The second, and greater, half consists of a very complete set of reviews and abstracts of all the current literature bearing on the subjects comprised within its scope. This is a very valuable feature and if continued in the same thorough manner will do much to bring about the ultimate success of the undertaking. Good paper and clear type are used, while the illustrations are all that could be desired. This new journal has our good wishes for a prosperous and useful career which would seem already to be assured.

Ophthalmology. Vol. I., No. 3. April, 1905. Milwaukee, Wis.: H. V. Würdemann, M.D., and Nelson Miles Black, M.D. Pp. 209. A Quarterly Journal. Price per number $1.50 (6*s.*); per year, $5.00 (£1 1*s.*).—This journal is stated to be published as the result of the expressed wish of English-speaking ophthalmologists for a quarterly journal which would be printed without the intervention of a non-medical publisher whose interests must necessarily lie in pecuniary profit rather than in the advancement of medical science. *Ophthalmology* is owned, edited, and published by the medical profession. It contains original articles, abstracts from English and foreign works, and reviews. It has many distinguished names on its editorial staff. The present number contains the following original articles. 1. Epithelioma of the Eyelid removed by Dissection and X Ray Treatment, by Walter Hamilton Snyder, M.D. Toledo, Ohio. A coloured plate is appended to this communication showing a ragged tuberculated growth on the lower eyelid near the outer canthus. Eight applications of the x rays were made, after removal with the knife, for ten minutes at a time, at a distance of seven inches with a soft tube, between June 10th and July 28th, with excellent results. 2. On Peritomy for Diffuse Corneitis and other Affections of the Cornea, by Simeon Snell, F.R C.S. Edin., of Sheffield. Mr. Simeon Snell has practised peritomy in 200 cases of various forms of keratitis with much success. 3. Sarcoma of the Orbit with Report of Four Cases, by E Oliver Belt, M.D., Washington, D.C. 4. Elephantiasis of the Upper Eyelid, by H. Harlan, M.D., and R. H. Johnston, M.D., of Baltimore. The text contains a drawing of a case and of the microscopic appearances presented by sections of the swelling. 5. The Question of Iridectomy in Glaucoma Simplex, by Frederick E. Cheney, M.D., of Boston. The author thinks that theoretically it is advisable, especially at middle age and in patients with a melancholic disposition. 6. Intraocular Tuberculosis, with the report of Two Cases, by William Campbell Posey, M.D., of Philadelphia, with four figures in the text. 7. Some Remarks on Molluscum Contagiosum, by Dr. E. H. Oppenheimer of Berlin, with a figure in the text. 8. The Treatment of Pyogenic Infection of the Eyeball, by A. Maitland Ramsay, M.D. Glasg., of Glasgow. Dr. Ramsay recommends argyrol and collargol. There are numerous abstracts from contemporary literature in different countries.

Dublin Journal of Medical Science.—The May number is chiefly devoted to surgical topics. Dr. Henry Fitzgibbon speaks favourably of the treatment of syphilis by intramuscular injections of mercury and gives a formula for such use in which the metal is incorporated in a basis of lanolin and parolein. Dr. Charles Greene Cumston deals with suprapubic cystotomy in children and points out the special facility of the operation when performed at an early age. Mr. William Taylor records the notes of a case of gangrenous traumatic hernia successfully treated by resection of the necrotic portion of the bowel and Dr. James Craig narrates the sequel of a case of cured aneurysm of the innominate artery, the patient subsequently dying from rupture of a second aneurysm, affecting the aortic arch, into the œsophagus.

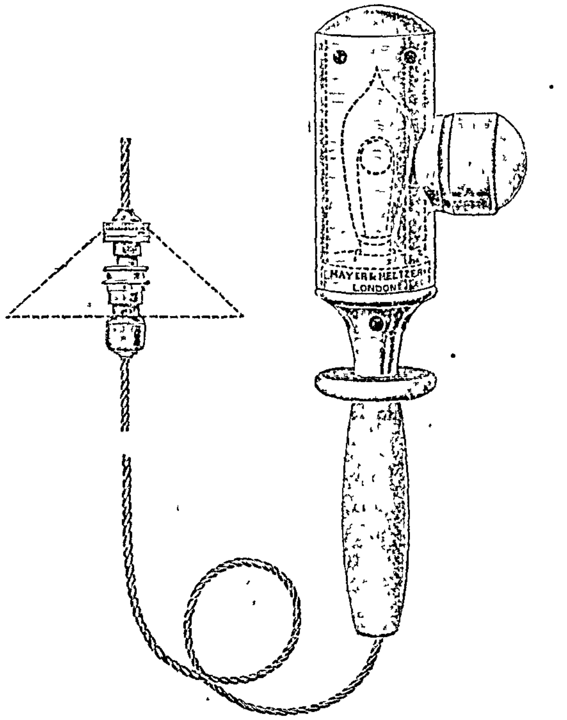
Scottish Medical and Surgical Journal.—The articles in the May number of this journal are of more than average interest. Dr. Horace C. Colman deals with the treatment of hæmoptysis and menorrhagia by inhalation of amyl nitrite and quotes some good results. The method is eminently scientific as it aims at diminishing the blood pressure at the bleeding point and thus imitating nature's mode of arrest of hæmorrhage by syncope. It is the exact contrary of the old irrational treatment of pulmonary hæmorrhage by ergot. Mr. Malcolm Campbell makes some interesting suggestions as to the connexion between ovarian disease and uterine fibroids, and Dr. R. Cranston Low contributes a useful paper upon the Employment of Tuberculin as a Means of Diagnosis; after a period of exaggerated fear to use this test there are now signs that it is coming once more into favour. Some notes on treatment with tuberculin are also given in this paper.

Edinburgh Medical Journal.—The May number of this journal contains the fourth Morison lecture on Insanity by Dr. John Macpherson in which is an interesting discussion of the toxic element in many forms of mental disease, an important conception which is coming to the front in this branch of medicine. Dr. W. Allan Jamieson draws attention to the value of pyraloxin, a modification of pyrogallic acid, in dermatology, and Dr. Frederick W. Price discusses the prognosis and treatment of early pulmonary tuberculosis in a paper which, though it contains nothing very novel, affords a useful summary of the subject. Mr. A. Francis Steuart, advocate, contributes an interesting historical sketch of celebrated trials for poisoning in Scotland up to the year 1625.

New Inventions.

A PORTABLE ELECTRIC LAMP FOR HOSPITAL USE OR FOR THE CONSULTING ROOM.

THIS lamp has been designed for the purpose of providing a cheap serviceable light and portable lamp for use where electric current is available, particularly in hospital wards, consulting rooms, or houses supplied with electric current from the mains. It consists of a small lantern fitted with a suitable electric lamp, fibre handle, bull's-eye condenser, flexible cord, and fittings. The lantern is kept cool by means of the air currents between the inner and the outer jackets. Its portability compared with those in present use and its advantages over cell lamps should commend it to those in particular who require portable lamps for general work. It was designed by Dr. J. Howard-Jones, medical officer of health of Newport, for use in the borough isolation hospitals, Newport (Mon.), and has been made by Messrs. Mayer and Meltzer of 71, Great Portland-street, London, W.



THE "ENGLEFIELD" BOOK SUPPORTS.

THE illustration represents a support on which books or paper may be held in an inclined position for the purpose of reading, writing, or drawing. In sitting at school desks while learning these arts children are very liable to acquire the habit of placing themselves in a stooping or round-shouldered position, to the injury not only of their figures but of their eyesight. In order to prevent this Mr. Englefield, who is the headmaster of the Gloucester municipal school of art, has devised two supports which are very portable and convenient in use, and which hold a book or paper at an inclination of rather more than half a right-angle—namely, about the ordinary slope of an artist's easel or a newspaper stand in a reading room. These supports are intended to stand on an ordinary table as shown and consist of two parts, one being the frame, measuring about 16 × 12 inches, which holds the book or the paper, and the other being an angular piece which gives the frame its inclination. The slope answers well for drawing and especially for holding a book which is being read but for ordinary quick writing most adults would prefer the paper more nearly level. The supports are in two materials—white deal (frame-shape for drawing), price 3*s.* 6*d.*; and birch wood (desk-shape), 6*s.* 6*d.* plain and 7*s.* 6*d.* stained and polished.

RICHTER'S NEEDLE HOLDER.

FROM the considerable number of patterns of needle holder which have been from time to time devised there is evidently some difficulty in combining all the requisite qualities in one instrument. Richter's needle holder presents some new features of construction and in it the clamping of the needle is not so likely to be disturbed when the grasp of the hand is tightened as in some other needle holders which we have seen. It is of superior finish and is made in four lengths—namely, 4½, 5½, 7, and 8 inches. The agent from whom it may be obtained is Mr. F. L. Anderson, 1, Furnival-street, London, E.C.

MEDICAL CROSS PURPOSES IN RUSSIA.—The recent decision of the Pirogoff Medical Society to abstain from coöperating with the Government committees in their struggle with the threatened cholera and stating that it is impossible for medical men to join such committees, &c., has raised considerable criticism in the Russian press. Now the Yaroslav medical men, to the number of 14, have sent a protest for publication to the *Novoe Vremya* because, as they allege, although anxious to follow the usual course and to have it published in the professional press, the *Russki Vrach*, to which it was sent, refused it hospitality. They protest, *inter alia*, that the Pirogoff Medical Society had no right to issue such a notice. The document closes with a formal protest against the resolutions of the Pirogoff congress as "arrogant and despotic, infringing our *rights* as medical men and citizens, and tending to set the members of the profession one against the other," &c.

CENTENARY OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

MONDAY, MAY 22ND.

A MEETING of this society commencing the proceedings in connexion with the celebration of its centenary was held on May 22nd, Sir R. DOUGLAS POWELL, the President, being in the chair.—Dr. Christian Bohr, Sir William Ramsay, Dr. Robert Barnes, and Dr. Walter H. Gaskell were admitted Honorary Fellows of the society.

Presidential Address.

The PRESIDENT then delivered the presidential address. He said: It is naturally expected that the President should address a few congratulatory remarks on the attainment of the hundredth birthday of this great society. Time only permits me to be very brief, for much has to be done to-day. I will therefore express on the part of the past presidents of this society now living—Mr. T. Holmes, Mr. J. Hutchinson, Dr. W. H. Dickinson, Mr. Thomas Bryant, Dr. F. W. Pavy, and Mr. A. Willett—and on the part of the council and myself our most hearty congratulations to the Fellows of the society on the completion of the hundredth year of its corporate life, our most hearty welcome in the name of the society to the distinguished Honorary Fellows and to the guests who honour us with their presence during this centenary celebration. The Royal Medical and Chirurgical Society was founded in 1805 for the purpose of conversation on professional subjects, for the reception of communications, and for the formation of a library. It was an offshoot from the Medical Society, the particular occasion for which could scarcely arise in modern times and from the effects of which that society soon recovered. In 1808, indeed, showing that no ill-feeling was left behind by the severance, a proposal emanated from our sister, or rather our parent, society for a reunion to form a new Society of Medicine. It is perhaps to be regretted that the union was not then effected, for a combination of the intellectual and material forces of the two principal societies in London would doubtless have been for the greater service of medicine. Might it not still be so? With the experience of the cause of this dissension, however, two very important resolutions were carried at the very first meeting of the Medical and Chirurgical Society under the presidency of Dr. Saunders, resolutions which have been in force ever since, were incorporated in the Royal Charter granted 30 years later, and have been adopted by most of the societies which have since arisen—viz., (1) "That no gentleman be eligible to the office of President or Vice-President for more than two years in succession;" and (2) "That a certain number of the council go out annually." The objects with which the society was founded have been pursued with vicissitudes of fortune but with a success which cannot but illumine our centenary retrospect with a glow of triumph and gratification and which sheds a bright prospective hopefulness and encouragement upon the future of our work. I have here a volume, which has, I hope, reached every Fellow, in which the chronicles of the society are most interestingly set forth by our honorary secretary, Mr. Stephen Paget, and which also contains a life sketch of each of the 50 presidents by our honorary librarian, Dr. Norman Moore. It is most instructive reading and I think the council has done wisely to sanction the publication of the volume and the society is indeed gratefully indebted to the able authors for the labour and interest they have taken in its production. These chronicles and records [illegible] the records of no previous century can compare. It would be tedious for me even to enumerate the subjects treated of; they are matters of medical history with which you are all very familiar. I would broadly characterise them as dealing in the first half of the century with many and great incidents of medicine and surgery and in the second with great developmental movements in pathology and the treatment of disease. Isolated cases and groups of cases of great intrinsic importance and, looking back upon them, of historical interest are brought forward in the earlier, and indeed in both, periods—many of them brilliantly suggestive but not to find place and fulfilment until the larger knowledge and quickened inventions of later times permitted. Amongst such cases and papers I would mention Astley Cooper's ligature of the common carotid artery, Dundas's description of acute rheumatic peri- and endo-carditis, and Abernethy's account of mitral stenosis, all in the first year of the society's formation. At the time when the Napoleonic wars were raging we were receiving papers on the health of the navy and army from our Fellow and later our President, Sir Gilbert Blane, whose introduction of lime-juice for the prevention of scurvy saved more lives and much more misery than were sacrificed or occasioned in all those cruel encounters. Sir B. Brodie in 1836, by his temperature records of a fatal case of luxation of the cervical vertebræ with destructive hæmorrhage into the upper cord, demonstrates what his earlier experiments of 1811 had led him to believe and as had been guessed at by John Hunter, that fever was neither a mere matter of altered circulation as the older physicians had thought, nor of oxidation as the physiologists after Lavoisier were teaching, but that it was dependent upon some other controlling factor probably of nervous origin. How otherwise could be explained a rise of temperature to 112° F. in a man dying with respirations reduced to less than six per minute? Here was the earliest use of clinical thermometry, fully to be established 25 years later by the careful labours of Wunderlich in Germany and Professor Ringer in this country. The clinical thermometer is now part of the pocket equipment of every nurse and is to be found in every household, yet I remember when its value was roughly challenged by one of the greatest physicians of the time. It was during Bright's presidency in 1838 that Bostock read his paper on the clinical examination of the urine and so initiated an important development of clinical pathology. Dr. Webster's paper in 1843 on the Brutal Treatment of the Insane then prevailing was the forerunner of the gentler and more humane methods which Conolly so nobly advocated. The paper by Hamilton Roe and Thompson in 1835 (preceded 14 years by a single case recorded by Dobson) on Paracentesis for Empyema was th[illegible] thoracic therapeutics. [illegible] Spirometer, John Mars[illegible] Bird and Hilton on an [illegible] in 1846-47, Kirkes on the [illegible] from the Interior of the Heart and their Mixture with the Circulating Fluid, and Spencer Wells's first five cases of ovariotomy a year or two later. These are amongst the more suggestive of the papers in the first half of the century, every one of which may be said to herald great future achievements in medicine. The latter half of the century has also had its epoch-making papers. But in the 50 years between 1840 and 1890 there were four great events in medicine which would mark out for distinction any century—viz., Marshall Hall's exposition of the reflex function of the nervous system; the discovery of a safe anæsthesia; the discovery and acceptance of the antiseptic system in surgery; and the growing recognition of the action of bacteria in the etiology and pathology of the acute specific diseases. These four great advancements in medical science crowded into the short space of 50 years have an interdependence that might form the subject of an interesting discourse, upon which, however, I have no intention to enter. This society has had something to do with them all and they have permeated and dominated most of its later and most brilliant records. Without anæsthesia, in the absence of antiseptic methods or their more recent aseptic developments, and without a knowledge of bacteriology no advance in visceral or joint surgery was possible, no further steps for the prevention of epidemic diseases could be formulated, the explanation of many intricate disorders of digestive and excretory organs was lacking, and their satisfactory treatment was impossible. Most of the initiators of these advances in medical science which have led up to and accomplished such great results are, or have been, Honorary Fellows of the society. The honoured names, Darwin, Pasteur, Marshall Hall, Villemin, Claude Bernard, Charcot, Lord Lister, Lord Kelvin, Koch, and others still living are indelibly written upon the pages of science in its beneficent relations to humanity. Many others on our Honorary [illegible] of our society are still [illegible] work. It might not be in good taste to [illegible]at they are well known to, and honoured by, us all. There are other papers not directly connected with these four eventful discoveries which are of great practical and historical importance. Samuel Fenwick's paper on the Microscopical Examination of the Sputum and Marcet's paper on the Inoculation of Sputum in the Diagnosis of Tuberculosis followed close upon Villemin's discovery of the inoculability of tubercle in 1865, preparing us 17 years beforehand for Koch's great discovery of the specific poison of that disease. Mr. Jonathan Hutchinson's paper on Vaccino-Syphilis in 1871 was of vast and far-reaching public importance. The report of a committee on the Hypodermic Use of Medicines in 1867 marked the time which, to some of us, may seem almost prehistoric when the hypodermic syringe was only coming into use. Dr. Ord's paper on Myxœdema in 1877 may also be especially mentioned. But the chief work of later years has undoubtedly been the development of visceral and especially of abdominal surgery, the necessary conditions for which did not previously exist. It was within the walls of this society that Spencer Wells in 1871 established the operation of ovariotomy which led up to so many further developments of ovarian and uterine surgery: and that Sir Frederick Treves in 1888 read his first paper on Relapsing Typhlitis treated by Operation: and it was here, too, that the operative treatment of appendicitis was brought up to date by a spirited discussion only a few weeks ago. I think that one of the attributes of our society which may give us most unbounded satisfaction is the magnificent library we have acquired. Much of this has been due to the liberality of friends in sending us their works and in presenting to us rare books which have come their way. But to the enterprise of the society and to the lavish expenditure of its scanty funds in former years it is chiefly due that we have perhaps the finest library of medical and scientific works in the world. I am not sure that the censure of our chronicler is all deserved for our illiberality with regard to publication of our proceedings in early years. For at that time the sale of our Transactions was a large source of our income provided by the work of our Fellows and wholly expended not upon themselves but upon new books for the library. The occasion and the practice have now long since passed. Perhaps the object which the society had in view at its first foundation second to that of acquiring a library—viz., the conversational discussion of cases and subjects of medical and surgical interest—has been least cultivated and perhaps amongst the amendments that must come in our proceedings in due time this point may be considered. Whatever future may be before us we can look back upon a vigorous past and a prosperous present. At no time has the position of the society been better recognised than to-day, at no time has its material prosperity been greater. I would suggest that a grateful thought for the many distinguished men who formed the councils of our society in the past and have carried it on to its present prosperity may fitly occupy our minds during this centenary. Nor should we forget the permanent officials of the society. We may some of us remember the genial courtesy of our late librarian, Mr. Wheatley, who spent the best years of his life at our former house in Berners-street; and to our friend, Mr. J. Y. W. MacAlister, with his business talent, wide knowledge, and zeal in the service of the society, we owe much of our present prosperity, whilst to his great energy and that of his staff of assistants in carrying out the wishes of the council and special committee is due the success which will, I hope, attend the celebrations which we commence to-day.

After the address Professor J. CHIENE on behalf of the Medico-Chirurgical Society of Edinburgh, Mr. JOHN LANGTON on behalf of the Medical Society of London, Dr. FREDERICK TAYLOR on behalf of the Clinical Society of London, Dr. ROBERT BOXALL on behalf of the Obstetrical Society of London, and Mr. CHARTERS J. SYMONDS on behalf of the Laryngological Society of London, congratulated the Fellows of the Royal Medical and Chirurgical Society on the attainment of the 100th anniversary of the foundation of the society.

Mr. JONATHAN HUTCHINSON proposed, and Mr. THOMAS BRYANT seconded, a vote of thanks to Sir R. Douglas Powell, which was carried unanimously.

The Banquet.

The Prince of Wales was the guest of the evening at the centenary banquet held at the Hotel Cecil on May 22nd. The chair was taken by Sir Richard Douglas Powell, the President of the Society, on his right hand side being the Prince of Wales and on his left the Duke of Northumberland. The company numbered about 480 and amongst those present were Lord Alverstone, Professor T. Clifford Allbutt, Sir Squire Bancroft, Sir T. Barlow, Sir W. H. Bennett, Mr. J. Bland-Sutton, Professor Christian Bohr, Sir Lauder Brunton, Sir W. J. Collins, Professor J. Chiene, Sir A. Cooper, Sir C. Cust, Sir G. Doughty, M.P., Sir Dyce Duckworth, Sir Arthur Conan Doyle, Sir J. Dewar, Sir W. Foster, M.P., Sir W. R. Gowers, Sir C. Holman, the Hon. S. Holland, Sir W. Huggins, Director-General A. H. Keogh, Dr. D. MacAlister, Sir A. R. Manby, Sir Patrick Manson, Professor Pierre Marie, Sir John Moore, Sir Shirley Murphy, Sir H. F. Norbury, Sir L. H. Ormsby, the Bishop of Oxford, Sir J. Paget, Sir G. H. Philipson, Sir W. Ramsay, Sir J. Reid, Sir A. W. Rücker, Sir F. Semon, Lord Strathcona and Mount Royal, Sir W. Taylor, Sir F. Treves, Sir J. Batty Tuke, Sir J. Williams, the Right Hon. John Morley, and the honorary secretaries, Dr. G. N. Pitt and Mr. S. Paget.

The toast of "The King" was proposed by the PRESIDENT and drunk with enthusiasm. This was followed by the toast of "Queen Alexandra, the Prince and Princess of Wales, and the other members of the Royal Family," which was proposed by the PRESIDENT in felicitous terms and was acknowledged by the PRINCE of WALES who, upon rising to reply, was greeted with hearty cheering. The wonderful carrying power of the voice of His Royal Highness and his excellent elocution were well exemplified in the large hall in which the banquet was celebrated. The PRINCE of WALES said:—

My Lords and Gentlemen,—I am greatly touched by the words of Sir Richard Douglas Powell, and in the name of the Queen and the Princess of Wales and the other members of my family, and on my own behalf, I heartily thank him for the sentiments to which he has given expression and this distinguished assembly for the kind manner in which they have received this toast. I am very happy to be present on this occasion, memorable in the history of the Royal Medical and Chirurgical Society, when we celebrate to-night on the exact date, May 22nd, the anniversary of the day on which this society was founded just 100 years ago. I consider it a great honour to have been enrolled among its honorary Fellows and to be associated with the names of men eminent both in our own nation and in almost every other nation of the world. And I am very pleased to meet some of them here to-night. It is a further satisfaction to me to be identified with a society with which my family has been connected ever since its incorporation by Royal Charter in 1834. Sir Richard has kindly referred to my position as President of King Edward's Hospital Fund for London. I regard it as a precious trust transmitted to me by the King—its founder; and I shall always endeavour to the best of my power to further its work, the gradual but steady development of which I watch with keen interest and satisfaction, for it is my firm conviction that there is no better way in which we can help our poorer brethren and sisters than through the healing work and humanising influences of our great hospitals. With regard to the Imperial Cancer Research Fund I am glad to say that we are working in close touch with similar undertakings in other countries. Considerable and valuable results have been attained during the past year, and I trust that we may look forward to the day when medical and surgical knowledge will have unravelled the mysterious cause of this terrible disease and have acquired the power to deal successfully with it. I must congratulate this famous society on celebrating the 100th anniversary of its foundation. In spite of its years it is still full of the vigour, enterprise, and enthusiasm of youth. The advances which have been made in the science of medicine and surgery during the last 100 years are almost without a parallel in the history of human progress. During this period physiology has been established as a precise branch of learning, while the new science of bacteriology would seem to have laid bare the very foundations of disease. Antiseptics and the clinical thermometer have been invented, and methods of investigation introduced of which, I am sure, the medical profession of 1805 had never even dreamt. In the foundation of antiseptic surgery by Lord Lister this country can claim one of the greatest achievements in the cause of humanity. In the sphere of public hygiene nothing short of a revolution has been effected. Our hospitals, which 100 years ago were little more than mere refuges for the sick, have become institutions in which the most beneficent treatment is carried out with scientific thoroughness. With

this great century of progress this society has indeed been actively concerned and it can look back upon its record of 100 years with the assurance that it has taken no little share in a memorable scientific advance Its deliberations can
only result in a medicine and
surgery and in man suffering
With it also re passing judgment upon new projects and new theories, of directing investigation into right channels, and of keeping a jealous watch upon the scientific reputation of a great profession I feel confident that the Royal Medical and Chirurgical Society will maintain this trust as faithfully in the future as it has in the past I heartily wish the society every continued prosperity Gentlemen, I am most grateful for the hearty welcome you have given me and I assure you it has given me the greatest possible satisfaction and pleasure to have come here this evening and to be present on this memorable occasion

The PRESIDENT then proposed the toast of "The Society He said that His Royal Highness the Prince of Wales had already alluded to much of the work which had been performed by the society in the past 100 years and it was more fully described in the chronicles now in the hands of every Fellow of the society and in the personal records of the presidents of the society sketched by Dr Norman Moore In those chronicles were contained accounts of all the difficulties that the society had experienced and of its growth till it had arrived at the distinguished old age of 100 years In these chronicles were faithfully reflected the history of medicine in the past 100 years The society was founded in 1805 with Saunders as its president, the objects of the
e conversation on subjects of
or the reception of communi
[illegible] world, and for the formation of a library Amongst the men who established this society were Abernethy, Babington, Blane, and Cooper At first the society existed merely as a symposium for discussion of matters of mutual interest Then papers were received and by degrees a library was formed Premises for the society were acquired at first on a humble scale and then in 1834 a house was taken in Berners street which was occupied by the society for about 50 years In 1834 the society received its Royal Charter and in that year King William IV became its patron and it has enjoyed the patronage of the Royal Family ever since that time and to day it had the additional distinction of adding the name of the Prince of Wales to the roll of its honorary Fellows The society now possessed a library of some 50,000 volumes, with the journals and proceedings of every learned society throughout the world No advance in medicine or surgery had taken place which had not been promoted by this great society The Prince of Wales had enumerated the many momentous advances in medicine which the society had been the means of bringing to light In the first half of the century single instances appeared as streaks of light that usher in the dawn of great movements and discoveries In the latter half of the century there were important accessions to medical knowledge, the first was the attainment of a safe anæsthesia, secondly, there was the establishment of the antiseptic methods to which the Prince of Wales had already alluded, and thirdly, there was the recognition of the bacterial origin of specific disease There was no necessity to discuss the history of these great and fruitful advances in medicine which were as familiar as household words, so much so that to describe what went before them now seemed an excursion into the dark ages of prehistoric times Without anæsthesia deliberate surgical procedures would be impossible and without antiseptic methods intestinal surgery could not be undertaken It would be almost impossible to reckon up the number of lives that had been saved and the amount of suffering that had been spared by the daily operations that were now performed, not one of which would have been possible 35 years ago Lord Lister 35 years ago, by his researches revolutionised surgery In 1859 pyæmia accounted for something like 42 per cent of deaths in amputation cases, at the present time the disease was scarcely known In the history of ovariotomy was found typified the vast progress of internal surgery In the 'sixties ovariotomy was protested against as being too fatal and the operation was only established in 1871 in the rooms of the Royal Medical and Chirurgical Society by the strenuous and courageous advocacy of Sir Spencer Wells In 1871 the mortality accompanying the operation of ovariotomy was 22 per cent by the year 1881 when the teaching of Lord Lister had been well established the mortality had fallen to 4 per cent, and at the present time was less than that Anæsthetics and antiseptics had alone rendered this achievement possible and it was typical of the advances that had taken place in every department of surgery Continuing, the President stated that in his student days the exact causes of acute diseases like lockjaw, cholera and typhoid fever were not known At the present time it was possible to depict upon the screen the particular organism which was responsible for each of those diseases They could detect the organisms and knew their habits food, virulence, and manner of growth There were certain persons who grumbled at the cost of hospital administration and at the expense of medical attendance but when the conditions of practice in those days were contrasted with the medical and surgical practice of the present day then it had to be admitted that the labour and thought of a century had not been thrown away The rates of mortality had steadily fallen in consequence of the work of medical men engaged in the prevention as well as the cure of disease So perfect was sanitation becoming that the time was rapidly approaching when medical men would be able neither to live nor to die The members of the Royal Medical and Chirurgical Society could be forgiven for a certain amount of jubilation on the unique occasion they were celebrating but in their hearts they were mindful that much remains undone They were aware of opportunities that had been lost and they remembered the strenuous labours of sister societies They were humbly mindful of the increasing responsibilities of the next century and they were solicitous of succeeding by uniting the forces that now overlapped in advancing to higher realms of achievement

Dr PYE SMITH then proposed the toast of Literature and Science' He observed that there had ever been a close connexion between the medical profession and literature In that golden period which intervened between the Wars of the Roses and the Reformation there were four men who directed the new learning and the national education Their names were Erasmus, Sir Thomas More Dean Colet and Linacre Linacre was the founder of the Royal College of Physicians and was an eminent Greek scholar He was followed by Dr Caius of Cambridge and Datchet In the seventeenth century the medical profession contributed to literature an author of the first rank—Sir Thomas Browne who wrote 'Religio Medici Pseudodoxia Epidemica, 'The Garden of Cyrus, and 'Urn Burial' An eminent physician once said that Sir Thomas Browne was a more important man than his contemporary the great Harvey, because if Harvey had not discovered the circulation of the blood somebody else would certainly have done it whereas if Browne had not written the Religio Medici" no one else could In the following century the great literary physician was Arbuthnot who was the friend of Swift, of Pope, and of Gay Arbuthnot contributed three of the greatest satires to our language 'The History of John Bull,' 'The Conduct of the Allies and "The Epitaph on Colonel Charters' After the death of Arbuthnot who died, it was feared from cirrhosis of the liver, Pope confided the care of his health to the great Dr Mead, the collector of the finest library of the period and also to the great anatomist and surgeon Cheselden both of St Thomas's Hospital, and Pope did what it was often wished the patients of the present day would do—he took what Mead and Cheselden advised Johnson found a friend and physician in Heberden, whom he called 'Ultimus Romanorum,' the last of the learned physicians Those who read Heberden's Commentaries must still be struck with the conciseness of his style the perfect clearness of his language, and the abundance of his good sense Johnson himself in his Lines on the Apothecary Robert Levet has portrayed the humble but useful life of the general practitioner and thereby has proved his title to the name of poet A medical writer who was also of high literary merit was Sir Thomas Watson His art in telling cases was remarkable They still had learned physicians amongst them There were Dr J F Payne, the Harveian Librarian, and Dr Norman Moore who told sad stories of the deaths of kings And they still had learned surgeons, there were Mr Tweedy (President of the Royal College of
Paget, and Mr D'Arcy Power
a relaxation, a refreshment, and
he art of medicine depended for
stence upon science By science
they had reached the present condition of progress and by

science alone persistently and ungrudgingly pursued they would reach new successes in the prevention and cure of disease. How scientific the whole bent of medicine was was proved not only by the broad stream of authors like Harvey, Hunter, Jenner, Bichat, Laennec, Claude Bernard, Chauvaux, Johannes Müller, Ludwig, Pasteur, and Lister, but also by the fact of many medical men who excelled in other branches of science—men like Gilbert whose great work on the magnet had lately been re-published by Sylvanus Thompson; men like Mayow, a young Oxford doctor, who in his short life established the mechanism of respiration and discovered the existence of oxygen. There was also Thomas Young, physician to St. George's Hospital, who published the undulatory theory of light, deciphered the Rosetta stone, and earned the unstinted praise of Helmholtz—a praise, however, which had not been denied him by his own countrymen, as the great German supposed. Science was the very breath of life to medicine and investigations must continually go on. Encouragement was not wanting, for much had been done towards the prevention of diphtheria, of malaria, and of many tropical diseases since a royal critic asked the question, Why preventable diseases were not prevented? They all gratefully acknowledged the interpretation given by the eldest son of England to the ancient motto of the Black Prince, "*Ich Dien*," by serving on the council of the association formed for the purpose of studying the origin of, and in time it was trusted the prevention of, that terrible disease called "malignant."

Sir ARTHUR CONAN DOYLE acknowledged the toast. He remarked that the fact that he was chosen to respond was the latest illustration of the rule that in this country it was the understudy who had always had to do the hard work. He wished that Mr. John Morley had taken the task of replying on himself. He had been given to understand that his name was coupled with the toast because he was a medical man. That was true, but an unkind critic had added that no living patient of his had ever been seen. There was, however, one little corner of the subject on which he might be permitted to make a few remarks. Some authority had been lately examining the law as it was found in novels and had concluded that the novelist's law was almost more strange than the law with which they were all familiar. According to the novelist if a man died intestate his property went to the nearest villain, but however that might be if the law of the novelist was strange the medicine of the novelist was still more so. In novels only a few diseases were recognised and those were all to do with the upper part of the body, for no novelist ever hit below the belt. The symptoms of diseases and their treatment were very simple in novels. The patient who went into a decline was most useful in fiction and the successful treatment of such a case was the reappearance in the last chapter of the splendid hero who had been so grossly misunderstood in one of the earlier chapters. Often with this extreme wasting the novelist coupled an almost ethereal beauty but the disease that was most useful to a writer of fiction was undoubtedly fits—whether apoplectic or epileptic mattered little to the novelist. The point was that the heavy and stertorous father was always eventually carried off in a fit, often falling down with a pen in his hand in front of an unsigned will. That was an exceedingly effective situation. And then, again, there was that mysterious malady known in novels as brain fever. That was a wonderful disease and exceedingly useful for many purposes. As novelists only possessed a few diseases they were anxious still to have the use of them. The irascible parent always afflicted with gout in the ball of the great toe was one of the novelist's most necessary puppets. The writers of fiction, however, claimed to be kindly disposed towards the medical profession and always portrayed the village practitioner as a most worthy person and depicted the visit of the solemn consultant from London without undue malice.

Sir WILLIAM HUGGINS (President of the Royal Society) was also intrusted with the task of acknowledging this toast. He said that the Royal Society had for two and a half centuries with untiring energy strenuously pursued the objects for which the society was formed—namely, the pursuit of natural knowledge; he did not consider that it was inappropriate for the Royal Society to be represented on that occasion, for the connexion between the Royal Society and the medical profession had always been an intimate one. Among the original members of his society were many physicians and surgeons and its roll had always contained many names of men distinguished in the medical profession of whom some had been presidents of his society, amongst whom he might mention the name of Huxley and last, but not least, his immediate predecessor that great man Lord Lister, who by the introduction of scientific methods into surgery had rendered comparatively safe operations which before were accompanied by very grave risk and had made possible operations which before could not have been entertained. Lord Lister was a man not only honoured by his own countrymen but also by mankind throughout the wide world. Happily the time had long passed when medicine and surgery were in the hands of illiterate people and quacks, but nevertheless in comparatively modern times the paralysing idea had prevailed that the living body was an enchanted ground outside the sway of physical and chemical forces where vitality reigned supreme and was all in all. The wonderful progress, however, of the art of healing in modern times had followed closely on the advances made in chemistry and physics. Medicine had been raised to the position of an exact science by the introduction of the accurate methods of physics and chemistry into the medical schools. It might be considered that medicine came wholly under the dominion of science when the true principles of the conversion of energy were found to hold good in regard to living things; in other words, the discoveries of science by bringing into medicine the use of physical methods and forces had diminished disease and prolonged life. Among these discoveries was the great work of Darwin which filled the intellectual world with new life. The investigations carried out by the Royal Society in regard to certain deadly diseases seemed to show that it was in the power of man so to control the conditions of the propagation of disease as to make it possible for Europeans to live and work in parts of the earth where hitherto the sacrifice of health and life had been lamentably great. The progress of medicine over disease had followed improvements in investigating natural knowledge and in the future they must look for the more intimate acquaintance of nature to secure further triumphs over disease and premature death, ultimately bestowing on man a longer and a fuller life.

The toast of "The Visitors" was given by Mr. H. T. BUTLIN, who referred first to the chief guest of the evening, His Royal Highness the Prince of Wales, to whom they were indebted for his presence there that night and also for honouring the society by becoming one of its honorary Fellows. The Prince of Wales was the first Royal honorary Fellow of the society and it had taken it 100 years to achieve that honour. Everyone, however, would admit that the time had not been ill spent. Mr. Butlin said that he envied the Prince of Wales much but he envied him most because he had heard him better than any person who had spoken in that room that night. Mr. Butlin then went *seriatim* through a list of the principal guests, beginning with the Duke of Northumberland, who responded to the toast.

The Duke of NORTHUMBERLAND, in replying, said that there were four great professions in this country which stood at the head of all other professions—the navy, the army, the medical, and the legal professions. They were respected and valued but no one wished to avail themselves of their active services if they could help it. Although, however, in one sense they did not wish to avail themselves of the services of these professions, in another sense they did; there was the preventive side in all these services and everyone felt safer in consequence of the care bestowed on the preservation of the common interests. Though that side of their work was less known to the world than their more showy and observable deeds, still at the same time everyone was conscious of the debt that was owed to them and to none of the services was a greater debt owed than to the science, the energy, and the devotion which were expended on preventive medicine by the medical profession. The Duke of Northumberland concluded by saying that, however incompetent any of the guests of the society might be, there was not one who was not fully alive to the value of the researches carried out by the medical profession and every guest was anxious to aid in every way the great work which the society and the medical profession had so magnificently discharged in the last 100 years.

Lord ALVERSTONE (the Lord Chief Justice of England) then submitted the toast of "The President." He commenced by warning Sir Arthur Conan Doyle that in his remarks upon the law he had forgotton that the Prince of Wales was a member of the House of Lords and he cautioned him to be more careful in future. The occasion on which they met that night was unique. Previous speakers had spoken of the work of this great society and had referred to the changes in medical science during the last century, but it was remarkable that that evening also put on record a new coincidence—namely, that the President of the Royal Medical and Chirurgical Society was a gentleman who was also President of the Royal College of Physicians. He felt that the great position which Sir Richard Douglas Powell held in the medical profession rendered any words from him unnecessary and when they remembered the great predecessors in his office, Sir James Watson and Sir William Jenner and Sir William Church, he felt sure that the position of Sir Richard Douglas Powell was one which commanded the respect of all and would induce them all to give the toast which he proposed a most hearty welcome.

The PRESIDENT, in replying to the toast, thanked the honorary secretaries who had so successfully worked for the banquet and acknowledged the services of the secretary of the society, Mr. J. Y. W. MacAlister.

The Prince of Wales having retired from the banqueting hall the very successful proceedings came to an end.

TUESDAY, MAY 23RD.

The Marshall Hall Address.

Sir R. DOUGLAS POWELL, the President, being in the chair,

Dr. HENRY HEAD, in commencing his address, said that the society met that evening to celebrate the 100th anniversary of the Royal Medical and Chirurgical Society and at the same time to pay a tribute to the memory of Marshall Hall. *To him they owed the first accurate conception of* what was known as reflex action. Dr. Head then introduced the subject of his oration, the Afferent Nerves under a New Aspect, and said he hoped to [illegible] always existed between the [illegible] and those which belonged t[illegible] sympathetic system. Certain [illegible] body could be found to belong to the same system as those which supplied the internal organs. In addition he hoped to show that the skin and subcutaneous tissues possessed sensory nerves which did not exist elsewhere. To these two systems was added a third set of afferent fibres which ran for the greater part with the motor nerves but separated from them at last to enter the spinal cord by the posterior roots. It was the impulses conveyed by these three sets of nerves which were sorted in the central nervous system into [illegible] (a) touch, (b) pain, and [illegible] Division of a peripheral [illegible] total loss of sensation over the greater part of the index and middle fingers and over part of the thumb on its palmar aspect. In addition, sensation was partially lost over a larger area. This area of partial loss was in reality one of complete insensibility to certain stimuli, such as light touch, intermediate degrees of heat and cold, and to the two points of the compasses. When the hand had settled down after the shock of the injury that had divided one or more of the nerves of the palm it was found that although the area corresponding to the nerve divided was totally insensitive to certain higher forms of stimulation a stimulus producing pain—e g., a prick of a pin—caused a more unpleasant effect than over normal parts. Recovery of sensation after complete division of a peripheral nerve began with disappearance of the analgesia and with the return of sensation to the extreme forms of temperature. But the hand remained exactly as insensitive as before to the higher stimuli such as light touch. It was to the condition of the hand at the stage of recovery that he particularly wished to draw attention. It might have been inferred that with the gradual disappearance of analgesia an improvement would follow to the higher forms of stimulation. This was not so. The boundary at which light touches were lost might remain as definite for many months as in the days immediately following the injury, although sensibility to pain, to heat, and to cold had vastly improved. The characteristics of a part which had become sensitive to prick and to the extremes of heat and cold were (1) that the sensation radiated widely, was referred to remote parts, and could not be accurately localised; (2) a prick produced a more unpleasant sensation than over normal parts; and (3) the sensation produced gave no measure of the intensity of the stimulus by which it had [illegible] of the area [illegible] as heat and [illegible] minute areas (hot and cold spots), each of which could be stimulated by heat or cold alone. This form of sensation was designated protopathic sensibility. After the affected part had remained for a variable period in this condition it began to become sensitive to light touches and the intervening degrees of te[illegible] from one anot[illegible] again became [illegible] more nearly normal and the widespread radiation so characteristic of the first stage of [illegible] by an increased accuracy of [illegible] bility was designated "epicr[illegible] ciated with the localisation and discrimination of cutaneous stimuli. A third form of sensibility was investigated in a case of complete experimental division of the radial and external cutaneous nerves at the elbow. After the radial half of the arm and back of the hand had been rendered totally insensitive to cutaneous stimuli the denervated parts of the hand remained sensitive to pressure or to any stimulus that deformed the subcutaneous structures. Localisation of those stimuli which could be appreciated was remarkably good. The fibres upon which this sensibility depended must run with the motor nerves. This form of sensation was designated "deep sensibility." The existence of this deep sensation depended on a separate system of fibres which ran with the nerves to voluntary muscles. Protopathic and epicritic sensibility probably depended also on two separate sytems of nerve fibres for the following reasons: (1) occasionally, after division of a peripheral nerve sensibility to pain, to ice, and to 60° C. might be abolished, but that to light touch and to water at [illegible] C. remained; and (2) after complete division of a ner[illegible] before epicritic, wherea[illegible] lete destruction of the [illegible] eturned *pari passu.* Evidently the two systems regenerated with unequal facility, the "protopathic" system regenerating more rapidly and with greater ease than the "epicritic" system. A part deprived of its nerve-supply was liable to injuries and the sores and ulcers so produced healed slowly. Such sores healed rapidly and permanently as soon as protopathic sensibility returned to the part, even though all epicritic sensation was still absent. The growth of nails was materially diminished by want of movement, deficient blood-supply, and muscular paralysis. It was a well-known fact that the nails did not grow as rapidly on the hand after the nerves had been divided, but by a series of observations extending over four years it had been shown that this was not due directly to the absence of any nutrition stimulus in consequence of division of the nerve but rather to want of movement associated with those vascular changes which were always liable to occur after division of a peripheral nerve. Every peripheral afferent nerve to the limbs contained protopathic and epicritic fibres. Towards the periphery the latter tended to fall into certain groups and the area supplied by each group did not overlap that of another group materially. The protopathic fibres, on the contrary, overlapped to the greatest amount on the periphery of the limb. This overlapping became less as the posterior roots were approached, showing that these fibres still maintain to a certain extent their segmental arrangement. The threefold arrangement of deep, protopathic, and epicritic sensibility ceased in the central nervous system at the first cell junction. The impulses conducted along these three lines became sorted out into paths for light touch, for localisation and stereognosis, for pain, for heat, and for cold. With regard to sensibility of the viscera, observations on the application of temperature stimuli to the intestine seemed to show that its sensibility resembled that which, in the skin, has been called protopathic. But it is entirely insensitive to all those stimuli which evoke epicritic sensation. In conclusion it was suggested that the body within and without was supplied by afferent nerves which belonged to the protopathic system. This could be divided into somatic and splanchnic; the latter included all that had previously been known as the afferent sympathetic. The protopathic system was peculiarly associated with the reflexes and with feeling tone (pleasure and pain). The sensations evoked from it in answer to appropriate stimuli were widely diffused and [illegible] frequently referred to parts at a distance. The f[illegible] greater ease a[illegible] those of the motor [illegible] retained to a considerable degree its original segmental arrangement. The external surface of the body and limbs were innervated by a second system of fibres which has been called epicritic. This system is of later development and regenerates more slowly than the protopathic. It was peculiarly associated with the localisation and discrimination of cutaneous stimuli. All subcutaneous structures were also innervated from afferent fibres that end in organs peculiarly susceptible to pressure. These fibres in the limbs and body wall ran in conjunction with the motor nerves to voluntary muscles and this deep sensibility was not materially diminished by the destruction of the sensory nerves to the skin.

A vote of thanks to Dr. Head was proposed by Dr. D. FERRIER, seconded by Dr. W. H. GASKELL, and carried unanimously.

WEDNESDAY, MAY 24TH.

The Conversazione.

A conversazione, largely attended by Fellows and their friends, was held at the Natural History Museum, Cromwell-road, on May 24th. The guests were received by the President of the society, Sir Richard Douglas Powell, and Lady Powell in the Central Hall. Amongst those present were the Duke of Northumberland, Lord Strathcona and Mount Royal, and Señor Manuel Garcia, the last named taking great interest in the model of the gigantic diplodocus which was displayed in the Reptile Gallery. Señor Garcia did not stay more than an hour but managed, with the help of Dr. W. Ewart, to see a great deal of the exhibits in the museum. The band of the Royal Artillery played in the Central Hall and the Meister Glee Singers drew a large audience, their rendering of "The Old Folks at Home" attracting especial attention. A large number of those present were shown round by Professor Ray Lankester who spared no pains in explaining the interesting treasures of the museum.

An Historical Exhibition.

A small but highly interesting historical exhibition was formed in connexion with the centenary celebration of the society. This exhibition was held at the society's rooms during Monday, Tuesday, Wednesday, and Thursday from 11 in the morning until late in the afternoon and the opportunity so afforded for inspection was taken advantage of by many medical men.

Looking Back.

As the centenary of the Royal Medical and Chirurgical Society has been celebrated this week we have thought it appropriate to reprint the following extracts from THE LANCET recording the receipt by the society of its charter of incorporation, and reporting the annual meeting held in the society's jubilee year, when, curiously enough, the question happened to be raised of excluding THE LANCET from the society's library. We wonder what the speakers would have said if it had been suggested to them that 50 years later one of the Editors of THE LANCET and the editor of the *British Medical Journal* would be members of the Council of the Society.

From THE LANCET, SATURDAY, SEPT. 6TH, 1834.

MEDICAL CHARTER.—(*From a Correspondent.*) It is no small proof of the progress of liberal opinions, that the *Medico-Chirurgical Society* have, *without opposition*, obtained from the present Government a charter of Incorporation. In due time the history of the intrigues by which an application for a similar charter was defeated under a Tory administration will be made public. The facts came out before the medical committee, and are recorded in the evidence. The President of the College of Physicians was the chief opponent of the Society, and his reasons for interfering were grounded on an impression that his College would in some way be affected by the existence of a chartered medical Society which held its meetings so near his own door.

From THE LANCET, SATURDAY, MARCH 10, 1855.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

JAMES COPLAND, M.D., F.R.S., PRESIDENT.

ANNUAL MEETING.

THURSDAY, MARCH 1ST.

The annual meeting was held this day, the President in the chair. The Report of the Council showed that the Society was in a prosperous condition. The following gentlemen were elected office-bearers for the session 1855-56 :—

President: Cæsar H. Hawkins.—*Vice-Presidents:* George Cursham, M.D.; William Baly, M.D., F.R.S.; George Busk, F.R.S.; Fred. Le Gros Clark.—*Treasurers:* Joseph Moore, M.D.; Thomas Blizard Curling, F.R.S.—*Secretaries:* Thomas Bevill Peacock, M.D.; H. Spencer Smith.—*Librarians:* Wm. Wegg, M.D.; James Dixon.—*Other Members of Council:* Henry S. Dyer, M.D.; Henry Bence Jones, M.D., F.R.S.; Thomas H. Silvester, M.D.; Theophilus Thompson, M.D., F.R.S.; Charles West, M.D.; James Moncrieff Arnott, F.R.S.; Charles Brooke, F.R.S.; John Eric Erichsen; Henry D. Jones; John Simon, F.R.S.

The following resolution was also carried :—

> "That no resolution carried
> amendment, at the annual ge
> respect to the election of the Co
> usual business of such meeting,
> notice shall not have been gi
> meeting, shall be binding on the Society or Council, until such resolution shall be confirmed by a special general meeting, to be convened within fifteen days of the meeting, at which such resolution shall have been carried, by notice from the Council, stating the object of such meeting, and the resolution or resolutions to be proposed for confirmation, and such notice shall be sent to all the Fellows at least five days previous to such meeting, and no question shall be discussed at such meeting, of which notice shall not have been given in the summons."

When the report of the Council had been read, an attempt was made by Mr. de Morgan and Mr. Ancell to show that the reading of that document was not part of the proceedings of the annual meeting, and that therefore an amendment might be made upon its reception. A long, desultory, and somewhat exciting conversation followed, in which amendments and motions were made and withdrawn, with the view, on the part of the proposers of discussing again the proposed withdrawal of THE LANCET from the library. Dr. Copland objected to any resolution upon the subject, and refused to put one, stating that the subject had been disposed of by the Council, which had been delegated by a public meeting to do so. Besides he, as chairman, would not allow a fresh contest between the partisans of opposition journals: that was not the place to fight such battles. He should therefore resist any attempt or subterfuge by which the contest could be renewed. Eventually the report of the Council was read, and Mr. Ancell then proposed an amendment to the effect, that as it had not referred to the proceedings respecting THE LANCET, it was unsatisfactory and incomplete. Mr. de Morgan then entered into a lengthened complaint against the Council, and said that it was only on the conviction that they would have acted differently from what they did, that he supported the proposal of Sir Benjamin Brodie, at the special meeting. Mr. Rowdon also spoke, and complained bitterly of the conduct of the Council. Mr. Travers begged of the Fellows not to continue to agitate political questions in the Society; they were quite foreign to its objects, and calculated to ruin the Society. He strongly reprobated such discussions as he had been listening to, and said that it was absurd to attempt to exclude one journal in particular. There was nothing to choose between them; one was as bad as the other. Eventually the amendment of Mr. Ancell was rejected by a majority of fifty-nine to twenty-four, and the meeting, after some routine business, broke up.[1]

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[1] See also THE LANCET, March 11th, 1854, p. 270.

SOCIETY FOR THE STATE REGISTRATION OF TRAINED NURSES.—The third annual general meeting of this society will be held at the Medical Society's rooms, 11, Chandos-street, Cavendish-square, London, W., to-day (Friday, May 26th) at 3 P.M. Item No. 5 on the agenda is an address by Mr. R. C. Munro-Ferguson, M.P., on Parliamentary Procedure in Relation to the Passage of Bills into Law.

HOSPITAL FOR EPILEPSY AND PARALYSIS, &c., MAIDA-VALE.—The annual meeting of the supporters of this hospital will be held at the new hospital, 4, Maida-vale (near the end of St. John's Wood-road), at 3 P.M., to-day (Friday, May 26th). The chair will be taken by the Right Hon. the Viscount Clifden, Vice-President. The committee of management states that the first section of the new hospital has now been erected, furnished, and fitted at a cost exceeding £25,000 and that the experience of the past 12 months shows that some £2000 will be needed to meet each year's expenditure.

THE LANCET.

LONDON: SATURDAY, MAY 27, 1905.

The Centenary of the Royal Medical and Chirurgical Society.

THE Royal Medical and Chirurgical Society of London has fitly crowned a century of useful work by the varied celebrations which have covered several days of the past week and which have happily blended the pleasures of society with the pursuits of science. The gracious consent of His Royal Highness the PRINCE OF WALES to accept the Honorary Fellowship of the Society, his presence at the banquet on Monday evening, and the appreciative speech in which he sketched the progress of medicine since 1805, all indicate the favour with which His Majesty the KING and the Royal Family have long been known to regard the efforts of those who are most active in the conduct of the unceasing battle of the medical profession against disease and suffering; while the auspicious occasion was further graced by many distinguished representatives of other forms of learning. The Marshall Hall prize address by Dr. W. HEAD, on the Afferent Nerves Under a New Aspect, resting as it does partly upon his own labours and partly upon investigations carried out in conjunction with Dr. W. H. R. RIVERS and Mr. J. SHERREN, was in complete accord with the best traditions of the society in being a paper in which conclusions of far-reaching importance were based upon an adequate number of carefully selected facts; and the President's reception at the Natural History Museum, to which, as to KEMBLE'S acting, "the Graces lent their zone," afforded fitting evidence that even Science regards her triumphs as incomplete until they have been confirmed by the smiles of beauty. It was written of ROBERT ADAIR, a surgeon who flourished when the society was young and whose name would probably be found in the lists of the early members, that he was "the favourite of princes, of fortune, and of women," and the events of the past week go far to show that something of the same kind might be justly said of the society itself. May it long continue both to deserve and to receive such encomiums as those which have now been lavished upon the past 100 years of its existence.

It is one of the privileges of journals to have long memories and those who, like ourselves, can look back into the history of the past will recall at least some occasions on which differences of opinion among the Fellows of the society have been expressed with a force which might almost be said to border upon acrimony. The publication, for example, of a book on ulceration of the cervix uteri, with the stress which was therein laid upon the speculum as an essential instrument of diagnosis, was one of the now almost forgotten events which divided the society into two camps, and which brought large attendances to the meetings. A member of the society vigorously condemned both the new practice and its adherents, whether the latter were members of the medical profession or great ladies who zealously maintained the necessity of the inspections to which their sex were asked to submit. On another occasion the Fellows of the Royal College of Physicians of London assembled in their strength on a ballot evening for the purpose of recording their votes against the admission into the society of a distinguished provincial practitioner who had obtained the degree of Doctor of Medicine from the University of London and who established himself as a "physician" without seeking the sanction of the College. Such episodes, however, were few and transient and the operations of the society as a whole were as cordial in their character as they were eminently advantageous to all who took part in them. The papers read were usually founded upon long and extensive experience or upon carefully conducted research, and the society resembled the House of Commons in this, that the possessors of every kind of knowledge were to be found within the ranks of the customary audience. No speaker could fall into grave error without eliciting reply from someone who was both capable of correcting him and not unwilling to undertake the task; and hence the debates afforded lessons of caution to all who took part in them. It frequently happened that communications read before the society contained the first notices of new discoveries, some of which did not at the time receive full recognition of their importance, and among these was the paper containing the earliest description of embolism as a pathological process. The author, it was said, described how little pellets of fibrine could be shot off the valves of the heart along the arteries until they were arrested by diminished calibre and so blocked the vessels containing them as to deprive tissues on the distal side of their blood-supply. The Fellows, it was added, were immensely interested in the paper, and when it was finished they "laughed and cheered." Such demonstrations, if not stopped, were at any rate suspended during the reign of one very distinguished President. Dr. JAMES COPLAND, the author of the great Medical Dictionary, took the chair in 1853, and the first paper read after he did so was applauded by the audience. He instantly rose and condemned the practice in the strongest terms. The Fellows of the society, he said, were not actors but men of science, bound to listen to each other's opinions with respect, and they should be as incapable of the indecorum of applause as of the analogous indecorum of exhibiting displeasure. During the whole of Dr. COPLAND'S presidency the practice of applauding was abandoned. That of exhibiting displeasure at Berners-street commonly took the form of a gentle tapping with the heels, started at some single point, but certain to spread if it appealed to the general sympathies, and equally certain, before it had been long continued, to drown the voice or to overcome the resolution of the boldest or most persistent speaker.

The presidential chair of the society has naturally been a sort of blue ribbon of the profession, rendered every year more valuable by the eminence of those by whom it has been held, and always conferred alternately upon a physician and a surgeon. The President was not only an eminent practitioner but was usually selected from among men who had done good work in subordinate offices and whose known attachment to the society afforded security that they would be watchful guardians of its honour and of its interests. In this respect, indeed, they were all alike, but successive presidents have entertained very different ideas as to the share which they should take in the proceedings of the ordinary meetings. Some have considered it a duty to open every debate and to direct attention to what they conceived to be the chief questions raised by the paper which had been read. Others have contented themselves with taking the formal vote of thanks usually accorded to the author of the paper; and some have either intervened in the debates or kept silence as they might feel disposed. Dr. COPLAND usually spoke late and usually said that everything important either in the paper itself or in the remarks of the speakers would be found in such and such articles in his Dictionary—an assertion which was completely justified more often than might have been supposed. The great event of the presidential year was, of course, the address upon first taking the chair, which often included a retrospective glance at the work of the preceding session, brief obituary notices of deceased Fellows, and some kind of exhortation concerning the future—exhortation which sometimes conducted an unskilled orator into verbal snares or pitfalls from which escape was difficult or impossible. A president once expressed his hope that during the forthcoming session the working bees of the society would put their shoulders to the wheel, and his successor surpassed this effort by the hope that these same bees would unite with him to cull fruits in the stream of science. Such speeches were, of course, merely examples of what may happen when men even of conspicuous ability attempt work to which they are unaccustomed and from the requirements of which their minds have been diverted by other and more important pursuits. On the other hand, there were always Fellows of the society to whose periods it was a delight to listen, and the measured cadences of PAGET or of SAVORY would often be almost as powerful as their facts and arguments in giving character and distinction to a debate. As we think of those days the worthies of the past crowd upon the mental vision. ALDERSON, an exemplar of grace and courtesy; ADDISON, profuse of gesture, original, and didactic; BRODIE, already becoming in our day an infrequent visitor; GULL, tersely described as "a strenuous bird" and looked upon as a coming man at Guy's; ORMEROD, who then reported the proceedings of the society for THE LANCET and whose career of promise was cut short by cholera before Sebastopol; and ANDREW CLARK, steadily laying the foundations of his reputation in the pathological laboratory of the London Hospital. As there were strong men before AGAMEMNON, so there will be worthy successors of the heroes of the past, and the history of the society justifies it in looking forward to another century of usefulness and of success, if not in its present form then as an important constituent of a united Academy of Medicine. The attempt to federate has been vainly made on previous occasions but the present time seems undoubtedly to be propitious not only for its renewal but for carrying such a desirable project into accomplishment.

The Hygiene of Flat Life.

THE ultimate results of social changes can seldom be exactly predicted. The advocates of any social reform usually paint in vivid colours the Utopian conditions which will prevail if their schemes are carried out, but when the reforms so earnestly recommended have been introduced the looked-for benefits are often woefully less visible than had been prophesied; and not only so but new, unexpected, collateral results, by-products of the reform as we may call them, are found to have developed and the last state is in only too many cases but little improvement on the first. The conditions under which very many of the poorer classes live in all large towns are truly deplorable. The overcrowding is often extreme. Many will remember the late Mr. MONTAGU WILLIAMS'S anecdote illustrative of this. When he was the magistrate at the Whitechapel police-court a case came before him of a dispute ending in a free fight. After much questioning he found that in one room five families lived, one family in each corner and one in the centre, their respective domains being delimited by chalk marks. All went well until the family in the centre of the room decided to take in lodgers and this attempt at overcrowding was forcibly resented by the more particular dwellers in the corners. We do not know how far Mr. MONTAGU WILLIAMS was ready to vouch for the exact accuracy of his humorous story, but that such a tale should be considered a fair comment upon existing conditions goes far to show that in many districts of London the overcrowding is intense. To remedy this evil the energies of philanthropists and municipal bodies have been directed. Overcrowded quarters have been cleared and in place of ill-designed and ill-built houses lofty structures have been erected according to the latest teachings of hygiene.

The dwellers in these sanitary buildings are seldom the inhabitants of the old unwholesome tenement houses which have been swept away. The appreciation of these new "dwellings" is sometimes so great that the owners of them have the power of selecting amongst the applicants those whom they consider to be the most suitable, and then it comes to pass that the new tenants belong as a rule to a rather higher class than those who have been displaced. We do not wish for one moment to minimise or to detract from the benefits resulting from the erection of workmen's dwellings. We are sure that many hard-working people are able to obtain rooms with many hygienic appliances and fittings at a weekly rent lower than they would have had to pay if these "improvements" had not been carried out. So far so good, but there are some by-results of this hygienic building which were doubtless unintended by the well-meaning philanthropists who promoted their establishment but which are of sufficient economic importance not to be ignored. In order that the expense of the rooms of these model dwellings should not be excessive the rooms are made very small and as low in height as the average size of the people will admit, so that the cubic air space per inhabitant is by no means so great as we might expect from the hygienic protestations of the promoters. Not long ago the QUEEN after inspecting some model dwellings pointed out the need for cupboards, but one of the inhabitants remarked on hearing of this suggestion, "We've got the cupboards already, what we really want are rooms." When these buildings are erected by money bequeathed for the purpose, and when their rents are not expected to yield a dividend the chief objection to be urged against them is that, according to an interesting economic law, they tend to lower wages, though it has also to be remembered that they are not inhabited by the class for whom they were primarily intended. When, however, these model dwellings are erected by municipal bodies the case is altered, as for the most part they do not repay in rent the cost of building, so that the balance has to fall on the rates. This is one cause, amongst many others, of the recent rise in rates in London and other large towns. Now every increase in rates has a very direct effect in increasing the expense of living, for no personal economy on the part of a householder can affect the amount of rates which he has to pay. A natural consequence of this increase in rates has been the extension of the numbers of those who live in flats. We do not suggest that the increase in the rates is the only cause, or even the chief cause, but it certainly is a cause and not the least powerful cause, in causing the present migration of Londoners of all classes into flats. Now in flats we find a massing together of large numbers of people in circumstances that are often much open to criticism, so that one result of the efforts of municipalities to improve the hygienic conditions under which some of the poorer inhabitants live has been to deteriorate the hygienic conditions of some of those who are better off. The view that flats are not so hygienic as ordinary dwelling-houses is very generally accepted, but at a recent discussion at the Royal Sanitary Institute on the hygiene of flat life opinions were somewhat divided. The late Dr. FARR used to say that the mere density of the population increased the mortality but the statistics based on the returns at present available do not support this view. These statistics, however, are merely mortality statistics and give us no indication of the amount of sickness not immediately leading to death. To take an instance, there is a widespread belief amongst those who are qualified to judge that for servants flat life is especially unwholesome, but this harmful effect would not show itself in any mortality statistics. If we may judge from death returns servants on flats never die. In a flat there is no accommodation for a sick servant. Therefore, though in a flat a servant may fall ill or be permanently damaged in health by her stay there, yet we shall see no sign of it in the returns of the Registrar-General

The main hygienic defect of the flats is the absence of provision for through ventilation. The great price of the land on which flats are built requires that the buildings shall be high and closely packed. Thus it follows that many of the rooms look upon inclosed air "wells," where a column of air remains almost stagnant from day to day. The staircases and corridors are also equally guiltless of circulating air. Attempts have been made by the architects in some cases to provide for thorough perflation of air by openings at the base of the air wells, but in several instances it has been found that these air inlets have been bricked up or glazed because someone has complained of the draught. The difficulty of providing for through ventilation is the supreme difficulty of the hygiene of flats and it requires to be taken into careful consideration. In many ways the modern flat is a better constructed and more conveniently planned dwelling than the house, but the conditions of its erection compel, or well-nigh compel, stuffiness. It is impossible to prevent the increase in the number of flats. In all large cities flats are a necessity from the appreciation of the ground value of the land. In Rome, the most ancient of the present-day large cities, flats have existed to a large extent for centuries and if the idea is well founded that Rome had in the time of the Emperors a population of over 1,000,000 the existence of flats in the Eternal City may be considered as proved for that epoch, and if so they have existed there for nearly 2000 years. Flats being inevitable, it would be well to insist on the provision of through ventilation, as the most important factor in the improvement of their hygiene.

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The Session of the General Medical Council.

THE eighty-first session of the General Council of Medical Education and Registration began on Tuesday last. In his opening speech Dr. MACALISTER, the new President, outlined a businesslike programme of modest dimensions, a fact which is of good omen. The scope of the duties of the Council is so large, and so much of its work is associated with public interests of the widest sort, that one of the principal difficulties before it is to decide what are the subjects that require special attention. There are but two sessions in the year, although on one or two occasions a special session has been held, and the cost of each is so considerable that it is out of the question that the Council should meet more frequently. Moreover, even if money were of no consideration, it must be remembered that the members of the Council are for the most part busy men whose time is charged and surcharged with public and private duties, so that in many cases they sit at the Council board only with considerable sacrifice of valuable time. Two sessions, however, each usually amounting to less than a week, hardly suffice for dealing with all the vast number of questions that may arise. The relations between the medical profession and the public are regulated entirely by the Council, the maintenance of an accurate Register and the purification of that Register from wrong persons is also its duty, while, perhaps most important of all, the standardisation of medical education is also in its hands. When we remember the vast field that such various functions must offer for discussion we see that a fortnight (or less) in the year is not an excessive amount of time for the public deliberations of the Council, even though much of the real work is done by committees, by inspectors and visitors, and by the President in the intervals between the sessions. A short programme pointing rather to action than to oratory is consequently welcomed by the medical profession, who are also beginning to take note that their interests are not best served by the members who make the most or the longest speeches.

The President was able to make a very satisfactory statement with regard to the funds of the Council. At the end of 1903 the total deficit of the Council was a little over £2000 and at the end of 1904 it is only a little over £200, this greatly improved position being attributable not to any increase of ordinary income but to greater economy of expenditure. Whether the pecuniary situation can be improved until the point of equilibrium is reached, and whether such equilibrium, if reached, can be maintained, seem to us rather doubtful, but the results of economy and orderly administration are very marked, and it must be a great relief to the members of the Council, and to all those of the medical profession who take an interest in the work of their disciplinary body, to feel that for a time at any rate the cloud of bankruptcy appears to be dispelled. It is more than an undignified thing that the General Medical Council should be out at elbows. It is a dangerous position of affairs, because it is inevitable that the policy of the Council should to a certain extent be guided by the money at its disposal. Take, for example, the registration of the medical student. Two sessions ago the General Medical Council decided to promote a Bill in Parliament for the compulsory registration of all medical students upon payment of a small fee. Doubtless the Council was swayed in its decision by the belief that, as it had under its charge the medical education of the country, it ought to have official control over the educational career of every student from the time that he becomes a student to the time when he obtains the right to admission upon the professional roll. But, in addition to the very natural feeling that it was a fit thing that the Council should insist upon registering all students at the beginning of their careers, the Council was also influenced by the knowledge that the institution of a small fee for registration would result in raising an annual sum of money sufficient to turn the vexatious and recurring deficit into a genuine though insignificant surplus. Certain of the educational bodies proved, however, to be strongly opposed to the Bill. They considered it an infringement upon their rights with regard to their students, and when the Council found that the projected measure bade fair to be unpopular it was dropped. Many who are interested in medical politics regret that the Council did not feel strong enough to persevere in its intention, but undoubtedly the Council would have enjoyed greater advantage in opposing the resistance to its views had it been *inspired solely by a wish to consolidate the scheme of* medical education and not at all by a hope of raising the wind—if the colloquialism may be pardoned us.

An important question which the General Medical Council will soon assuredly have to look into is the disorder that exists with respect to medical titles, and the matter was brought forcibly to the attention of the Council on the first day of the present session. It is not so very long ago since a barrister, who ought to have known better, alluded to a Licentiate of the Society of Apothecaries of London in open court as "possessing the lowest medical degree." The barrister in question, not, of course, either a very well-informed or a very civil person, misled by the title of "licensed apothecary," seems to have thought that the medical witness was not a physician or a surgeon, although, as is well known to all our readers, the Licentiates of the two Societies of Apothecaries are distinctly stated at the beginning of the Medical Act of 1886 to be qualified to practise medicine, surgery, and midwifery. A large number (767) of Licentiates of the Apothecaries' Society of London, feeling that some error as to their position may be common, petitioned the General Medical Council at the opening of the session to have their official designation changed from "Licentiate of the Society of Apothecaries of London" to "Licentiate in Medicine, Surgery, and Midwifery of the Society of Apothecaries of London," and their petition was sympathetically received by the Council as a whole. And sympathy is all that the petitioners will get for the present and all that they can expect, for an Act of Parliament would be required to bring about the change of title which is desired. But the subject of medical titles which has thus been introduced to the notice of the Council is one that is bound to ask for further attention. The anomaly by which a man is called an apothecary when he is, as a matter of fact, qualified to practise medicine, surgery, and midwifery is only one of numerous irregularities in medical titles. Why is the main body of the Royal College of Surgeons of England called differently from the main body of the Royal College of Surgeons of Edinburgh or in Ireland? Why do some bodies object to their Licentiates using the title "doctor" *while others permit it? The public is naturally misled into* thinking that a "Member" is better than a Licentiate, or that a "Licentiate" who styles himself without apprehension "doctor" is superior to a Licentiate who does not use the popular title. These ideas of the public reflect unfairly upon many medical men, and the right of all registered medical practitioners to use as a matter of course the designation of "doctor," by which the public always address the practitioner, will be pressed hardly in the near future.

Annotations.

"Ne quid nimis."

MEDICAL CERTIFICATES IN RESPECT OF SCHOOL ATTENDANCE.

A CORRESPONDENT has asked us whether it is consistent with ethical conduct for a medical man to accept an appointment from the education committee of a county council under which he will have to visit and to examine children the patients of other practitioners and to give medical certificates in respect of their fitness or otherwise to attend school. The question is not quite a simple one, though the answer is that, as a rule, such appointments must be very unfortunate. Take, for example, the position in the county of Kent. In 1904 the new education committee of the Kent county council circularised the medical profession of the county asking them to undertake to visit, to examine, and to certify children for school board purposes for a fee of 1s. per head. The proposal was naturally not received with much enthusiasm. In the Sevenoaks division of the British Medical Association, for example, two men out of 20 or so were found ready to accept such an offer, but representations were made to them which induced them to withdraw their acquiescence. A formal letter of protest at the offer of such fees was then sent to the county council committee and the matter was for the time being dropped Our correspondent does not say what fees have been offered in the instance to which he alludes, but if they were such fees as were offered last autumn by the Kent county council we think that they should not be accepted The question of fees is not the only one at stake A dangerous source of professional friction will be created if these semi official posts should be filled by medical men simply to save the pocket of public bodies The Kent county council sought to get its work done at low fees and failed Other bodies, and for aught we know the Kent county council again, may now try by offering the work to one practitioner in each district to get out of paying reasonable fees to the medical profession as a whole, and medical men should not assist such tactics Awkwardness must be produced when one medical man is placed in a semi official position so that it may be his duty to interfere with the patients of his *confreres* In cases of summons for non attendance, if the usual medical adviser, probably inspired by a more intimate knowledge of the patient, did not agree with the semi official diagnosis, the parent would obtain medical evidence supporting his view against the view of the school board, and most undesirable conflicts of expert testimony would ensue There is no need for educational authorities to create a special appointment for a medical man to sign certificates All that is wanted is that the medical man in attendance upon the sick children should be remunerated for giving certificates A question asked in the House of Commons by Mr Rowland Hunt on Monday last showed that the Board of Education did not consider a medical certificate to be the only valid defence for non attendance at school, but surely there are not many magistrates who, save in exceptional circumstances, would accept any other certificate

SPRING CLEANING AND COLD WEATHER.

A cold "snap" in May is particularly unfortunate in regard to household affairs, since most industrious housewives decide to have the "spring cleaning" process finished before the dawn of "the merrie month" and there is not a more decisive ukase in domestic affairs than that which forbids the reversion to coal fires after spring cleaning is done It may be presumed that no such prohibition would obtain in the house in which electricity or gas is used for heating purposes The considerable, if not actually harmful, inconvenience which the inmates of a house suffer in these circumstances is, in fact, tolerated because the use of coal fires would undo the work of the spring cleaning process They are to sit shivering in the rooms because the lighting of the fire would bring in its train a recrudescence of the very kind of dirt which vernal labour has taken so much pains to remove We see here a powerful argument in favour of the abolition of the coal fire altogether and the adoption of a gas fire or electric heater in its place We also have no hesitation in declaring that so long as the English climate exhibits sundry ficklenesses of the very disagreeable kind which we have just recently experienced the cold having been as intense as anything experienced during the winter, the present system of spring cleaning, or cleaning in spring, is based on a very inconvenient and dangerous postulate If at any rate spring cleaning means that the maintenance of a comfortable warmth in the house is precluded, that the household must shiver because cold weather happens to prevail on the conclusion of the process, then surely the institution deserves to be abolished as contrary to common sense and as opposed to the requirements of health The slavish adherence of the housewife to principles of cleanliness is excellent in its way but over zeal in this direction might well be fraught with serious issues to the health of the family Either the rule about fires should be relaxed or else "spring cleaning" should be made to give way to "summer cleaning" or postponed until a more convenient and congenial season when cold "snaps' are far less likely to occur

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

The preliminary programme of the forthcoming congress of the Royal Institute of Public Health, which is to be held in London from July 19th to 25th, has just been issued The congress will be held in King's College and at the Polytechnic, Regent street, London, W In the section of Preventive Medicine, which will be presided over by Sir James Crichton Browne, there will be discussions on the Medical Inspection of School Children, the Teaching of School Hygiene the Waste of Infant Life, and Municipal Milk Depots, while in the section of Bacteriology and Chemistry, the President of which is Professor R T Hewlett, the Bacteriological Examination of Milk, Water, and Sewage will be discussed Professor John McFadyean is the President of the Section of Veterinary Hygiene, Colonel A Crombie, I M S, of the Section of Tropical Medicine, and Lieutenant Colonel R H Firth, R A M C, of the Section of Naval and Military Hygiene Special arrangements have been made to visit various institutions under the control of the Metropolitan Asylums Board and there will be an exhibition of sanitary, and educational appliances The social arrangements include various excursions to Henley, Windsor, and Hatfield, visits to places of interest in the metropolis, such as the Mint, the Bank of England, and Greenwich Observatory, and a garden party The subscription for membership of the congress is £1 1s and for ladies accompanying members or delegates 10s 6d The President of the congress is the Marquis of Londonderry and the honorary secretary is Mr James Cantlie, from whom further information can be obtained at the Royal Institute of Public Health, Russell square London, W C

CORONERS INQUESTS IN LIVERPOOL

The official relations of coroners to practitioners of medicine are not in all cases characterised by the courtesy and good feeling that should exist among members of the learned professions all readers of The Lancet are well aware of this In particular, as regards that important function which has for its object the discovery of the cause of death by violence, or in suspicious circumstances, it is unfortunately true that certain coroners occasionally assume an attitude towards medical witnesses which is but ill calculated to accomplish the object in view A case has recently occurred in Liverpool where a man died in a fit some considerable time after receiving an injury The medical man who saw him, believing that the injury had occurred some two years before death, did not mention the injury in his certificate, but later, finding out that the injury had been received within a year of the death, he made a communication to the widow which led to an inquest At the inquest the medical man said that he had followed the usual belief that there was no necessity to mention an injury in the death certificate if the patient had survived that injury for a year unless the connexion between the injury and the ultimate death were obvious At this point a wrangle is reported to have occurred in which the coroner, the medical man, and two solicitors took part, and which, as might have been foreseen, was not calculated to enhance either the dignity or the efficiency of the coroner's office The coroner appears by the newspaper reports to have said that the medical man in giving his view, which to us appears a perfectly reasonable one, "was talking nonsense," adding that "according to the rules of the Registrar-General if an injury happened ten years before death the fact should be shown in the certificate." The coroner is reported to have made this statement in his magisterial capacity and it was incumbent upon him to make sure of the accuracy of his assertion. As far as we know the only official communication hitherto addressed to medical men from Somerset House which bears on the matter consists of a printed circular, not of rules laid down, but of suggestions courteously offered to practitioners of medicine as to the manner in which causes of death should be returned for entry in the Registrar-General's reports. Having read a copy of that document we fail to find there any rule such as that alluded to by the coroner. We trust therefore that he will take an early opportunity of informing the medical profession of Liverpool on what authority his statement was made as to rules laid down by the Registrar-General. But even if that officer had made such a rule we have yet to learn what authority the Registrar-General possesses to regulate the conduct of medical practitioners beyond requiring them in all cases to fulfil the statutory obligation to certify the cause of death of their patients. After all, the medical man is, and always must be, the judge of the cause of death. He is not a detective officer, and if, amid the manifold worries of medical practice, he occasionally omits to record in his certificate a mere hearsay statement which a coroner may desire to know but which in his own judgment is irrelevant to the case before him it would manifestly be unjust to censure him for the omission. In the present case we cannot see that the coroner had any just ground for his strictures. Shortly after the death of his patient the medical man apparently filled up the certificate "to the best of his knowledge and belief." His *bona fides* is evident from the fact that immediately on becoming aware that an injury had preceded the fatal fit by a less interval of time than had been represented to him on taking charge of the case he brought the matter under the coroner's notice. The medical man's evidence ought to have made it quite clear to the coroner that no irregularity had been committed and that the course of justice had not been endangered in any way. Possibly he missed the significance of the evidence by not being sufficiently well up in ordinary scientific knowledge, but this does not give him the right to tell the medical man that he was talking nonsense.

OZONE IN PUBLIC LAVATORIES.

THERE is no sweeter or more effectual deodoriser than ozone and yet how rarely is ozone employed for this purpose in practice. The peculiar and refreshing smell of ozone is infinitely preferable to the sickly smell of chlorine compounds and tar acids, although these smells may serve to give the public some confidence that where such smells prevail there must necessarily be no risk of infection. In many cases this confidence is undoubtedly misplaced since tar oils in particular which smell strongly have practically little or no germicidal action, whereas the true tar acids, such as carbolic acid and cresylic acid, have a comparatively feeble smell but are very active disinfectants. After all, the action of "chloride of lime" as a disinfectant depends chiefly upon its decomposition by the carbonic acid of the air (which is not a very large quantity) into carbonate of lime and hypochlorous acid. The production of the effective disinfecting compound hypochlorous acid is therefore small, though of course it is steady. The smell of tar compounds, naphthalene tablets, or chlorine powders when coupled with that of the ammoniacal emanations of public lavatories is very offensive to most people. Far better, and certainly much more agreeable for the purpose, would be ozone, to which, moreover, ammoniacal gases readily yield. Ozonisers are so easily procured now and are so simple in construction and in action that it is a matter of considerable surprise that they are not more frequently applied for the purpose of sweetening air befouled with offensive smells. Nor does ozone merely mask a bad smell; in all probability it destroys it. Again, most public lavatories are provided with an installation of electricity for lighting purposes and it would be a very simple matter to utilise a fraction of the current for actuating a battery of small ozonisers. The suggestion, too, if adopted would spare the sewers from the possible corrosive action of certain disinfectant compounds and from blocking by insoluble powders and perfectly futile soap disinfectant tablets.

SUBACUTE PERFORATION OF THE STOMACH.

IN acute perforation of the stomach the gastric contents are extravasated into the general peritoneal cavity and general peritonitis is produced. But in certain cases of perforation the opening is very small and becomes plugged by omentum or by fibrin and only local peritonitis results. Cases of this form of perforation are not well recognised. In the *Boston Medical and Surgical Journal* of May 4th Dr. F. B. Lund has published an important paper on this condition which he terms "subacute perforation of the stomach." Under careful treatment the fibrinous adhesions may become organised into fibrous tissue and the ulcer may heal. On the other hand, the adhesions may be digested and the peritonitis may spread and after two or three days may develop rapidly and prove fatal in a few hours. Finally, a chronic abscess may form. The symptoms of subacute perforation of the stomach differ from those of acute perforation in being less intense and in not being followed by collapse or general peritonitis. In a patient, who may or may not have had symptoms of gastric ulcer, sharp stabbing abdominal pain, with or without vomiting, suddenly occurs and is followed by localised tenderness and rigidity. Under treatment the tenderness and rigidity pass off after several days. When the surgeon sees the patient the attack is generally subsiding and the question of diagnosis arises. The locality of the pain and tenderness do not give much aid. If the ulcer is situated on the anterior surface of the pylorus the peritonitis glues the latter to the liver. The pain and tenderness are so near the gall-bladder that it is impossible to exclude acute cholecystitis. The history of a previous attack of biliary colic or the character of the pain and its relation to meals may respectively point to gall-stones or to gastric ulcer. But the diagnosis can often be made only after operation. Dr. Lund relates the following three cases. A lad, aged 20 years, was admitted into hospital on Oct. 3rd, 1903. For about a year he had suffered occasionally from epigastric pain and for six months he had always had pain after meals. A week before admission while boxing he was struck in the right hypochondrium, where he had slight pain until the day before admission, when he was seized with violent griping pain in the epigastrium which spread all over the abdomen. He vomited after taking warm drinks and had a chill lasting an hour. He walked to the hospital. The temperature was 100·3° F. and the pulse was 60 and the skin was slightly yellow. The abdomen showed no distension; there were slight general rigidity and marked rigidity and tenderness in the region of the gall-bladder. No mass could be felt. The leucocytes were 16,000. Under rest in bed the tenderness and rigidity disappeared. Gall-stones were diagnosed. On Oct. 7th an incision was made through the upper part of the right rectus muscle and the gall-bladder was found to be normal. On opening the peritoneum an excessive quantity of clear dark peritoneal fluid was found. The appendix, which was chronically inflamed and adherent to the outer side of the colon, was removed. But it was thought that the fluid in the peritoneum was not explained. Further examination showed that the pylorus was connected with the under surface of the liver by fresh adhesions. Posterior gastro-enterostomy by the method of Moynihan was performed. The patient regained perfect health and lost all gastric symptoms. In the second case a man, aged 40 years, was seen in consultation one night. For years he had suffered from indigestion and for several months his stomach had been washed out but he did not improve. At 1 P.M. on the day on which he was seen he got out of bed and went to the door to look out and was seized with severe abdominal pain. He vomited and crawled back to bed. At 3 P.M. he was seen by a practitioner who found a pulse of 90 and a temperature of 101°F., with board-like rigidity and general abdominal tenderness, which was especially marked in the epigastrium. There were no signs of shock. A quarter of a grain of morphine was given. At 9 P.M. he had improved, the spasm was a little less, and he seemed more comfortable. At 11 P.M., when Dr. Lund saw him, he was pale and anæmic but did not show the peritoneal facies or marked shock. There were distinct spasm and tenderness in the epigastrium which shaded off into the other regions of the abdomen. The tongue was moist, the pulse was 90, the temperature was 101·4°, and the abdomen was retracted. As the vomiting had not been repeated, the spasm had decreased somewhat, the pulse was not increasing, and the patient was more comfortable, it was thought that a perforation had occurred but was walled off from the general peritoneal cavity. Operation was therefore deferred until the following morning when the patient's condition was about the same. The pylorus was found connected by fresh adhesions to the under surface of the liver. Fresh flakes of fibrin extended across the greater part of the anterior surface of the stomach, especially along the lesser curvature. There was an excess of serum in the peritoneal cavity. Posterior gastro-enterostomy was performed. Solid food was taken on the fifth day and after two weeks the patient was eating more than he had done for years and without any distress. Three months later he had gained much weight and was in excellent condition. In the third case the patient was a man, aged 50 years, who was admitted to hospital on June 3rd, 1903. He had always been constipated, his bowels acting only once or twice a week. For five weeks he had had epigastric pain and for three days it had been severe. The abdomen was distended and there were dulness, tenderness, and spasm in the left hypochondrium. An enema brought away large masses of scybala and he became more comfortable. On the 10th there was still a tender mass in the left hypochondrium and an incision was made over it. The stomach was found adherent to the anterior abdominal wall and much thickened. On separating it a perforation about a quarter of an inch in diameter was found near the cardia. After walling off the ulcer was infolded and posterior gastro-enterostomy was performed. Recovery followed. These cases show well that the location of the pain and tenderness depends on the position of the ulcer. Dr. Lund recommends that in such cases posterior gastro-enterostomy should be performed without, if possible, breaking up the protective adhesions.

THE OPTICAL CONVENTION.

THE Optical Convention for 1905 will be held on May 30th in the Northampton Institute, Clerkenwell, E.C., under the presidency of Dr. R. T. Glazebrook, F.R.S., and among the vice-presidents are Lord Kelvin, Lord Rayleigh, the Earl of Rosse, Sir Howard Grubb, and the Astronomer-Royal. The aims of the Convention are to increase the interest taken in optical science in this country, to promote an improvement in technical education in optical matters, and to aid the development of the British optical industry. The programme of the Convention includes meetings for papers and discussions, which will be subsequently published in a volume, and an exhibition of optical and scientific instruments of British manufacture, with a catalogue which is intended to serve as a work of reference illustrating the productions of opticians in this country. Among the papers and the discussions are promised contributions by Lord Rayleigh on the Polishing of Glass Surfaces, by Professor Poynting on the Parallel Plate Micrometer, and by Professor Schuster on Spectroscopic Optics. The subjects dealt with include the design of optical instruments, the measurement of aberrations, diffraction in optical instruments, and various questions connected with photography, photometry, ophthalmometry, and the like. The Earl of Rosse, Lord Blythswood, and Sir William Abney are among those who have promised to preside at the sectional meetings.

FRESH AIR AND THE BURGLAR.

THE principles of living as much as possible in the fresh air should, of course, extend to the bedroom, although there is a common but erroneous impression that night air is unsuitable, if not dangerous, for respiration during sleep. As a matter of fact, night air is generally purer than the air by day, since it is freer from suspended particles of dust—bacteriological entities which arise from the disturbance of the day's traffic. Night air is, moreover, comparatively free from the pollutions of the chimney but it is naturally cooler than in the daytime and often deposits moisture, especially on an unclouded night when the radiation of the earth proceeds rapidly. Such moisture is, however, deposited on rapidly cooling surfaces and is not likely to be formed in the bedroom. The sleeper is, as a rule, adequately protected against changes of temperature by the powerful non-conducting property of the bedclothes and, of course, it is desirable that no part of the body should be directly exposed to a cold draught. There can be no doubt that the inspiration of fresh pure air during sleep considerably promotes the well-being of the individual and gives him a much stronger sense of recuperation than when a supply of fresh air is excluded. Oxidation and the destruction of toxic products are encouraged in the former case, while in the latter the impure products of respiration may be breathed again and again. Many persons who are professed followers of the doctrine of fresh air are precluded from carrying their convictions on this point into practice at night because they fear that leaving windows open will give an easy opportunity to the burglar. And in many houses, especially in the suburbs and country, such is undoubtedly the case. It is a pity that such fears tend to prevent the healthy policy of sleeping in fresh air from being carried out but there should be no difficulty in overcoming them. The fact that the majority of persons sleep during a third part of their lives enhances the desirability of recognising the importance of the admission of fresh air into bedrooms.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, HAMPSTEAD AND NORTHWOOD.

A COURSE of post-graduate lectures and demonstrations, free to members of the profession and medical students, will be held at the central out-patient department, 7, Fitzroy-square, London, W., on Thursdays, at 5 P.M. Dr. George A. Heron delivered the introductory address on May 18th and on May 25th Dr. J. Edward Squire lectured on Difficulties in the Diagnosis of Chest Affections. The subsequent lectures and subjects will be as follows: June 1st, Dr. George F. Johnston on the Pathology and Treatment of Asthma;

June 8th, Dr. F. Parkes Weber on Pneumothorax in Tuberculous Subjects; June 15th, Dr. T. N. Kelynack on Cases of Arrested and Advancing Pulmonary Tuberculosis; June 22nd, Dr. T. D. Lister on Pre-Tuberculous Affections in Early Life; June 29th, Dr. F. W. Price on Aortic Stenosis; July 6th, Mr. James Berry on Foreign Bodies in the Air-passages; July 13th, Mr. Harold S. Barwell on the Diagnosis of Tuberculous Laryngitis in its Early Stage; and July 20th, Dr. Herbert J. Scharlieb on Some Post-Anæsthetic Complications.

THE TRAFFIC IN OLD HORSES.

WE have from time to time[1] protested against the cruelty involved in shipping old broken-down or diseased horses to ports abroad and a peculiarly scandalous case came before Mr. Mead at the Thames police-court on May 16th. The accused was a man named John Ellett. The horse was seen by Inspector W. Rogers of the Royal Society for Prevention of Cruelty to Animals. It was in a float and was apparently suffering great pain. Mr. Ellett on being questioned said that he had sent the horse and that he knew "the feet were a bit rotten." He continued: "I bought it to sell to White for shipment abroad. They fetch a better price there." Mr. Mead, in sentencing the prisoner to one month's imprisonment, said that the whole traffic was a most discreditable one. We quite agree with Mr. Mead; the traffic is more than discreditable, it is disgusting. These wretched animals are mostly shipped to Rotterdam, where their flesh is used as food, and we suspect in some instances returns to this country in the form of sausages or "delicacies" of various kinds. In our opinion the traffic should be made illegal. A little time ago something was done to make it somewhat less revolting by means of a Board of Agriculture order but without doubt it should be stopped altogether.

THE DURATION OF THE INCUBATION PERIOD OF TETANUS: A MEDICO-LEGAL QUESTION.

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of April 30th a case is reported which is of considerable importance both from the pathological and the medico-legal standpoints. On April 17th, 1902, a navvy in the employment of a railway company and a comrade were lifting a rail with a crowbar when the crowbar slipped and his little finger was crushed between the crowbar and the rail. Suppuration followed and after being incapacitated for 17 days the man resumed work. About the end of June he had a boil on the knee which prevented him from working for a fortnight. Towards the end of August he manifested symptoms of tetanus and he died on Sept. 17th. His widow brought an action against the company, claiming that the injury to the finger was the cause of the tetanus. The question arose, Could the incubation period of the disease be so long as four and a half months and the tetanus have been due to the injury? As is the fashion in French courts, the judge referred the question to a committee of experts consisting of Professor Ferré, Professor Sabrazès, and Dr. Faguet. They consulted both French and foreign works on tetanus. The ordinary incubation period was given as from five to 15 days, especially by recent writers. But some writers stated that the incubation period might be as long as from 20 to 30 days, several months, and in one case (mentioned by Heineke) even two years. However, these long incubation periods were given at a time when the pathogenesis of the disease was not well known. Thus, in the case in which the period was alleged to be two years the disease was attributed to a bullet wound, but the fact was overlooked that it might have been due to a much later injury, as the patient was in the habit of giving himself injections of morphine. Turning to experiments on animals M. Vaillard and M. Rouget reported in the *Annales de l'Institut Pasteur*, 1892, a case which, however, was unique in their experience. In order to ascertain whether a guinea-pig born of a mother vaccinated against tetanus was immune they injected fluid containing the spores of tetanus. After an incubation period of three and a half months symptoms of tetanus manifested themselves and the animal died. The experts reported to the court that in the present condition of science it had not been shown that the incubation period of tetanus in man could be as long as four and a half months and that a relation of cause and effect had not been shown to exist between the injury to the finger and the attack of tetanus. Judgment was given against the plaintiff.

BRITISH DENTAL ASSOCIATION.

THE twenty-fifth annual meeting of the British Dental Association was held at Southport on May 20th, 22nd, and 23rd. The report of the representative board showed that the membership of the association continues to increase, the number now standing at about 1400. Reference was also made in the report to the appointment by the Admiralty of three dentists to the navy and regret was expressed that the army authorities had not been permitted to increase their dental staff, the blame apparently resting with the Treasury. The address of the new President, Mr. T. Gaddes, was full of interest. He drew attention to the great increase in the number of persons practising dentistry unregistered and he gives the following figures: "Within the area of the North Midland branch there were in 1899 125 unregistered persons practising dentistry. In five years (1904) the number had increased to 303. In Leeds alone there were 16 in 1899 and over 40 in 1904." This condition is, as he truly states, due to "the most regrettable state of the law as to practice." With regard to dental education he expresses the hope that no impediment will be placed in the way of students for the dental qualification and considers that the present curriculum must not be extended or the examination made more severe. The need of efficient dental services for the poor would, he considers, be best met by the establishment throughout the country of provident dental aid associations, guilds, or dispensaries. A considerable portion of the address was devoted to the prevalence of caries of the teeth and its results and the teaching in the elementary schools of oral hygiene was advocated.

"CANCER BODIES" AND NORMAL REPRODUCTIVE TISSUE.

WHEN, in a communication to the Royal Society in 1903, Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E. Walker described the resemblances which they had discovered between normal reproductive tissue and the tissue of malignant growths their observations were confined to the peculiar forms of nuclear division common to these two tissues. The special points of resemblance recorded were subsequently confirmed last year in the laboratories of the Imperial Cancer Research Fund by Dr. E. F. Bashford and his fellow workers. In a communication to the Royal Society on May 11th of the present year Professor Farmer and his two collaborators describe a striking resemblance, extending to minute points of detail, existing between "Plimmer's bodies," which have been regarded as cancerous products, and certain normal constituents of the cells directly concerned in spermatogenesis. As is well known to those familiar with the literature of the subject, "cancer bodies" have frequently been observed by different investigators and they have been interpreted as representing various parasitic organisms The writers of the paper, the text of which will be found in another column, bring forward weighty evidence against such a view They maintain that the bodies in question are strictly analogous to, or identical with, those occurring in the normal course of spermatogenesis The appearance of sporulation which has favoured the hypothesis as to the parasitic nature of the bodies is shown to exist as a definite stage in the protoplasmic structure of the normal reproductive tissues in which the complete series of events is clear and is susceptible of no misinterpretation Whilst the writers regard the structures in question, whether occurring in malignant or in reproductive cells, as identical, they are careful to point out that they do not on this account extend this identity to cover the nature of the cells themselves They still hold, as they have always maintained, that there exists a similarity between reproductive and malignant tissues and they adhere to the term "gametoid" as expressing the resemblance, whilst also emphasising the differences The new discovery presses the similarity still closer, but the writers are inclined to see in it evidence of the maintenance in the one case of a primitive type and in the other case a reversion to such a type

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[1] THE LANCET, Dec. 3rd, 1898 (p. 1492); Feb. 16th (p. 495); April 13th (p. 1095) and 27th (p. 1219), 1901; and April 11th, 1903 (p. 1045).

PUBLIC HEALTH IN HONG-KONG

IN *the introductory paragraph of his report on the* health of Hong Kong during 1904 Dr Francis W Clark, the medical officer of health, mentions that the district under the jurisdiction of the sanitary board has an area of 29 square miles, a non Chinese population of 18,900, and a Chinese population of 342 306, making a total population of 361,206 Of the Chinese population 72 9 per cent are males The corrected general birth rate was 4 9 per 1000, among the Chinese alone it was 4 4 per 1000, and among the non Chinese community it was 13 9 per 1000 The death rate among the Chinese community was 17 18 per 1000 and among the non Chinese resident civil population it was 17 58 per 1000 Only three deaths from plague occurred among the non Chinese community, all of them being Indians The total number of deaths among the Chinese from malarial fever was 289, while among the non Chinese it was 12 The total number of cases of infectious disease reported by registered medical practitioners during the year was 758, of which 510 were plague 129 were enteric fever, 41 were cholera, and 64 were small pox Dr Clark says that owing to the Chinese custom of manuring market gardens with human fæces it is dangerous to eat raw salads in the colony unless grown in a private garden under the immediate care of a European The highest shade temperature recorded was 91 1° F on June 26th The total rainfall was 80 41 inches and the wettest month was August with 27 64 inches The greatest amount of rain which fell on any one day was 11 13 inches on August 25th

SYPHILIS AND THE SPIROCHÆTE PALLIDA

AT the meeting of the Paris Academy of Medicine held on May 16th M Metchnikoff read an important communication He reminded his audience that in 1902 M Bordet and M Gengou had found a spirochæte in syphilitic chancres and also in many cases in mucous plaques of the throat But as similar micro organisms are known to exist in normal throats M Bordet and M Gengou did not feel justified in insisting on the specificity of this germ In order to control the results obtained quite recently by M Schaudinn and M Hoffmann upon the pathogenic agent of syphilis M Metchnikoff undertook some bacteriological researches into syphilitic lesions occurring both in human beings and as the result of experiment In four out of six syphilitic monkeys he found the spirochæte which was distributed indifferently in chancres, mucous plaques, and in serous exudation In human beings the germ was also found in four cases out of six, both in chancres and in early papules M Metchnikoff considers that the search for the spirochæte, which is not found in other cutaneous diseases, will serve as a diagnostic point in syphilis The germ is difficult to cultivate but M Metchnikoff hopes to arrive at positive results and to be able to obtain an antisyphilitic "vaccine" Syphilis would therefore appear to be a chronic spirillosis due to the spirochæte pallida

THE medical officer of health of the Cape Colony states that for the week ending April 22nd the condition of the colony as regards plague was as follows At East London six cases of plague and at King William s Town two cases of plague were discovered during the week, all the patients being natives Plague infected rodents were found at Port Elizabeth, Uitenhage, and East London, and at the latter place two plague infected cats were also found In the other districts of the colony no case of plague in man or other animal was found In Brisbane Queensland, the last case of plague was reported on April 1st and the last plague infected rodent was found on April 6th During the week ending April 22nd one case remained under treatment At Hong Kong during the week ending May 20th there were 20 cases of plague with 18 deaths

IN connexion with the Festival Dinner in aid of the funds of the National Hospital for the Relief and Cure of the Paralysed and Epileptic at the Whitehall Rooms on June 15th, at which Lord Strathcona will preside a collection has been made amongst the members of the Stock Exchange amounting to £908 9*s* Already a sum of over *£2000 has been received in response to Lord* Strathcona s appeal and it is hoped that a large part of the £5000 necessary to obviate closing wards will be forthcoming

THE Romanes lecture for 1905 will be delivered by Professor Ray Lankester, M A, F R S, Honorary Fellow of Exeter College director of the Natural History Museum South Kensington, in the Sheldonian Theatre, Oxford, on Wednesday June 14th at 2 30 P M The subject of the lecture will be Man and Nature

THE annual extra metropolitan gathering of the Otological Society of the United Kingdom will be held on June 3rd at Manchester By permission of the Vice Chancellor the members will meet in the pathological theatre of the Victoria University

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS

A MORNING AT HÔTEL-DIEU

BY EDMUND OWEN, F R C S ENG,
SURGEON TO THE FRENCH HOSPITAL, LONDON

THOUGH to my certain knowledge Dr Lucas Championnière was heavily engaged in dispensing hospitality till late into the night of May 12th, he still held to his appointment for 9 30 at Hôtel Dieu on the 13th And, sure enough, as Notre Dame marked the half hour the illustrious French surgeon arrived "Come first into the wards," said he "I have got some bone and some joint-cases which I am sure will interest you"

The *first* case was that of a young man who, till a few years ago had been a complete cripple on account of extreme double talipes equino varus of congenital origin He practically had never walked before he came under the care of Dr Lucas Championnière The plaster casts of his two feet showed how serious the deformity had been The operation performed on him had consisted in the removal of all the tarsal bones except the lower part of the os calcis, and it had enabled the feet to come straight and square. Though small and short, they were extremely useful, and the man took great delight in showing them off by squatting down on them and so flexing them to less than a right angle. The result of this operation left little to be desired, and the surgeon said that it had been secured by the great freedom with which the tarsus had been cut away. He remarked that he had once been taken to task by some anatomical friends when he had made the statement that the chief use of the tarsal bones was certainly not for the purposes of progression. This operation was Lund's method carried to an excess. Lund might, indeed he would, have removed the astragalus in each of the feet under consideration, but he would not have gone on to take away with it the adjacent part of the calcaneum and the five remaining bones of the tarsus. Skiagrams showed the bases of the metatarsal bones lying at the front of the os calcis and close beneath the end of the tibia.

Shortly afterwards the surgeon demonstrated the case of a young woman who had had what he called *une jambe à la Polichinelle*—that is to say, a lower limb left useless and deformed with infantile paralysis. First he had excised the knee and thus obtained solid synostosis of the tibia with the femur. Then he had brought the foot into a sound and useful position by removing the chief part of the tarsus as just described. Although this patient was still in bed the case seemed full of promise. Finding how useful a foot could be obtained after a radical tarsectomy, Dr. Lucas-Championnière had adopted that operation in the treatment of several bad cases of flat-foot, but he had been disappointed with it and had now abandoned it in dealing with flat feet.

In a bed at the end of a long ward was a man with a recent fracture of the surgical neck of the humerus which was being treated without splint or apparatus, but by gentle massage. "If the massage gives pain in the treatment of fracture," said the surgeon, "it is doing harm or is being badly done." His experience was that the treatment of such a fracture without retentive apparatus was not only a great comfort to the patient, but it enabled him to recover free movements of the arm at a far earlier period than by the old methods. Dr. Lucas-Championnière then showed a case of fracture of the lower end of the radius which had been treated from the first by massage without splint, and in which the range of movement was highly satisfactory. But I should not be an honest historian if I failed to remark that I found the styloid process of the radius occupying a higher level than it ought to do. Every surgeon knows that the sooner a Colles's fracture is taken off the splint and massage is begun the better; but I certainly think it well to have a splint applied for a week or so, freeing the hand for massage every day. In my experience it is the over-cautious practitioner—the man who fears week after week to leave off the splint—who gets the worst results from this kind of injury.

In the treatment of Pott's fracture without splints Dr. Lucas-Championnière said he had obtained the most surprisingly good results. He had had plenty of these cases, especially in young cavalry soldiers, and these patients were now able to get back into the saddle in about half the time which they used formerly to need. Then he became eloquent upon the French Employers' Liability Act, or whatever it is called. It seemed to be in France much as it is with us; if the workman hurts his hand he is to receive pay for as long as he is unable to use it. The little hurt is quite a godsend to him. He likes being idle, especially when he is paid for it, so why should he be in a hurry to go back? As a matter of fact, he is not in a hurry. He keeps on the free-list as long as he can. Even massage does not cure him. I wished that Mr. Spanton could have heard the description of the ways of the French working man—it was so fully in harmony with the result of his recently recorded experience of the bearing of the Act in England. What was the word which Mr. Spanton gave to this twentieth-century disease—was it not *ergophobia?* The French surgeon wound up with the statement that this workman's law was bad, and that it would have to be altered. Who, I wondered, are going to alter it, the workmen or the employers? Probably, if the former *will* not the latter *can* not.

One extremely interesting case was that of an alcoholic man, of middle age, who had come to Dr. Lucas-Championnière with rupture of almost the entire mass of the quadriceps extensor cruris. Writing from memory, I believe that the rupture was not of recent origin. At any rate, it was operated on, and as the upper end of the muscular mass had been carried a full hand's breadth from its insertion into the patella, and as it was found impossible to bring the ends together, the surgeon had united them across the gap by long strands of thick silver wire, which we could distinctly feel beneath the skin and recognise in the skiagram. It was certainly a most remarkable and useful piece of surgery, for the man was now able to carry on his business as a porter at the central market and was evidently full of vigour. Judging from his appearance I personally should not have ventured to put a knife into his tissues. I should, indeed, have deemed it dangerous to bring a naked light anywhere near him.

Having thus paid a most instructive visit to the wards, we were taken into the operating theatre, where we found a young woman lying on the table calmly waiting for a radical operation to be done upon her femoral hernia. There she lay, among sisters and attendants in white dresses, and with open trays of instruments on one side of her, and with dishes of sponges and dressings on the other. How long she had lain with these unattractive surroundings I do not know. Perhaps my presence in the ward with my surgical friend had caused her time of waiting unduly to be lengthened. At any rate, I felt quite sorry for her, so I went up to her and, for the sake of distracting her attention, congratulated her on her *sang-froid*, and told her that she looked very brave and happy. She said that in this case her feelings were not in harmony with her appearance. And this I could fully believe.

As surgeon to the French Hospital in London I have been constantly struck by the pluck which is shown by French men, women, and even children on their coming into the theatre for operations. When it was my good fortune to be appointed the surgical colleague of my late friend Dr. Achille Vintras, and found that economic arrangements made it necessary for the patients to be brought into the operating theatre before the anæsthetic was administered, I thought that I should have great difficulty in persuading my French patients to bring their courage to the sticking point, and that we should have many a "scene" on operating days. But never once has the courage of a French patient failed him or her. My French patients are, to say the least, possessed of quite as much "pluck" as my own countrymen, and their behaviour fills me with admiration and respect.

At Hôtel-Dieu the anæsthetic given was a mixture of chloroform vapour, oxygen, and air, but the apparatus by which it was served seemed to me to be as complicated as the chassis and engines of a petrol motor. Dr. Lucas-Championnière, however, assured me that it was really quite simple, so I take his word for it. As the patient was being "got under" the surgeon leisurely cleaned his hands, using much soap but little water. I confess that I was surprised at the short time that he took over his own toilet, and at the fact that he did not rinse his hands in antiseptic lotion just before making his incision. He turned to me, however, and said that the old antiseptic faith which he had many years ago acquired from Lister himself had for all this time supplied him with perfect results, and it found him to-day with no desire to go in search of problematical improvements on the original methods. That he found it necessary to use neither india-rubber gloves nor facial mask, and that though the requirements of his service made it obligatory that foul cases should often be occupying beds side by side with aseptic operation cases, a strict observance of the great principles which Lister had taught him carried him along with security as well as safety. That he used Lister's catgut for every suture and for every ligature. That he still swabbed his wounds with 1 in 20 carbolic lotion before closing them, and that he continued to use a simple rubber drain in most of his operations. In short, Dr. Lucas-Championnière is still the faithful and devout, and therefore the successful, disciple of our Lister, and he finds his simple faith sufficient for all needs. What, I wonder, could a surgeon ask more than this, what more need he desire?

Having closed the hernia-wound in the young woman (except for the drainage-tube) the surgeon covered it with gauze and collodion and applied a pad of aseptic peat-wool, which, he said, on account of its absorbent qualities, as well as of its cheapness, was abundantly supplied by the Assistance Publique. As I was washing my hands before leaving the theatre Dr. Lucas-Championnière expressed his regret that he could not offer me a proper towel. "We have," said he, "plenty of sheets and linens of large size, but of proper towels we have none, for our patients have such a fancy for such things that they invariably carry them away if the chance is offered. The best that I can offer you is one of these mean squares of linen which do not seem to offer any great temptation to the patients, 'nous les appelons les mouchoirs de l'Administration!'"

Though it is not my intention to write any account of the visit of the British medical men to Paris further than of the Saturday morning spent at Hôtel-Dieu, still, having mentioned the words Assistance Publique, the great controlling centre of the hospitals of Paris, I would like to say a few words about it. First of all, as a visitor, I would like to express to M. Mesureur, the Director of the general administration, most grateful thanks for a hundred acts of kindness and thoughtfulness which he and his service rendered to us. We shall not forget them.

And then I would say that it seems to me that the time cannot be far distant when our London hospitals, or most of them, must of necessity come under some such central public control. Extravagance in building, needless expense in the many separate schemes of maintenance and direction, enormous sums of money frittered away every week in advertisements and appeals for funds, an obvious want of supervision in the costly matter of drugs, diets, and dressings, and, last but not least, the springing up of a sort of rivalry and competition amongst the various institutions, all seem to suggest that if only to save them from insolvency our hospitals should be placed under authoritative control. The trying to patch up deficiencies in income by making poor people put down a few miserable coppers for medicine; the temporary closing of wards, or the conversion of them into homes for the reception of paying patients; the giving of permission for collecting boxes to be rattled on certain days in the year in the face of every passer-by, and the pestering of householders by heart-breaking appeals for financial help are means as unsatisfactory as they are unsatisfying. And when one sees the quiet, economical, business-like and efficient way in which the Paris hospitals are organised and administered by the Assistance Publique the more desirable a scheme of the same sort appears to be for London. Probably the King's Hospital Fund is already working towards that end.

In conclusion, I would say that the visit of the British medical men to Paris has been a perfect success in every way. We have been received in the most charming, courteous manner and treated in the most princely fashion. To say that our *confrères* have been thus kind to us is but a cold expression of what one would like to say. And as I look back upon our delightful visit—full of most happy remembrances—I cannot get away from the feeling that when our French brethren visited us last autumn we, personally and collectively, made no adequate effort to render their visit enjoyable. But when, at the magnificent banquet which they gave us on the last night of our visit, I was thus unburdening my mind to my French neighbour at the table he gently replied, "Why, the greatest compliment which you could possibly have paid us in connexion with our journey to London was this prompt and friendly return of our visit." And I know that he meant it!

BRISTOL HOSPITAL SUNDAY FUND.—At a meeting of the council of this fund held on May 18th it was reported that in 1905 there had been collections at 425 places of worship; of this number 55 were new ones. The total amount received was £2053, being £326 in excess of the amount collected in 1904 and £280 more than the largest sum hitherto realised. Of this sum the Bristol Royal Infirmary has received £805, the General Hospital £675, the Children's Hospital £261, and the Eye Hospital £120. £108 were divided among smaller medical charities, giving a total of £1969 which has been already distributed.

RUSSIAN MEDICAL STUDENTS' INTERRUPTED STUDIES.—The conference of the Imperial Military Medical Academy is continually receiving requests from medical men and pharmacists serving at the front after having had their examinations interrupted by the military requirements that they should be allowed to finish their examinations for their respective callings after their return. They have been informed that the examinations which they have already passed will still stand to their credit but that on their return to St. Petersburg they will have to petition afresh, properly supported with documents.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XIII.[1]

THE PRESENT STATE OF MEDICAL EDUCATION.

The Universal Scheme.—A Tabular View of the Five Years' Curriculum.—The Societies of Apothecaries.—The Registration of the Student.—The English Colleges resist the General Medical Council.—Some Comparisons.

THE state of the medical profession in respect of its professional position has now been described and we see that it is a sound one, though under its various aspects there are many things that require alteration, and though grave abuses exist which could be righted immediately if only the mischief of them were properly appreciated. A profession which brings to so large a proportion of its followers a fair measure of practical success, which can be pursued in such different environments, and which offers in its mere pursuit such high intellectual and moral pleasures, cannot possibly be regarded as other than a good one, even if it may be easy to show many directions in which it might be bettered. In fact, the obviousness of the drawbacks justifies us in believing that alteration for the better may be expected. But no picture of the present position of medicine, either of its practice or of its relations to the public, should be given without dealing with medical education. The solution of the troubles of the medical life, almost as much as the intellectual pleasures of that life, lie in the acquisition of scientific knowledge and the practical power to apply the same. It is urgently important that we should all, as a profession, appreciate how much depends on the maintenance of a high level of professional learning. Only in this way can we deserve the consideration of the public and command a respectful hearing when seeking any improvement in the conditions of medical practice.

The position of medical education in Great Britain and Ireland at the present day is in a similar plight to the professional position. It is in many particulars open to amendment, but the principles as laid down by the statutory educational bodies, which are numerous and endorsed by the General Medical Council, appointed by Act of Parliament as the coördinating authority, are sound. The desire of the General Medical Council ever since its institution has been to secure an adequate curriculum for the medical student, so that the medical practitioners of England, Scotland, and Ireland, through whatever qualifying body as a medium they might enter the medical profession, should be up to a due, even to a high, standard of efficiency. As this has also been the aim of the various qualifying bodies, the great majority of which were in existence years before the institution of the General Medical Council, the educational work of the Council has been simplified. The Council, however, has recently been confronted with difficulties mainly arising from the general development of medical knowledge and the consequent increase of subjects for which space has to be found in the student's curriculum, but due also to a want of complete accord in the aspirations of all the qualifying bodies and to the special circumstances which surround the medical student at the London schools.

The scheme which the various qualifying bodies have adopted by a sort of general consensus of opinion, and which is approved of by the General Medical Council, may be summarised as follows. Firstly, the student must pass a preliminary examination, which is not of a stringent character, in fact, it seems that almost any initial test answers the purpose. Secondly, he must enter upon a five years' curriculum from the date of passing that [illegible] must submit himself to [illegible] entific examination, an [illegible] final examination. The [illegible] the subjects of which are chemistry, botany, biology, and physics, should be passed at the end of the first year; the intermediate examination, the subjects of which are anatomy and physiology, should be passed at the end of the third year; the final examination, the subjects of which are medicine, surgery, and obstetric medicine, should be passed at the end of the fifth year. Hence, the first year of the medical student's curriculum should be devoted to the more or less elementary study of the sciences which he will later find are necessary to the comprehension of medicine—the ancillary sciences; the next two years should see him in the dissecting room and the physiological laboratory learning to appreciate the shapes, dispositions, relations, and functions of the normal human body as the only method of detecting and understanding any lapses into disease or pathological conditions due to injury; and the last two years of the curriculum will be spent in the wards and out-patient departments of a hospital.

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[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., and XII. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), 22nd (p. 1089), and 29th (p. 1151), May 6th (p. 1218), 13th (p. 1287), and 20th (p. 1375), 1905 respectively.

The medical curriculum has been extended in obedience to the vastly greater scientific and professional equipment that is now required of the medical practitioner in whatever branch of medicine he may be called upon to practise. Many years ago it was extended from three years to four, while a change made 12 years ago extended it from four years to five. Each change necessitated a re-arrangement of their examinations upon the examining bodies, and the result is that at the present moment a great similarity appears in the educational course of all of them, every student having the same subjects to read and to acquire practically in the same space of time. Consequently the state of medical education in the three countries at the present day can be discussed as a more or less uniform thing, arranged upon a definite pattern by the respective qualifying bodies and supervised by one authority—the General Medical Council. This uniformity may be insisted upon a little, for it is exactly what would *not* be expected to exist where over 20 educational institutions, having their homes in different countries and drawing their *clientèle* from different classes, compete against each other for the patronage of the student requiring a qualification. The fact that at the present time, under a system in which many faults of detail can be found, a high general level of education is maintained, making down-grade competition very improbable, is striking. And it has a forcible bearing upon proposals for reform because it suggests that the existing condition is a sound one and that nothing is required save to simplify it (1) by removal of the anomalies that are due to its growth into a whole from many separate directions and (2) by resistance to unnecessary developments undertaken with the vain hope of examining students, whose season of acquisition must be limited, in all the unlimited extensions of modern medicine.

The simplest manner to obtain a bird's-eye view of the present state of medical education in England, Scotland, and Ireland will be to consider the curriculum of the student as enjoined by the different qualifying bodies in connexion with the supervision exercised over this curriculum by the General Medical Council. The part played by the General Medical Council is to admit the student to the roll of the profession when he is successful in obtaining the necessary qualifications and to see that those qualifications are adequate. The part played by the qualifying body will be to examine him at different stages of his career. The fact that there is a general likeness between all the educational plans of the qualifying bodies enables the subject, which in a manner bristles with detail, to be treated with some brevity. This will be seen by an examination of the following two small tables. The first table sets out the examination scheme of three universities, those of Cambridge, Edinburgh, and Dublin; the second the examination scheme of the Royal Colleges of Physicians and Surgeons of the three countries. The examinations of the two Societies of Apothecaries will be found separately treated. The exact details of all the examinations of all the bodies are published annually in the respective calendars and are summarised, also annually, in the Students' Numbers of THE LANCET. There is no need to recapitulate particulars which have been published so frequently and which are so completely accessible. I have chosen, to illustrate the homogeneity of all the educational schemes laid down for the medical student, the schemes of six educational bodies, a university and a corporation in each division of the kingdom. Looking a little more closely into the details of these schemes we see their similarity to each other, and in comparing them with the schemes of other bodies we see again that the differences are mainly superficial.

The first step in the education of the medical student is his registration and the registration of a student is not compulsory. The General Medical Council has laid down regulations in reference to the registration of students which are very precise but there is nothing in the Medical Acts making it incumbent upon the student to enter his name with the Council at the commencement of his studies. It is sufficient for his name to be enrolled by his qualifying body upon passing one of the statutory examinations; that body becomes responsible for not admitting him to his final examination until five years later.

The preliminary examination, as provided for by the General Medical Council, supposing the student not to begin his studies by passing any recognised test at his university or corporation, is of fair scope. The following is the schedule:—

1. English language, including grammar and composition.
2. Latin, including grammar, translation from unprescribed Latin books, and translation of English passages into Latin.
3. Mathematics, comprising arithmetic, algebra, including easy quadratic equations, geometry, the subject matter of Euclid, Books I., II., and III., with easy deductions.
4. One of the following subjects: (*a*) Greek, (*b*) a modern language.

A degree in arts of any university of the United Kingdom or of the colonies or a certificate of having passed the final examination for a degree in arts or science of any university

TABLE I.—THE EXAMINATION SCHEME OF THE UNIVERSITIES.

University.	Matriculation.	Preliminary Scientific Examination.	Intermediate Examination.	Final M.B. and B.C. Examination.	M.D. Examination.	M.C. Examination.
Cambridge.	Medical student begins curriculum by passing the First Examination of the Arts course, by graduating in Arts, or by obtaining a certificate from the Oxford and Cambridge Examining Board.	First Examination for M.B: Chemistry, Physics, and Biology.	Second Examination for M.B.: Anatomy and Physiology. The standard is high.	Third Examination for M.B.: Part (1) Pharmacology and General Pathology. Part (2) Surgery, Midwifery, and Practice of Physic. The two parts may be taken separately.	Presentation of thesis and writing of an extempore essay.	Examination in Operative Surgery. An extempore essay has to be written.
Edinburgh.	A Matriculation Examination has to be passed of ordinary standard implying a knowledge of classics and English.	First Examination for M.B.: Chemistry, Zoology, Botany, and Physics.	Second Examination for M.B.: Anatomy, Physiology, Materia Medica, and Therapeutics.	Final Examination for M.B. and B.C.: Part (1) Pathology, at end of fourth winter session. Part (2) Surgery, Medicine, Midwifery, Forensic Medicine, and Hygiene, at end of fifth year.	Presentation of thesis and Examination in Clinical Medicine.	Examination in Operative Surgery. A thesis has to be written.
Royal University, Ireland.	The Matriculation Examination is of similar standard to that of other universities.	First Examination for M.B.: Systematic Chemistry, Zoology, Botany, and Physics, or Natural Philosophy.	Second and Third Examinations for M.B.: Part (1) Anatomy, and Physiology, and Practical Chemistry at the end of the second medical year if one year has elapsed since passing the First M.B. Part (2) At the end of the third medical year: Anatomy, Physiology, and Materia Medica.	Final Examination for M.B. and B.C.: Part (1) Medicine, Therapeutics, Pathology and Hygiene. Part (2) Surgery and Surgical Anatomy. Part (3) Midwifery and Diseases of Women. Each part of the examination must be passed as a whole.	A clinical examination. Bedside diagnosis and treatment of cases.	Written and clinical examination in all subjects.

TABLE II.—THE EXAMINATION SCHEME OF THE CONJOINT BOARDS OF ENGLAND, SCOTLAND, AND IRELAND.

Name.	Entrance Examination.	First Professional Examination.	Second Professional Examination.	*Third Professional Examination.*
English Conjoint Board (Royal College of Physicians of London and Royal College of Surgeons of England).	Any examination approved by the General Medical Council.	Chemistry and Physics, Practical Pharmacy, and Elementary Biology. Examination can be taken in three parts and Pharmacy can be taken at any stage in the curriculum.	Anatomy, Physiology and Histology. Both subjects must be passed together.	(a) Medicine, Pharmacy, Forensic Medicine, and Public Health. (b) Surgery and Surgical Anatomy. (c) Midwifery and Diseases of Women. Examination can be taken in three parts and Part (c) can be passed at end of fourth year.
Scottish Conjoint Board (Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Faculty of Physicians and Surgeons of Glasgow).	Any examination approved by the General Medical Council.	Chemistry, Elementary Anatomy and Physiology, and Histology.	Anatomy, Physiology, Materia Medica, and Pharmacy.	[illegible]
Irish Conjoint Board (Royal College of Physicians of Ireland and Royal College of Surgeons in Ireland).	Any examination approved by the General Medical Council. Colleges also hold a preliminary examination.	Chemistry, Physics, and Elementary Biology.	Anatomy, Physiology, and Histology	[illegible] themselves for examination in the subjects separately.

in the United Kingdom is considered a sufficient testimonial of proficiency for admission to the Students' Register or to the commencement of medical study. There [illegible] ose examinations in general [illegible] General Medical Council as [illegible] medical student. At the Universities of Oxford and Cambridge graduates are admitted to registration, but the undergraduates of these universities are exempt from any preliminary examination before commencing medical studies if they have passed certain standards in the local examinations, have obtained certificates from the Oxford and Cambridge Schools Examination Board, or have passed the first and second tests for the ordinary arts degrees—viz., "*smalls*" or "*moderations*" at Oxford, "little-go" or "gene [illegible] Universities of London, Victori [illegible] the Royal University of Ireland, [illegible] all have a matriculation, and those who have passed this test at their respective universities can commence their medical studies. The University of Dublin has an entrance examination, while the Universities of Edinburgh, Aberdeen, Glasgow, and St. Andrews have an inaugurating test for their students in the preliminary examination of the joint board of examiners for graduation in arts or science or medicine and surgery. The College of Preceptors in England holds a preliminary examination for medical students and also a general examination for first-class certificates. Satisfaction of either test will admit the student to his studies. In Ireland the middle and senior grade examination of the *Intermediate Education Board*, in Scotland the leaving certificates of the Scottish Education Department, and in Wales the senior certificate of the Central Welsh Board will do the same. There are regulations by which students at colonial, Indian, and foreign universities can obtain admission to the Students' Register, concerning which it is enough to say that the General Medical Council has to be satisfied of the adequacy of the tests. The Conjoint Examining Board of the Royal Irish Colleges holds an examination which is approved of by the General Medical Council but there is nothing of the sort at the other two Conjoint Boards.

The medical student, as we have said, need not register as such. What is necessary is that he shall pass one of the approved examinations in general knowledge before entering upon his five years' curriculum and that he should not be [illegible] years, but upon it hangs a very important issue, one that has been recently the subject of difference of opinion between the English Royal Colleges and the General Medical Council—a difference of opinion now in abeyance rather than settled. The General Medical Council has objected to the standard of scientific education required at the preliminary scientific examination of the English Conjoint Board. The English Conjoint Board accepts certificates that its students have *undergone instruction in* chemistry, botany, and physics at certain named public schools and institutions. Supposing a student who has passed his entrance examination in general education possesses satisfactory proof of having attended courses in preliminary science at one of these schools he can be admitted to the preliminary scientific examination of the English Conjoint Board, and, if he passes the examination, he can at once proceed to the study of anatomy and physiology, having apparently shortened his period of professional study to four and a half years by doing his preliminary scientific work *at school and counting the time so spent as* six months of his medical curriculum. Some may say, where is the harm? There is no harm if the preliminary scientific examination is sufficiently difficult. To practical minds it cannot matter a tittle where the student acquires his knowledge of the ancillary scientific subjects if only he acquires sufficient, but this is the point upon which the General Medical Council desires to be satisfied. The Council is the central authority and it is its duty to make certain that the curriculum cannot be abbreviated in a manner that is either unjust to the public or advantageous to some qualifying bodies more than to others. The difficulties are considerable. The General Medical Council for practical reasons cannot watch over the scientific courses given in public schools, so that the only way in which its power and responsibility of supervising medical education can be exercised is by insuring that the examination in the work purporting to be done at such schools is particularly rigid. The English Conjoint Board has resented the strictures of the General Medical Council upon the preliminary scientific examination of the Board, and this feeling is intelligible, for the Board has taken great trouble *to insure* that the examination is adequate and that the instruction at the various schools is good. Negotiations between the two parties were not conducted with complete urbanity. No one who knows anything of medical education can possibly fail to appreciate the fact that the professional examinations of the English Conjoint Board are remarkably thorough and well conducted. The men who pass the final examinations of this Board meet with the most uniform success in other competitive examinations and in every way show that they are able to hold their own with the possessors of so called "honour" degrees. This fact makes it especially *galling for the Board to have its* preliminary scientific examination called in question, and the Board would probably desire to take up the attitude that the General Medical Council, being concerned only in seeing that the men who apply for registration as qualified medical men are duly instructed, should confine its inspection of examinations to the finals. The contention does not hold water. It is not possible to say that education begins in one place rather than in another, and it is the manifest duty of the General Medical Council to inspect any portion of the curriculum of any one of the qualifying bodies and to demand any necessary alteration. *The English* Conjoint Board, having lent itself to the appearance of shortening the medical curriculum, ought not to consider the General Medical Council to be inspired by any unfair animus if the Council reflects upon the character of the preliminary scientific training demanded by the Board; and the action of the Board in signifying that for the future its medical students need not register seemed at one time to be likely to meet with reprisal. A Bill was projected by the General Medical Council making the registration of the medical student compulsory, but the measure was dropped when it was found that the English corporations were not alone in their attitude but that some of the other qualifying bodies also objected to the proposed legislation. The zeal of the Council for registration of the student was not, as a matter of fact, due so much to a desire that every student should commence his studies upon a national students' roll as that he should contribute a fee for registration to the depleted coffers of the Council. It may have been consciousness of this fact that led the Council to drop the Bill with readiness.

The two tables show the scheme of the medical curriculum of the various universities and corporations and show it to be uniform. The educational schemes of the two Societies of Apothecaries are not quite on the same model and can be best described by brief summaries.

SOCIETY OF APOTHECARIES OF LONDON.—There are two examinations for the Licence of this Society—the Primary and Final. The Primary Examination consists of two parts. The Licence entitles the holder to registration as being qualified in medicine, surgery, and midwifery. Part I. comprises Ele*mentary Biology; Chemistry and Chemical Physics, including* the Elementary Mechanics of Solids and Fluids, Heat, Light, and Electricity; Practical Chemistry; and Materia Medica. Part II. includes Anatomy, Physiology, and Histology. This examination cannot be passed before the completion of 12 months' practical anatomy with demonstrations and these subjects cannot be taken separately. The Final Examination is divided into two sections. Section 1 consists of three parts. Part I. includes the Principles and Practice of Surgery, Surgical Pathology and Surgical Anatomy, Operative Manipulation, Instruments, and Appliances. Part II. includes the Principles and Practice of Medicine, Pharmacology, Pathology, and Morbid Histology; Forensic Medicine, Hygiene, Theory and Practice of Vaccination; and Mental Diseases. Part III. includes Midwifery, Gynæcology and Diseases of New-born Children, and the Use of Obstetric Instruments and Appliances. Section 1 of the Final Examination cannot be passed before the expiration of 45 months after registration as a medical student, during which time not less than three winter sessions and two summer sessions must have been passed at one or more of the medical schools connected with a general hospital recognised by the society. Section 2 of the Final Examination consists of two parts. Part I., Clinical Surgery; Part II., Clinical Medicine and Medical Anatomy. Section 2 cannot be passed before the end of the fifth year.

APOTHECARIES' HALL OF IRELAND.—The Licence of this Hall is granted to students after five years of professional study. The diploma of the Apothecaries' Hall of Ireland entitles the holder to be registered as a practitioner in medicine, surgery, and midwifery. There are four professional examinations. The First Examination includes biology, physics, theoretical and practical chemistry, with an examination at the bench. Pharmacy is put down in this examination, but it may be taken at any of the first three examinations. Candidates holding a pharmaceutical licence are exempt from this subject. Osteology is also a subject of the first professional examination. The subjects for the Second Professional Examination are anatomy, materia medica and therapeutics, physiology, and practical histology. The Third Examination consists of pathology, materia medica if not taken at the Second Examination, medical jurisprudence, and hygiene. The Final Examination includes clinical and theoretical medicine, surgery (with operations), ophthalmic surgery, midwifery, and gynæcology.

It will be seen that the curriculum at the three Universities given in Table I., which is typical of that at the remaining Universities, is practically identical with that of the Conjoint Boards. At the Universities the entrance examination, in the form of an arts degree, a matriculation, or a certificate, generally demands more than the minimum approved by the General Medical Council, but none of the Universities, save the University of London, makes any serious demand upon the medical student at the outset of his career. The First Examination for the M.B., or Preliminary Scientific Examination, at the Universities corresponds with the First Professional Examination at the Colleges, which is not strictly a professional examination at all, but an examination in ancillary subjects. The Second Examination for the M.B., or Intermediate Examination, at the Universities corresponds with the (so-called) Second Professional Examination at the Colleges. This examination at Oxford is called the First Examination for the M.B., which designates the examination as the first strictly professional examination. The Final Examination for the M.B. at the Universities corresponds with the Third Professional Examination at the Colleges. In each case the same subjects are set and the standards are roughly similar, the extent to which they may be raised being left to the individual university or corporation, while the superintendence of the General Medical Council prevents them from dropping too low. The same may be said of examinations for the Licences of the Societies of Apothecaries, where more or less an identical system of subdivision of the professional subjects prevails.

The fact that medical education, all along the lines which converge in the qualification of the student, should be so homogeneous much simplifies the task of the General Medical Council in its efforts to maintain a high standard, and should give pause to those who call out that medical education is chaotic because certain minor anomalies exist. Yet the differences which exist in the curricula are real and do harm. The Matriculation Examination of the University of London, for example, is much more difficult than any other of the examinations which confront the students on the threshold of their medical careers. It has been modified of late but there is no doubt that far more application is required from the student to pass this examination than is required to pass any of the other entrance examinations, and the student who has passed it is able to assimilate with greater ease the subjects of the purely professional examinations, while at every other portal to the medical profession the student is allowed to enter with too little ceremony. The examinations of the College of Preceptors and of the Scottish Education Department, the Cambridge "little-go" and the Oxford "smalls" are not tests of general knowledge in the least, and the lad who has passed no more severe ordeal than these has not proved himself to be sufficiently equipped in general knowledge. His classical smattering and his scraps of mathematics will not stay by him, and if they did they would not render his future work easier for him. If the University of London has gone too far none of the other qualifying bodies has gone far enough, and the General Medical Council might well insist upon an all-round raising of the standard of general education. The Preliminary Scientific Examination is also higher at the University of London than elsewhere, but the tendency at all the examining bodies is to improve this examination, especially in the direction of chemistry—a healthy sign, the inter-relation of chemistry and physiology, biology and pathology, having now become so close. The Intermediate Examination, called First M.B. at Oxford and Second M.B. at all the other Universities, is a thorough one in every instance. The student is sometimes allowed to take the two subjects separately, but it is significant that at Cambridge, where the standard of physiology is high, they must be taken together. And it is far preferable that they should be so taken. The highest standard in anatomy is that demanded by the Royal College of Surgeons of England in the intermediate examination for the degree of Fellow, but the Fellowship course is a purely honour course and for that reason is not included in the preceding tables.

In the final examinations there are a few variations from type which call for notice. At the University of London there is a definite examination for the M.D. degree and the medical man is desired to specialise in that degree by electing to be examined under five different headings. In the examinations for the M.B. degree at Edinburgh a certain amount of specialisation is invited, while at Birmingham the examination is much split up into groups, a proceeding which doubtless will be convenient to the student but which cannot be commended. In Edinburgh the subject of pathology, and in Glasgow the subjects of pathology, jurisprudence, and public health, can be separated from the other final subjects and passed at the end of the fourth year. The same arrangement, with the addition of applied anatomy and physiology, holds good at the University of Dublin.

The scheme of medical education in England, Scotland, and Ireland to-day is very nearly uniform. The entrance to practice is better guarded at one door than at another but everywhere the curriculum is well devised and may turn out good men. Moreover, the various educational bodies are zealously and constantly watched by the General Medical Council, which is never accused of being supine in respect of educational supervision. The final examinations of all the universities and corporations are tested periodically by the visitors and inspectors of the Council and from the report which these officials make from time to time to the Council a very exact idea of the present state of medical education in the various centres can be obtained. In the next chapter will be found a summary of the last visitations made.

(To be continued.)

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on May 11th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following Members who were elected to the Fellowship at the last meeting were admitted as Fellows: Duncan Burgess, M.B. Cantab.; Thomas Watts Eden, M.D. Edin.; Wilfred John Harris, M.D. Cantab.; Bedford Pierce, M.D. Lond.; *James William Russell, M.D. Cantab.; James Harry* Sequeira, M.D. Lond.; Harold Batty Shaw, M.D. Lond.; Edmund Ivens Spriggs, M.D. Lond.; William Barnett Warrington, M.D. Lond.; Arthur Whitfield, M.D. Lond.; and Robert Arthur Young, M.D. Lond.

This being the only business on the agenda the PRESIDENT dissolved the Comitia.

REPORT OF THE GERMAN COMMISSION ON ANTITYPHOID INOCULATION.

THERE has reached our hands in the course of the last few days the report of a committee of bacteriologists convoked at the instance of the Prussian Government to consider and to report upon the question of antityphoid inoculation in connexion with the German army. The committee included among its members, in addition to Professor Koch, Professor Kolle (well known for his work in connexion with this question) Professor Dönitz, Professor Kirchner, and the Director of the Institute of Infectious Diseases in Berlin—Professor Gaffky. The report, which has been drawn up by the last named, considers the question referred to it under four different aspects. It deals first with the rôle of antityphoid inoculation as a sanitary measure; secondly, with the question of the best inoculation procedure; thirdly, with the question as to whether there is any risk or danger attaching to the inoculations; and lastly, with the question as to what ought to be done to obtain further information on the subjects at issue.

The conclusion arrived at is that the subject of antityphoid inoculation is one of national moment. It is recognised that while the incidence of typhoid fever among the German troops is in time of peace very light, typhoid fever would come to be an all-important factor in connexion with a European war and a still more important factor in connexion with war carried on in tropical or subtropical countries. It is, in the opinion of the committee, and for these reasons, a matter of urgency for the German Government to carry out researches and to collect all possible information with regard to antityphoid inoculation. These considerations which hold good in the case of Germany ought manifestly to come home to us in an even more intimate way in view of the eventuality, which has recently so much occupied the public mind, of our having to place half a million soldiers in the field for the defence of the North-Western frontier of India. And even that eventuality apart, the question of the possibility of inoculating successfully against typhoid fever is to us who have to keep the larger part of our army permanently in tropical and subtropical countries manifestly of more intimate concern than it is to any other nation.

But, it will be urged, it is precisely the question of the possibility of such successful inoculation that has been at issue. On this question the conclusions arrived at by the German Commission will be of interest. The committee begins by dealing with the experiments on animals and points out that the possibility of conferring protection upon animals against many times the lethal dose of a culture of the bacillus typhosus is beyond dispute. It then deals with the experience of antityphoid inoculation in connexion with the British Army. Pointing out that this experience has been accumulated by the "energy of English (army) doctors put forth in response to the continually reiterated stimulus coming to them from A. E. Wright, late professor in the Army Medical School, Netley," and expressing its appreciation of "the admirable tenacity," which has characterised his work, it proceeds to pass in review the history of antityphoid inoculation in the British Army. It refers in particular to the abolition of the process by the Medical Advisory Board; to the favourable judgment passed on the inoculation by the antityphoid committee of the College of Physicians; to the continued opposition of the Advisory Board; to the final re-introduction of the inoculations into the army on the recommendation of the antityphoid committee appointed by the Secretary of State; and to the retirement of Dr. Wright from that committee by reason of his dissatisfaction with the failure to provide an organisation for the adequate scientific control of the inoculations.

Finally comes the verdict on the question of the efficacy of antityphoid inoculations. Our readers will like to have the *ipsissima verba*. The verdict is worded as follows:—

> On a survey of the already mentioned scientific observations con- [illegible] trustworthy data, with regard to the degree and duration of this protection.

Passing from this general judgment to the discussion of the technical question as to the relative advantages of single or double inoculation and of preparing the vaccine from agar or broth cultures, the committee recommends the employment of two successive inoculations and of a vaccine made from agar cultures heated from 60° to 65°. Dismissing the question of procedure, it then embarks upon the consideration of the question as to whether there is any risk of any permanent injury to health from inoculation. It decides that there is no such risk; and it points out that in view of the opposition which antityphoid inoculation has encountered in certain quarters in England it is quite [illegible] have been alleged against [illegible] spect would certainly have [illegible] ute of Infectious Diseases [illegible] ndertake in relation to the [illegible] bility in connexion with the [illegible] introduction of the inoculation into the German army and the carrying out of the inoculations in the cases of German troops proceeding to South-West Africa.

It will be seen that the conclusions of the German Commission are substantially those of the successive committees the verdicts of which led to the re-introduction of antityphoid inoculation in the British army after it had been abandoned by the Medical Advisory Board. With respect to that further research and careful scientific control of the inoculations which have, as the German Commission notes, always been insisted upon by Dr. Wright as essential to the perfecting of antityphoid inoculation, we may learn the proper course of action from that already undertaken in Germany. There a considerable staff of bacteriologists in the Institute of Infectious Diseases—one of the most famous and best equipped laboratories in the world—is now occupied in research in connexion with antityphoid inoculation, while some 2000 inoculations have already been carried out in connexion with troops despatched to South-west Africa. Here the care of antityphoid inoculation is delegated to a committee which, as at present constituted, includes two members of the hostile Advisory Board. The policy of this committee appears to be to sit down and to await the results of the inoculations which were carried out in a single regiment last autumn. And the irony of fate has appointed that the particular regiment should now be quartered in a station which is practically never visited by typhoid fever. While we are very far from suggesting that a regiment should be sent to a hotbed of typhoid fever for the purpose of testing the efficiency of antityphoid inoculation, we feel that the medical policy which proposes to investigate antityphoid inoculation and which omits to apply the test in the stations where typhoid fever is always rife is probably lineally descended from the policy which, in association with the abolition of antityphoid inoculation in the army, suspended also the collection of all further returns with respect to the incidence of typhoid fever in the many thousands of inoculated who still remained in the army.

If the policy with respect to antityphoid inoculation is as stated above it appears to us to rival in ineffectiveness the medical policy which seeks to stem the plague, which carried off within a year over 1,000,000 of our fellow subjects, by the agency of a commission which proposes itself to remain in London and to delegate to assistants the actual work of research that can only be carried out in India.

MEDICINE AND THE LAW.

Two Cases of Alleged Death from Poisoning, by Arsenic and Strychnine respectively, in the United States.

Mr. G. M. Beringer has recorded in the *American Journal of Pharmacy* for February the results of toxicological examinations in two interesting cases of alleged death from poisoning. In the first case the defendant was charged with the murder of her step-daughter, a frail child, aged two years and nine months, who died without having had sufficient medical attendance and in circumstances that were considered suspicious. One evening the defendant called on a neighbouring physician and said that the child was suffering from a slight cold. He prescribed a few small pellets of aconite. An hour later she again called on the physician and requested his immediate attendance as she said the child had had a convulsion. On arrival at the house the physician found that the child was dead but there was no evidence of convulsions. He discovered numerous bruises on the body, and as the neighbours spoke of the step-mother's harsh treatment towards the child he referred the case to the coroner. The undertaker, however, was promptly summoned. He arrived at midnight and immediately embalmed the body, injecting about one pint of fluid into the abdominal cavity near the navel. The coroner issued a burial permit and the child was buried, but through the suspicions of the child's maternal relatives, who demanded an official investigation, the body was disinterred and a post-mortem examination was made by Dr. R. H. Parsons and Dr. A. H. Small. They reported that they found the nose broken, the eyes black and blue, the upper lip deeply cut, the left ear partly torn from the scalp, and numerous other bruises on the body and the head. They considered that meningitis was the direct cause of death. Separate chemical examinations of the viscera and other parts were made by Mr. Beringer and by Professor Frank X. Moerk, the former finding nearly 12·5 grains of arsenious oxide and the latter 17·5 grains in the materials examined. Suspecting that the embalming fluid was an arsenic solution a sample was procured from the undertaker who stated positively that it was part of the same lot that was used for embalming the body. Analysis showed it to contain formaldehyde and potassium nitrate, but it was entirely free from arsenic. At the trial the State contended that death was due to meningitis, produced either by the wounds from cruel beating or by arsenical poisoning or by a combination of both. For the defence it was claimed that the arsenic was introduced after death by the embalming process. This contention was strengthened by the evidence of the undertaker who, when called for the defence, stated that he occasionally used two other embalming fluids, both containing arsenic. The jury acquitted the defendant.

In the other case a woman was charged with having killed her husband by the administration of strychnine. The evidence showed that the husband, a healthy man of a cheerful disposition, had a slight attack of diarrhœa and vomiting on the day of his death. His wife drove to a neighbouring town and obtained from a physician some tablets containing calomel, morphine sulphate, capsicum, ipecacuanha, and camphor; also a liquid containing fluid extract of gentian and syrup. She inquired whether it would be necessary for her to obtain a prescription in order to purchase some strychnine. She later purchased 30 grains of strychnine from a druggist in the town, stating that it was required for killing rats. She inquired there how much of the poison it would take to kill a man. On returning home she administered to her husband, in the presence of a friend, one-third of a teaspoonful of a brown powder. The patient complained of the intense bitterness of the medicine. After a short time a second and similar dose was administered and the husband again complained of the bitterness. Soon after this he became restless, the usual symptoms of strychnine poisoning followed, including twitching and jerking of the muscles and convulsions, and at 7.15 P.M. he died. Immediately after the death of her husband the defendant made conflicting statements as to the disposition of the strychnine, stating that she had burned it in the presence of three witnesses who on their part contradicted her statement. The post-mortem examination failed to reveal the cause of death; a chemical examination of the organs showed the presence of strychnine amounting to about one-sixth of a grain in the materials examined. At the trial the State alleged as motives for the crime the acquirement of a sum of $1000 through an insurance policy on the husband's life and the desire of the defendant to marry a farm hand with whom for a long time she had maintained improper relations. The *liaison* was admitted by the defence, as also that death was the result of poisoning by strychnine, but the defendant testified that the strychnine had been placed in a desk in the sitting-room, and that her husband must have taken some of the poison while the rest of the family were at dinner in an adjoining room. She explained the powdered condition of the medicine by the fact that the envelope in which the physician had placed the tablets had fallen on the floor of the carriage and had accidentally been trodden on by her heel on the way home. The jury considered this plea as establishing a reasonable doubt and as sufficient to justify them in rendering a verdict of acquittal.

What is Pure Milk?

As a result of the deliberations of the departmental committee of the Board of Agriculture which sat in 1900 the Sale of Milk Regulations were issued during the next year. They affirmed that milk to be allowed as genuine must contain not less than 3 per cent. of milk fat and not less than 8·5 per cent. of other milk solids. These percentages are recognisedly a minimum and lead the unscrupulous vendor into the temptation to skim or to dilute the native product to a degree which will just keep him within the letter of the statutory provisions. If a specimen of milk upon analysis exhibits a less percentage than the regulations demand there is a presumption against the seller of adulteration, dilution, or abstraction; if, however, he can prove satisfactorily that the specimen was just as the cow yielded it this presumption can be rebutted by him. To the medical man the statutory definition as to the proportional contents of milk is little short of an anomaly; he knows the variations in the relative constituents of human milk, and he is assured by farmers that cow's milk is similarly variable; a change of the diet or the shed of an animal, being "bulled," maltreatment, and many other causes are alleged to weaken the quality of genuine milk, some of these probable causes having been corroborated by skilled analysts. When a local sanitary authority has found milk to be deficient in the usual solids, whether the vendor is liable or not rests with the local justices to determine. In 1902 (Smithies *v.* Bridge) where milk was proved to be untampered with, this fact did not excuse the presence of only 2·09 per cent. of milk fat. In Ireland the regulations demand the same percentage as in England, so that when in September, 1904, at Skibbereen, it was proved that there was less than 3 per cent. of milk fat the vendor was not allowed to escape the penalty. Recently in the King's Bench Division (Wolfenden *v.* McCulloch) it was decided that the conviction must be upheld as the liability for selling inferior milk was determinable by the justices; in this case there were 2·81 per cent. of milk fats and 8·94 per cent. of other solids. Lastly, a metropolitan stipendiary magistrate has just allowed the plea adduced by a solicitor and supported by the *ipse dixit* of dairymen, that a deficiency of milk fat to the extent of 18 per cent. was accounted for solely by the fact that the cow from which the milk was drawn was being "bulled" at the time. There is weighty legal opinion, however, to the effect that justices may convict if they consider that the quantitative constituents of the sample of milk, apart altogether from the presence of preservatives, are so different from the normal that the article is not "of the nature, quality, or substance" as the thing demanded; probably *this view* will be tested before long in order to settle the present uncertainty on a question of great public importance.

The Medical Man, the Coroner, and the Pathologist.

When the two murderers, Albert and Alfred Stratton, were hanged at Wandsworth gaol on May 23rd the post-mortem examination was made by Dr. L. Freyberger. It has been suggested in justificatio [illegible] man instead of such a [illegible] Act directs, that the e [illegible] experience may be desirable in obscure cases where the cause of death is difficult to determine. It hardly seems likely that exceptional difficulty will arise in ascertaining the cause of death where a criminal has been executed by hanging, but such must apparently be considered to be the view of Dr. Freyberger's employers.

St. Thomas's Hospital and the Observations of a Coroner.

At an inquest held at Lambeth on May 22nd the death of a domestic servant, aged 24 years, was inquired into. The girl was found wandering in the streets on Easter Monday by the police and was removed to the Marylebone workhouse infirmary where her condition improved. Mr. Bernard Pitts, in whose employment she had been, interested himself in her case, and asked Dr. Percy Smith to examine her as to her mental condition. Dr. Smith reported that in his opinion she was rational and would not be a fit case for a lunatic asylum but would be better under observation at a hospital and accordingly Sir John Parkington, a magistrate, signed an order to allow her removal from the workhouse infirmary. A nurse at St. Thomas's Hospital who gave evidence at the inquest said that the deceased was admitted to one of the wards and was watched but that after the patients were settled for the night her attention was called to the deceased who had left her bed. The witness then saw her open the door on to the balcony, pass out, and cast herself over, killing herself in her fall. Mr. [illegible], said that he regarded [illegible] his intention of com- [illegible] Lunacy with regard to it, adding to his other observations that he was not at all satisfied with the way the case was removed from a place where special treatment could have been given to one where there were no special conveniences for lunacy cases. The jury, however, declined to accept Mr. Troutbeck's view and added to a verdict of "Suicide while of unsound mind" a rider to the effect that they considered that the authorities of St. Thomas's Hospital were free from blame in the matter. With this exoneration Mr. Troutbeck said that he could not in any way concur. If Mr. Troutbeck was seriously of the opinion that the hospital authorities or any one else, either through any negligence or callousness or by action due to some sinister motive contributed to the very unfortunate incident recorded, he was no doubt justified in expressing his views. The jury, however, evidently dissented from him, and it would appear that so far from any indifference being shown as to the poor girl's case very exceptional interest was taken in it, and that unusual attention and care were accorded to the deceased. Moreover, Mr. Pitts, Dr. Smith, and Sir John Parkington can hardly be accused of having been influenced by any motive save the desire of doing for the patient, according to their judgment, the best that lay in their power. The Commissioners in Lunacy, to whom Mr. Troutbeck apparently intends to report the matter, can hardly take a different view as to the motives which actuated everyone concerned.

THE GERMAN SURGICAL CONGRESS.[1]

THE German Surgical Association held its annual meeting from April 26th to 29th in Berlin, Professor **KRONLEIN** (Zürich) being in the chair.

Treatment of Acute Inflammation.

Professor **BIER** (Bonn) explained his method of treating acute inflammation, cellulitis, furunculi, lymphangitis, mastitis, &c., by artificial hyperæmia. The hyperæmia was produced by the application of cupping glasses of different sizes and shapes according to the seat of the affection, so that, for instance, in mastitis large glasses surrounding the entire mamma were employed. When suppuration occurred very small incisions were made and the pus was withdrawn by the suction effect of the cupping glass, which was applied several times a day for five minutes. In lymphangitis and cellulitis of the extremities hyperæmia was produced by the application of a caoutchouc bandage which at first aggravated the inflammatory symptoms and increased the œdema but improvement soon followed. From time to time the bandage must be removed for some hours. Gonorrhœal and pyæmic arthritis were also benefited by the treatment. The details of the procedure were demonstrated on a number of patients from the Berlin University clinic suffering from inflammatory conditions and the same patients were shown at the final meeting of the Congress, when an obvious improvement in the symptoms had occurred.

Suppuration of the Kidney.

Dr. **JORDAN** (Heidelberg) said that he had observed 12 cases of renal and perirenal abscesses as a sequel to furunculi, the cause being hæmatogenic infection. As a rule, only one kidney was affected. The diagnosis was rather difficult, as the symptoms resembled those of appendicitis, enteric fever, and spondylitis. To ascertain the nature of the case pain and enlargement of the kidney and the existence of a place of entrance for the virus were essential. The prognosis was not bad when an early diagnosis was made and nephrotomy was performed; otherwise pyæmic fever might develop.

In the discussion Professor **ISRAEL** (Berlin) said that the point of entrance of the virus might be the mucosa of the nose and that the presence of blood in the urine was essential for the diagnosis.

Appendicitis.

Professor **KOERTE** (Berlin), in introducing a discussion on Appendicitis, said that it was impossible to ascertain the state of the appendix and even to recognise an impending peritonitis without an operation. Of 137 cases of recent origin on which he had operated during the first three days 57 presented the symptoms of peritonitis. Of the patients operated on during the first two days 18 per cent. died and of those on whom the operation was performed on the third day 36 per cent. died. The patients without peritonitis all recovered. By waiting longer than three days the patients were exposed to the danger of pylephlebitis, empyema, pyelitis, and adhesions. The best treatment was the radical operation within the first two days; on or after the third day the abscess should only be opened. After the third day the operation should be postponed till the acute symptoms had subsided. Operations performed during this stage of interval had a mortality of 1 per cent. only. The same procedure was indicated also in cases of appendicitis obliterans.

In the discussion the majority agreed with Professor Koerte. Professor **KUMMELL** (Hamburg), who had formerly advocated a conservative treatment, said that he now preferred an early operation, as the nature of the disease had obviously become more grave. Of 89 cases operated on by him in the early stage only three died.

Dr. **REHN** (Frankfort) said that it was impossible to give a positive opinion as to the prognosis of an acute attack.

Professor **VON HOCHENEGG** (Vienna) directed attention to the formation of abscesses in Douglas's cavity, this occurrence being an early sequel to acute appendicitis.

Professor **SCHLANGE** (Hanover) said that he believed an early operation to be necessary during the first attack; when several attacks had already occurred it was permissible to wait for the interval.

Dr. **FEDERMANN** (Berlin) said that Professor Sonnenburg used to perform an early operation when the case was apparently a severe one. In other cases he waited till the acute symptoms had passed off.

Tetanus Antitoxin.

Professor [illegible] e of a patient w [illegible] tory was wound[illegible] ture of tetanus [illegible] out with a solut[illegible] ight symptoms of tetanus developed. Professor Küster then exposed the axillary and cervical nerves and injected the antitoxin into the nerves. Next day the tetanus contractions had disappeared.

Post-operative Pneumonia.

Dr. **KELLING** (Dresden) said that pneumonia might arise in three ways—namely, by aspiration, by embolism, and by the lymphatic system. Patients who were exposed to cold during the operation were predisposed to an attack of pneumonia. Dr. Kelling believed that there was a direct communication between the lymphatic vessels of the abdomen and those of the thorax.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

Dr. **ROTTER** (Berlin) recommended the production of anæsthesia by means of scopolamine and morphine as a means of avoiding pneumonia. This method, moreover, by relieving the pain from which the patients suffered made their respiration deeper and more regular and in this way also tended to prevent pneumonia.

Professor **LENHARTZ** (Hamburg) said that patients showing the first symptoms of pulmonary complications should be made to lie on the healthy side so that the affected lung could admit air more freely.

Professor **KUSTER** said that the use of ether as a general anæsthetic had no influence on the production of pneumonia.

Professor **KRONLEIN** said that he used as little ether as possible and the number of cases of pneumonia in his clinic was decidedly small.

Dr. **MUHSAM** (Berlin) was of opinion that pneumonia after appendicitis was brought about by embolism.

Production of Anæsthesia by Spinal Injections.

Professor **BIER** said that instead of cocaine he now used another compound—namely, stovain, devised by Professor Fourneau, to produce anæsthesia of the lower extremities. The injection should be given in the median line between the first and the second lumbar vertebræ and not until after the escape of the cerebro-spinal fluid. He recommended that no attempt should be made to obtain an extension of the anæsthesia beyond the inguinal region as disagreeable symptoms might be the result. Complications such as headache might be avoided by using isotonic solution and in any case disappeared after the administration of castor oil.

In the discussion the efficacy of Professor Bier's method was generally admitted. Dr. **NEUGEBAUER** said that the best results were obtained by the injection of tropacocaine.

Fractures of the Patella.

Dr. **THIEM** (Cottbus) advocated suture of the fragments in every case where complete coaptation was impossible. He showed by statistical tables that the patients treated in this way recovered within a shorter time and were better able to work than those treated without operation. Subcutaneous sutures should not be used when the fragments were not brought into view; interposed soft tissues were sometimes not removed. Bony union of the fragments could not be obtained by massage.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Small-pox and Small-pox Hospitals in Liverpool, 1902–03, by Dr. R. J. **REECE**.[1]—In this report Dr. Reece gives the results of an elaborate statistical study of the local distribution of small-pox in Liverpool during 1902 and 1903 in relation to the operations of the three hospitals which during different periods in these two epidemic years were used for the isolation of small-pox cases. The inquiry is of special value in its bearings upon the questions of "small-pox hospital influence" and of aerial convection of infection from small-pox hospitals, while the results which have been obtained have important practical applications. The three municipal isolation hospitals in question are respectively those of "Priory-road," "Park Hill," and "Fazakerley." From Dec. 6th, 1901, to the end of 1902 some 552 cases of small-pox occurred in Liverpool. Nearly all of these were isolated in Priory-road hospital which is situated in the north-east of the city. From the beginning of 1903 to the end of June 1585 further cases were known to have occurred. During this period the majority of the cases were isolated in Park Hill hospital, situated to the south of the city, about three miles from Priory-road; others were treated at Fazakerley hospital, outside the city boundary; while a small proportion were taken, as before, into the Priory-road hospital. During the last six months of 1903 the number of new cases of small-pox was 121, nearly all of which were treated at the Fazakerley hospital, admission to the other two hospitals having ceased by the beginning of July. Of these three hospitals Fazakerley alone can be said to be comparatively remote from populous areas and is the only hospital which complies with the population requirements of the Local Government Board. Each of the other hospitals, Priory-road and Park Hill, has a considerable populous area in its neighbourhood, the figures for inhabited houses within a quarter of a mile, within half a mile, and within one mile respectively being for Priory-road 85, 2055, and 21,724; and for Park Hill 171, 2430, and 12,610. The total number of houses in the city of Liverpool is nearly 130,000. The position of the matter in regard to the situation of these hospitals and to the risk of using them during a small-pox epidemic is thus set out by Dr. Reece:—

> The relation of these two hospitals to surrounding population is thus of a kind which is at the present day quite unusual when isolation of small-pox is in question; experience having led to general disuse for small-pox of hospitals having large amount of dwellings in their neighbourhood.
>
> Experience of the sort in question, which is well known, has demonstrated that excessive incidence of small-pox on populous areas in the vicinity of a hospital receiving a plurality of acute cases of the disease is no unusual occurrence and it can hardly be doubted that the relationship between the operations of these hospitals and the excessive small-pox incidence in their neighbourhood is one of cause and effect. Further, it has been strongly indicated from careful study of various instances of "small-pox hospital influence" that explanation of extra incidence of small-pox around such hospital, by assumption of hospital mismanagement or of lack of precautions in regulating the necessary traffic and business of the establishment, does not suffice to account for the facts. The generally accepted and, so far as I am aware, the only completely satisfactory explanation of the peculiarities of small pox incidence around hospitals receiving acute cases of the disease is dissemination of infection by aerial convection; an explanation introduced many years ago by Mr. W. H. Power, the Board's present medical officer, after detailed study of the behaviour of small pox around Fulham and other London hospitals. He held that particulate matter capable of conveying infection, escaping into the air from the wards of a small-pox hospital, does on occasion and in suitable atmospheric conditions become wafted to considerable distances from such hospital. "Hospital influence" in this sense has been traced in certain instances, where circumstances allowed the study to be made in respect of inhabited areas, as far as one mile from the hospital; by some observers it has been thought to have been traceable, though to a much less degree, on inhabited areas situated even further than a mile from the hospital. It has not, of course, been affirmed that, whenever acute cases are admitted to a small pox hospital situated near a populous area, demonstration of aerial convection will certainly be forthcoming if only the facts be strictly studied. There is ground, indeed, for belief that a small-pox hospital in a populous area does not as a result of its actual operations *always*, whether aerially or otherwise, distribute small-pox in conspicuous fashion in its neighbourhood; and perhaps opinion has come to be entertained in some quarters that disadvantage such as accrued from Fulham and other small-pox hospitals may be regarded as the exception, not the rule. Similarly there has, when emergency has resulted in compulsory use as it were for sma[illegible] neighbourhood, arisen a tendency to [illegible] be alleged to be due to the hospital. A demonstration, therefore, of absence of spread of small-pox from hospital in the case of *Liverpool*, where three hospitals, two of them in the city, were receiving acute small-pox cases and where in particular one of the hospitals (Park Hill) for a period of some 24 weeks at the height of the epidemic received acute small-pox patients in large numbers, would, if established, be not only particularly interesting to epidemiologists but in its administrative aspects would be reassuring to small-pox hospital authorities.

The labour devoted to this inquiry by Dr. Reece and by the officials of the Liverpool corporation who assisted him in ascertaining the facts must have been enormous. The local distribution of small-pox in Liverpool is shown in this report by a series of tables and diagrams, while a set of 23 "spot maps" is supplied which show the position of each house newly invaded by small-pox during each fortnight of the two years in question. With these aids Dr. Reece has succeeded in giving a concise account of the subject in the small compass of 15 pages which should be read by all interested in the question; they are themselves too condensed to admit of any adequate abstract. The result, as regards "hospital influence," is certainly striking. During 1902, when Priory-road hospital sufficed for all the cases of small-pox the proportion of houses invaded by small-pox in the whole of Liverpool, more than a mile from that hospital (including the neighbourhoods of Park Hill and Fazakerley hospitals), was 1·6 per 1000; within a mile of Priory-road hospital the corresponding rate was 2·7; within three quarters of a mile, 3·3; and within half a mile, 6·8. The next period, Dec. 7th, 1902, to June 20th, 1903, was one of full activity at all three hospitals. Houses in Liverpool more than a mile from any one of these hospitals during these months were invaded by small-pox at the rate of 8·6 per 1000; those within a mile of any one of these hospitals were invaded at the rate of 11·5; within half a mile at the rate of 22·2; and within a quarter of a mile at the rate of 41·5 per 1000. Dr. Reece gives tables showing for each hospital the invasion-rate respectively of houses distant 0-¼ mile, ¼-½ mile, ½-¾ mile, and ¾-1 mile from the hospital. For each hospital there are clear indications of the graduation in incidence which is so conspicuous a feature of "small-pox hospital influence." The details given in Dr. Reece's tables show that in the case of Park Hill, a large hospital receiving many cases at the height of an epidemic, the excessive incidence of small-pox on the surrounding neighbourhood was very remarkable and persistent. It commenced some six weeks after the hospital had begun to receive cases of small-pox and it continued until the hospital was finally closed for small-pox. Dr. Reece concludes that:—

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[1] London, Wyman and Sons, Fetter-lane; Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 2*s.* 6*d.*

1. Inhabited areas within a mile of each of the three Liverpool small-pox hospitals have suffered more severely from small-pox than the city

Fazakerley hospital, situated practically in the country and with comparatively few houses within a mile of it, appears to have caused an excess of small-pox in its neighbourhood, which, in its degree, was as severe as that which was caused by the other two hospitals in the city. This is a noteworthy point, although, as Dr. Reece points out, too much stress must not be laid upon invasion-rates in this instance, as they are necessarily derived from small figures. Another interesting indication of this inquiry is that the small hospital of Priory-road appears to have influenced the rate of invasion of houses in its neighbourhood to a smaller extent relatively than the larger hospitals of Park Hill and Fazakerley. The whole circumstances of these occurrences, so closely parallel to those met with in other outbreaks round small-pox hospitals situated in populous neighbourhoods, tend to support the presumption that the exceptional prevalence of the disease round the hospitals has been due, as Mr. Power suggested long ago, to infection having from time to time been carried by means of local air currents in suitable states of the atmosphere from the hospital to houses in its vicinity. It is hardly possible to frame a theory of personal infection, implying, among other things, continuous bad administration at each of the hospitals in question, which would sufficiently explain the facts. And it may almost be assumed that in Liverpool, with its excellent organisation to deal with infectious diseases, the risk of spread of small-pox by means of carelessness of hospital staff or negligence on the part of those concerned in ambulance or disinfection work must have been greatly minimised, if it was not absent altogether. Dr. Reece gives ample testimony in his report to the general excellence of the system adopted in these directions under the able administration of Dr. E. W. Hope, the medical officer of health of the city.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8827 births and 4300 deaths were registered during the week ending May 20th. The annual rate of mortality in these towns, which had been 16·5, 15·4, and 15·0 per 1000 in the three preceding weeks, further declined last week to 14·4 per 1000. In London the death-rate was 14·1 per 1000, while it averaged 14·5 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·0 in King's Norton, 7·3 in Wolverhampton, 7·4 in Hornsey, 7·8 in Barrow-in-Furness, 8·7 in Rotherham, and 8·9 in East Ham and in Norwich; the highest rates were 19·2 in Rhondda, 19·8 in Merthyr Tydfil, 25·1 in West Bromwich, 24·4 in Tynemouth, 22·5 in Preston, and 26·0 in Middlesbrough. The 4300 deaths in these towns included 442 which were referred to the principal infectious diseases, against 460, 469, and 401 in the three preceding weeks; of these 442 deaths, 172 resulted from measles, 129 from whooping-cough, 50 from diarrhœa, 43 from scarlet fever, 29 from diphtheria, 18 from "fever" (principally enteric), and one from small-pox. In Hornsey, Hastings, Bournemouth, King's Norton, Bolton, Rochdale, Swansea, and in six other smaller towns no death from any of the principal infectious diseases was registered; whilethe highest death-rates from these diseases occurred in Leyton, West Bromwich, Smethwick, Coventry, Warrington, and Sheffield. The greatest proportional mortality from measles was recorded in West Bromwich, Smethwick, Coventry, Wigan, Warrington, Sheffield, Rhondda, and Merthyr Tydfil; from whooping-cough in Willesden, Tottenham, Leyton, Smethwick, Aston Manor, Preston, South Shields, Tynemouth, and Newport (Mon.); and from diarrhœa in West Ham, West Bromwich, and Grimsby. The mortality from scarlet fever, from diphtheria, and from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered in London but none in any other of the large towns. The number of small-pox cases under treatment in the Metropolitan Asylums Hospitals, which had been 17 at the end of each of the two preceding weeks, had declined to 15 at the end of last week; three new cases were admitted during the week, against four, four, and two in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2182, 2152, and 2177 on the three preceding Saturdays, had further risen to 2211 on Saturday last, May 20th; 319 new cases were admitted during the week, against 255, 235, and 319 in the three preceding Saturdays. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 306, 256, and 251 in the three preceding weeks, further declined to 226 last week, but were 16 above the number in the corresponding period of last year. The causes of 49, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Leeds, Hull, Newcastle-on-Tyne, and in 44 other smaller towns; the greatest proportions of uncertified deaths occurred in Birmingham, Coventry, Rochdale, Blackburn, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·8, 18·0, and 19·5 per 1000 in the three preceding weeks, declined again to 16·7 per 1000 during the week ending May 20th but was 2·3 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 8·9 in Greenock and 10·7 in Perth to 17·2 in Dundee and 19·4 in Glasgow. The 560 deaths in these towns last week included 26 which were referred to measles, 25 to whooping-cough, 19 to diarrhœa, three to diphtheria, two to "fever," and one to scarlet fever, but not any to small-pox. In all 76 deaths resulted from these principal infectious diseases last week, against 59, 67, and 83 in the three preceding weeks. These 76 deaths were equal to an annual rate of 2·3 per 1000, which was 0·8 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 21, 16, and 32 in the three preceding weeks, declined again last week to 26, of which 21 were registered in Glasgow and five in Edinburgh. The deaths from whooping-cough, which had been 27, 26, and 30 in the three preceding weeks, decreased to 25 last week, and included 18 in Glasgow, two in Dundee, two in Paisley, and two in Greenock. The fatal cases of diarrhœa, which had been eight, 15, and nine in the three preceding weeks, rose again last week to 19, of which 11 were registered in Glasgow, three in Aberdeen, two in Edinburgh, and two in Dundee. The deaths from diphtheria, which had been four and six in the two preceding weeks, declined again to three last week and included two in Edinburgh. The two fatal cases of "fever" occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 121, 132, and 108 in the three preceding weeks, further declined last week to 83, and were 14 below the number in the corresponding period of last year. The causes of 16, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·9, 22·0, and 23·7 per 1000 in the three preceding weeks, declined again to 19·5 per 1000 during the week ending May 20th. During the past four weeks the death-rate has averaged 21·8 per 1000, the rates during the same period being 14·8 in London and 17·1 in Edinburgh. The 142 deaths of persons belonging to Dublin registered during the week under notice were 30 below the number in the preceding week and included six which were referred to the principal infectious diseases, against eight in each of the three preceding weeks; of these, three resulted from diarrhœa, two from measles, and one from whooping-cough, but not any from small-pox, scarlet fever, diphtheria, or "fever." These six deaths were equal to an annual rate of 0·8 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 1·9 in Edinburgh. The three fatal cases of diarrhœa corresponded with the number in the preceding week; and the deaths from whooping-cough, which had been two, three, and four in the three preceding weeks, declined again last week to two. The 142 deaths in Dublin last week included 36 of children under one year of age and 38 of persons aged 60 years and upwards; the deaths of infants considerably exceeded the number in the preceding week, while those of elderly persons showed a marked decline. Four inquest cases and five deaths from violence were registered; and 48, or more than a third, of the deaths occurred in public institutions. The causes of ten, or more than 7 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: E. C. Ward to the *Carnarvon* and H. E. South to the *Emerald* (to date May 25th).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned gentlemen have been appointed Officers, viz.:—Henry Reah to be Surgeon (dated May 15th, 1905) and George Robert Harland to be Surgeon (dated May 17th, 1905).

ROYAL ARMY MEDICAL CORPS.

Major F. J. Wade-Brown, from Gosport, and Captain H. O. B. Browne Mason, from India, are appointed to the London District for duty, and Lieutenant-Colonel F. J. Lambkin is appointed for duty to the London Military District. Major McCormack, retired pay, assumes medical charge of troops and Military Hospital, Omagh. Colonel R. H. Quill, who has been promoted to Surgeon-General, is appointed Principal Medical Officer at Netley.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Captain (Captain, Army Medical Reserve of Officers) T. F. Devane resigns his commission (dated May 24th, 1905). 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment): Henry Macnaughton Macnaughton-Jones (late Surgeon-Lieutenant, 1st Middlesex Royal Engineers (Volunteers)), to be Surgeon-Captain, and is borne as Supernumerary whilst commanding the Bearer Company of the 1st London Volunteer Infantry Brigade (dated April 22nd, 1905). 1st Volunteer Battalion the Suffolk Regiment: Supernumerary Surgeon-Lieutenant-Colonel G. S. Elliston (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Harwich Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated May 19th, 1905). 4th (Hunts) Volunteer Battalion the Bedfordshire Regiment: Charles Archibald Lees (formerly Captain) to be Surgeon-Lieutenant (dated May 19th, 1905). 4th Volunteer Battalion the South Wales Borderers: Surgeon-Lieutenant-Colonel S. B. Mason is granted the honorary rank of Surgeon-Colonel (dated May 19th, 1905). 3rd Lanarkshire: John Wilson Leitch to be Surgeon-Lieutenant (dated May 19th, 1905). 22nd Middlesex (Central London Rangers): William Lloyd to be Surgeon-Lieutenant dated April 17th, 1905).

THE SHORTAGE OF OFFICERS FOR THE ARMY.

Public attention has been directed by the press of this country to the declining supply of candidates for commissions in the army, which is said to be engaging the serious attention of the War Office at the present time. The *Standard* of May 11th had a leading article on the subject which apparently went to the main roots of the matter—namely, that while, on the one hand, the army, now that it has become a hard-worked and irksome profession, has ceased to draw the more moneyed class of young men who have hitherto been attracted to it as on the whole an adventurous and pleasant life with the chance of seeing active service and of distinguishing themselves in the field; it has, on the other hand, but little to offer in the way of present income and future prospects to those of smaller means whose ambition it is in joining the army to make it truly their calling in life. To such and to their parents it does not, in the language of the day, seem "good enough" when compared with other professions and callings. And to all alike there are the "uncertainty of tenure" and prospects and the loss of confidence engendered by the frequent changes that have taken place of late years. That patriotism, the warlike spirit, and love of adventure are as strong as ever is proved by the fact that there is never any lack of volunteers for field service in time of war. But there is one thing which has been omitted and must be added to these reasons for it has a very important bearing. It is the disheartening effect of the growing tone of disparagement or even of imputed blame in which the services of the "regulars" seem to be nowadays regarded in almost every campaign. Officers of the Army Medical Service can speak feelingly on this subject, for by way of recompensing them for all their labours at the end perhaps of an arduous campaign they have had to vindicate their corps before some War Office committee or other. It seems to be altogether forgotten that they could only use the hospital material placed at their service and conform to the official regulations in force. In these respects their department was on an altogether different plane from that occupied by voluntary aid societies. And in the case of the troops of the regular army the officers had often to encounter, as in the case of the South African war, much hardship and risk of life in carrying out perhaps the orders of some possibly incompetent general only to find themselves at the end of the war characterised as "stupid" or as after all "unprofitable servants."

EMPIRE DAY: THE ROYAL ARMY MEDICAL CORPS WAR MEMORIAL.

May 24th, the anniversary of the birth of Queen Victoria, now known as Empire Day, was celebrated with much enthusiasm throughout the kingdom. The King at Aldershot witnessed a sham fight on Frensham Common and subsequently unveiled a memorial to members of the Royal Army Medical Corps who gave their lives for the cause of their country in the South African campaign. At St. Paul's Cathedral the Prince of Wales unveiled a memorial to the colonial troops who fell in the same war. The memorial to the Royal Army Medical Corps is built of granite and bronze panels bear the name of every man who died during the war in South Africa. An inscription reads: "To those who gave their lives for their country." We hope to refer more fully to the ceremony in a subsequent issue.

DEATHS IN THE SERVICES.

Colonel Henry Comerford, R.A.M.C. (retired), recently, aged 61 years, at Charing Cross Hospital, where he had been removed from the Craven Hotel, Craven-street, Strand. He entered the service as assistant surgeon in 1866, was promoted to surgeon in 1873, surgeon-major in 1878, surgeon-major ranking as lieutenant-colonel in 1886, brigade-surgeon in 1892, and colonel in 1896, retiring in 1902. He served in the Zulu campaign of 1879 and took part in the battle of Ulundi (medal and clasp), and also in the late Transvaal campaign, when he was present at the defence of Pretoria (mentioned in despatches).

Lieutenant-Colonel C. B. Hill, R.A.M.C., on May 7th, at Guy's Hospital, aged 50 years. He entered the service as a surgeon in 1880, was promoted surgeon-major in 1892, and lieutenant-colonel in 1900. He took part in the Waziri Expedition in 1881.

THE VISIT OF BRITISH MEDICAL MEN TO PARIS.

The military hospitals in Paris were visited by Surgeon-General A. H. Keogh, C.B., Director-General of the Army Medical Service, by Lieutenant-Colonel M. W. H. Russell, Deputy Assistant Director-General of the Army Medical Service, and by Lieutenant-Colonel B. M. Skinner, Secretary to the Army Medical Advisory Board. These gentlemen were personally conducted by Dr. Strauss, the Inspector-General of the French military hospitals.

THE WAR IN THE FAR EAST.

There has been heavy rain following a dust storm in Manchuria, rendering the roads bad and impeding transport. There are signs of extensive movements of Marshal Oyama's forces and skirmishes are reported by both sides. In these the casualties seem on the whole to preponderate on the side of the Russians and are gradually mounting up. The deaths from disease in their army since the war began must have reached a heavy total as compared with those in the Japanese armies. Notwithstanding that the next battle threatens to take place between the hostile armies public interest and speculation have been transferred from the land forces to the fleets in consequence of its being universally recognised how much hinges upon the results of the impending operations at sea. It will obviously be of the greatest interest and importance to the naval powers generally to see what arrangements are made for the disposal of the sick and the wounded in the event of the occurrence of any naval engagement.

According to the *Novosti*, Professor D. O. Ott has been ordered to join the acting Russian army for four months. His special mission is to investigate the nature of medical organisation in the army.

Correspondence.

"Audi alteram partem."

DIABETES AND THE THYROID GLAND.

To the Editors of THE LANCET.

SIRS,—In his very instructive Goulstonian lecture on Diabetes Mellitus, published in THE LANCET of April 22nd, p. 1053, Dr. W. C. Bosanquet says: "Lorand states that it is chiefly in female diabetics that actual enlargement of the thyroid is present; though why the other sex should not also exhibit the same alteration is not clear." May I be allowed to make a few remarks on the subject? According to George Murray, the thyroid of women is bigger than that of men. I do not think it improbable that this may be in connexion with the fact that there exist very intimate relations between the ovaries and the thyroid, demonstrated clearly by the frequency of the swelling of the thyroid in consequence of defloration, conception, during puberty, menstruation, pregnancy, lactation, and the climacterium (menopause). Thus the female thyroid is more exposed to hyperfunction than the male one, and this might also be the cause of the greater frequency of goitre, of Graves's disease, and of myxœdema in women. I should also like to add that the median lobe of the thyroid is in the great majority of cases more developed in women than in men; its swelling can thus be easier seen and felt than that of the lateral lobes which are more covered by musculature.

It is certainly not easy to judge the condition of a thyroid by its external appearance. Sometimes a thyroid may not be seen or felt and still there might be at the necropsy a very big thyroid. As generally accepted Graves's disease is a condition of hyperthyroidia (hyperactivity of the thyroid) and still there are not so rarely cases of Graves's disease where no big thyroid can be seen or felt. On the other hand, the big size of the cretin's thyroid is no proof of its good working condition. Hence the only reliable proof of the functional activity of the thyroid as of other glands can be gained merely by its histological examination. As I stated in my paper before the London Pathological Society on Feb. 21st last I have found in the thyroid of four diabetic dogs alterations that resembled those found by Chalmers Watson[1] in fowls fed for a certain time only on animal food.

May I also be allowed to say a word on the rarity of diabetes in myxœdema? As Dr. Pavy has stated in his discussion with me in the Pathological Society he has never seen a case of myxœdema with diabetes; and in the description of the three cases of the Philadelphia County Medical Society which he kindly lent me, the author himself admits that two cases were not pronounced "and the third case was irregular." After having looked through the literature on the subject I have only found two cases of myxœdema with diabetes, those of Ewald[2] and Béclère.[3] In both cases diabetes had been the consequence of thyroid medication in big doses.

I am, Sirs, yours faithfully,

Carlsbad, May 15th, 1905. DR. ARNOLD LORAND.

TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—May I, through the medium of your widely read journal, thank the many medical Freemasons and others who sent me their votes for the medical candidates at the recent elections of the different Masonic charitable institutions? The success of these candidates is largely due to the hearty response to my appeal in THE LANCET of March 25th and must be very gratifying to those who were interested in the cases. The results are as follows:—

55 .—Eileen Torrens, successful with
uccessful.
—Charles Hughes, successful with 5309 votes, Alfred Burns, successful with 3709 votes; Cyril Hockley unsuccessful.

Royal Mason Benevolent Institution.—Joseph Rickets, successful with 3602 votes, Elinor Gartley, successful with 3855.

I am, Sirs, yours faithfully,
HAROLD S. SINGTON,
Secretary, St. Luke's Medical Lodge of Instruction.
44, St. Mary's Mansions, W., May 22nd, 1905.

THE FINANCIAL RELATIONS OF THE LONDON HOSPITALS AND THEIR MEDICAL SCHOOLS.

To the Editors of THE LANCET.

SIRS,—In a leading article in THE LANCET of May 20th, p. 1362, in which reference is made to the arrangement that has been come to between the Westminster Hospital Medical School and King's College for the teaching of the preliminary and intermediate subjects of the curriculum at the latter institution, it is stated that the arrangement has been made with King's College *Medical School*, and not as should have been said with the *Science Department* of King's College, which has no necessary connexion with the Medical School.
bly lead to some misunder-
ween the two medical schools
can find room in your next

I am, S

Park street, Grosvenor-square, W., May 22nd, 1905.

A PLEA FOR THE RECOGNITION OF THE TREATMENT OF DISEASE BY INTRAVENOUS INJECTIONS.

To the Editors of THE LANCET.

SIRS,—In the report of the discussion on the above subject at the meeting of the Edinburgh Medico-Chirurgical Society held on May 3rd—1. It was not a *single* but *six* injections of a 1 in 2000 solution of CH_2O in physiological solution which affected the temperature in the case of oral sepsis. It brought it down from 104·5° to normal in nine days. Each injection was 110 cubic centimetres. 2. While the tuberculous abscess was quite cured as reported the patient some months later broke down and died from a practically general tuberculosis. Had she remained well permanently the power of arresting recent acute tubercle with CH_2O intravenously would have been phenomenal. Still the immediate success in this case with "Maguire's" solution was brilliant. 3. I am also reported as having said that the presence of apical scars or caseous nodules was not proof of the curability of *pulmonary tuberculosis.* The term I used was *phthisis* not pulmonary tuberculosis, and I further explained my meaning by stating that I referred to the condition after the necrotic process has begun and *phthisis* is a clinical entity. These points are of some importance and I trust that you will be good enough to give space to them.

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[1] THE LANCET, Feb. 11th, 1905, p. 347.

[2] Berliner Klinische Wochenschrift, 1895, No. 2, Jan. 14th.

[3] Société Médicale des Hôpitaux, Oct. 12th, 1894, and Gazette Médicale de Paris, 1894, p. 41a.

I am, Sirs, yours faithfully,
THOMAS W. DEWAR.

Kincairn, Dunblane, N.B., May 22nd, 1905.

FIFTH ANNUAL SOUTH AFRICAN CIVIL SURGEONS' DINNER.

To the Editors of THE LANCET.

SIRS,—Through the medium of your journal we should like to call attention to the above dinner, which will take place on Tuesday, July 4th, at 8 o'clock, at the Imperial Restaurant, Regent-street. Mr. W. Watson Cheyne, C.B., has kindly consented to take the chair. Reply cards will be sent to those whose addresses are available and we hope that those who wish to attend will reply as soon as possible. The price of the dinner will be 10*s.* 6*d.* (exclusive of wine).

We are, Sirs, yours faithfully,
FRANCIS E. FREMANTLE, } Honorary
C. GORDON WATSON, } Secretaries.

44, Welbeck-street, W., May 24th, 1905.

UNPAID AS USUAL!

To the Editors of THE LANCET.

SIRS,—I received a few days ago a letter from the senior medical officer of the volunteer infantry brigade to which I belong. I inclose a copy of it.

> A number of volunteer medical officers will be required for duty in the station hospitals of the regular army during the training season (May to August) Those officers would not, *of course* (the italics are mine), receive pay nor would any expense to the public be admissible, hence their attendance must be entirely voluntary. Should you be willing, &c.

Comment is, perhaps, superfluous, but one cannot help observing what an encouragement such a proposal must be to the volunteers to perfect themselves as a reserve to the regular forces. Do our colleagues in the Royal Army Medical Corps serve during the training season without pay and with no expense to the public?

That such an offer can be seriously made to qualified medical men with, presumably, some idea of a more or less favourable response points to the urgent necessity of some strong professional combination, while the fact that the War Office considers it probable or even possible that commissioned officers of the auxiliary forces may be willing to perform public duties without any expense to the public, but at a considerable loss to themselves, and alongside officers of the regulars and militia who are drawing full rates of pay and allowances for the performance of the same duties, only indicates the utter futility of any hope of any improved position for the volunteer or any practical recognition of him as a genuine factor in any scheme of national defence. It is to be devoutly hoped that volunteer medical officers with any respect for their profession or for the force to which they belong will have nothing to do with this proposal. I am, Sirs, yours faithfully,

May 20th, 1905. A. M. R.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Physique of Salford Children.

Mr. C. H. Tattersall, the medical officer of health of Salford, and the assistant medical officer, Dr. J. J. Butterworth, give interesting reports on the medical work done by them in 1904 for the Salford education committee. There are 4000 children in Salford attending school who are under five years of age and Mr. Tattersall agrees with many others who have studied the question that the attendance of these children should be discouraged, believing that "the sixth year is early enough for a child to attend school." There is considerable difference in the social condition of the neighbourhoods in which the six schools selected for observation are situated and the schools differ considerably also. 1. Boys chiefly from the class of clerks, warehousemen, and shop keepers. The boys are clean, well nourished, and sufficiently clothed. The school is surrounded by a large open space and has a very large playground. 2. Boys chiefly the sons of unskilled labourers. Clothing is deficient both in quality and quantity, not one boy wearing an under-vest. Vermin are very prevalent. 3. Boys from the skilled artisan class and latterly a good many children of dock labourers. The neighbourhood has of late become thickly populated. 4. Scholars chiefly from the skilled artisan and clerk class. They are well dressed and nourished, each boy wearing two garments, an under-vest and shirt. The school is close to a large park. 5. Here the boys are chiefly the sons of mill-workers. They are well but roughly clothed and well nourished. There is a large playing field attached to the school. 6. This school is situated in what is still regarded, in spite of some improvement in late years, as the worst district in Salford. It is, as one would expect, densely populated. In these six schools, three of a better and three of a poorer class, records were taken of the height, weight, and chest girth of all the boys between the ages of seven years and nine months and eight years and three months, between nine years and nine months and ten years and three months, and between 12 years and nine months and 13 years and three months. This gave three age periods approximately of eight, ten, and 13 years. As would be expected, in the three higher class schools—i.e., in those where the social conditions and the surroundings are comparatively more favourable for healthy existence—the physique is better than in the three poor schools. At the age of eight years all are fairly equal, but at 13 years there are marked differences. As showing that something more than mere social condition affects the result there is a seeming exception in the case of No. 5 school which stands at the top of the list as to physique, although the boys are roughly clothed children of mill-workers. They are, however, well fed and "attached to the school is a large playing-field" in an open situation. This appears the chief factor likely to account for the better growth and development of the No. 5 boys, who at 13 years of age are two and a third inches taller and 13 pounds heavier than those of No. 3 school, the latter being chiefly the sons of skilled artisans. Over those of No. 6 school they have the advantage of being nearly four inches taller and about 14 pounds heavier. As these boys will most of them earn their living by bodily work the advantage at the start should always keep them in front of those less favoured. In accounting for the marked superiority of the boys in No. 5 school it may be mentioned that the district is one where the social and moral tone is somewhat above the average. "More than 90 per cent. of the children attend Sunday school," the people keep early hours, and "the children are abed betimes." As Mr. Tattersall says, improper feeding and under-feeding have marked consequences; where the people are poor and the children are badly fed the physique shows the natural result. On the other hand, he does not blame the mothers for want of care of their young children and he finds that more than 90 per cent. of these have been breast-fed. These working class mothers set a good example to those in more comfortable positions. There has been of late considerable improvement in this respect, for three or four years ago only 70 per cent. of these Salford mothers fed their children from the breast. He advocates "breast-feeding and teetotalism on the part of the mothers." Some of the schools are well provided with facilities for out-door play but others are not. No. 6 school, where the children are "dirty, badly clothed, and ill-nourished" and where "a large proportion showed distinct signs of rickets," is situated in Greengate, the worst district in Salford and has none of these advantages close at hand, and the children would rather play in a dirty crowded slum near home than in a park at a distance. Now that attention is so much directed to this question it is to be hoped that sensible measures will be taken to improve as much as possible the evil influences of our manufacturing towns on the physique of their inhabitants. It is a matter of the gravest import to the future of our race and it will be a sorry result of our civilisation if "men decay." Although there are some encouraging facts it is not cheering, to quote the words of a careful observer, that "the average of child physique is lower in Salford than in any town in Great Britain of which record has been taken, with the possible exception of Rochdale." Our sanitarians have plenty of work before them in the improvement of hygienic conditions, while our moral sanitarians have a harder and, perhaps, more important task still in helping the people to understand and to live a higher life physically than the groveller in the slums ever dreams of.

The Black Smoke Nuisance.

It is a very common thing for manufacturers to be fined for allowing black smoke to be sent out from their chimneys and they often pay the fines gladly rather than adopt the means necessary to abate the nuisance. But it is not so common for the sanitary department of the Manchester corporation to summon the electricity department, that one of all others that was to do away with black smoke and to convert Manchester from what it is to a place of sweetness and light. This department, however, has a tall chimney which recently emitted black smoke to such a degree as to render a summons necessary. The resident engineer said that it was caused by certain experiments. Perhaps he might vary the experiments a little and try to make some with the object of lessening, and not increasing, the production of smoke. An order to abate in 28 days was made so that there is time for some fresh experiments.

Oswaldtwistle's Low Birth-rate.

Low birth-rates are becoming so general as to increase the seriousness of the nation's outlook. Dr. A. E. Townley, the medical officer of health, states that during the past year the birth-rate of Oswaldtwistle was 21·91 per 1000, compared with 28 87, the average for the last ten years. He complains also that the smoke nuisance has an effect on the number of deaths from bronchitis. The infantile death-rate was 191 per 1000, the highest, with two exceptions, for the last ten years. It is difficult to imagine the manufacturing districts of Lancashire free from the defilement of black smoke, but what a much happier and healthier land it would be with its streams clean and its vegetation and beauty restored.

Duck Pond or Plunge Bath?

It is reported that in Milnshaw Gardens, Accrington, there is a piece of water which was originally intended for, and used as, an open-air plunge bath but is now called a duck pond. This suggests a habitat where the larvæ of gnats luxuriate but there is no intimation of the presence of the pernicious anopheles. However this may be, there seems to be full justification for the recommendation to the town council "to clean out its duck pond in Milnshaw Gardens and restore it to its original use as an open-air plunge bath." Town councils, whether Progressive or Moderate, have to be reminded occasionally that some simple sanitary measures are as desirable in English boroughs as in West African swamps and it is well worth some little trouble to lessen the swarms of our English gnats which are often a great nuisance and in days gone by caused widespread sickness, from the danger of which we are not altogether free.

May 23rd.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

A New Inebriate Reformatory.

UNDER the conditions of the Act of 1898 a certified inebriate reformatory has just been opened at Cattall, which is situated about midway between York and Harrogate and where an excellent site of about 50 acres in an elevated situation has been secured. The cost of the undertaking will, it is expected, amount to about £50,000, which includes the sum of £4750 paid for the land. As the joint committee charged with the undertaking is representative of the county councils of the three Ridings and the councils of the county boroughs of Bradford, Halifax, Hull, Leeds, and York, it is calculated that it will only require a rate of $\frac{3}{7}$th of a penny in the £ to meet the payment of the £2550 required for interest and sinking fund charges on a thirty years' loan. The expenses of maintenance will, after the first 12 months, be met by the separate authorities in proportion to the number of inebriates committed from their areas. Accommodation has in the first instance been provided for 80 inebriates, but the central administration block has been made large enough to meet an increase to 300. The accommodation takes the form of detached cottage homes each providing for 20 cases in two groups of ten each. A separate bedroom is provided for each inebriate. Three of the cottages are to be devoted to women and the fourth will provide accommodation for 20 men. Lord Wenlock, in declaring the institution open, pointed out that there were three different kinds of institutions for dealing with inebriates. These were the inebriate retreats of the Act of 1879, the State inebriate reformatories, and the certified inebriate reformatories, of which that which he had declared open was an example. It was intended for the reception of those who, being habitual drunkards, had been convicted of crime, either when they were under the influence of drink or where drink was found to have been a contributory factor, as well as for those who had in one year been convicted four times of certain offences of drunkenness. The institution is of course intended for reformation treatment and a circular has been issued by the comn[illegible] in these terms: "If for the [illegible] nly commit in proper cases, a [illegible] mit when necessary, some approach towards proving the utility of the institution may be made; but if judicial authorities hesitate because the percentage of good results is at present small, especially amongst the early cases which they may send, then a necessary work will be hindered."

May 23rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Officer of Health of Chipping Sodbury.

THE circumstances attending the election of a local practitioner as medical officer of health of the rural district of Chipping Sodbury, near Bristol, in succession to Dr. Francis T. Bond, who has held the position for 32 years, have already been related in THE LANCET.[1] At a meeting of the district council held on May 17th a letter was read from the Local Government Board regretting the withdrawal of the district from the combination which had for many years elected a joint medical officer of health and stating that the Board was anxious that the situation should be discussed by representatives of the various districts concerned and had accordingly asked the clerk to the Gloucester district council to call a meeting of such representatives. The district council decided not to send any representatives to the conference and adopted the following motion:—

> [illegible] forthwith call upon the Local Government Board to sanction the appointment of our nominee.

At a meeting of the Gloucestershire branch of the British Medical Association held at Gloucester on May 18th it was resolved:—

> That it is desirable in the interests of the medical profession generally that in any locality in which an attempt is made by any public or other organised body to treat their medical officers or employés with injustice the local members of the profession should loyally combine to support their menaced brethren.

And a further resolution was also carried unanimously, on the proposition of Dr. J. Middleton Martin and Dr. G. B. Ferguson, instructing the branch representatives to urge upon the council of the Association the necessity for pressing on the Public Health Bill giving fixity of tenure to medical officers of health.

Death from Lead Poisoning.

Deaths from lead poisoning contracted during industrial pursuits are of sufficient rarity to merit notice. A man, 36 years of age, died from this cause in Bristol on May 1st. He was a silver refiner and was engaged in extracting silver from lead. He had been employed for many years at the same work and in 1899 had an attack of lead colic. Epileptic convulsions were the most prominent symptoms immediately preceding death. Sufficient washing accommodation as required by the special rules relating to dangerous trades appears to have been provided at the works in which the deceased man was employed and he is said to have been of cleanly habits.

University College, Bristol.

Nearly 1500 persons were the guests of the council and staff of University College, Bristol, in the new College buildings on the occasion of the triennial conversazione on May 19th. Professor Stanley Kent during the evening made a series of experiments illustrating the fatigue of muscles, pulse tracings, colour blindness, and finger prints. Demonstrations of the process of making liquid air were given by

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[1] T[illegible]NCET, April 15th (p. 1035) and 29th (p. 1146), 1905.

Professor Travers who also explained the working of the hydrogen liquefier. In the chemical laboratory there was an exhibition of minerals, alkaloids, drugs, and artificial colouring matters and there was elsewhere a large collection of modern scientific apparatus.

The Medical Officer of Health of Gloucester.

Mr. W. More Hope, who was recently elected medical officer of health of the city of Gloucester, was appointed without reference to any specified period and the Local Government Board has now sanctioned his appointment in the first instance for one year and provided the city council at the end of the year still desires it the Board will sanction the permanent appointment.

Taunton Isolation Hospital.

The Taunton isolation hospital is under the dual control of the Taunton town council and the Taunton rural district council. Recently this arrangement does not seem to have worked very satisfactorily and Dr. H. J. Alford, the medical officer to the hospital, tendered his resignation. At the meeting of the Taunton town council held on May 17th the matter came under discussion and eventually the following motion was carried:—

> That this council express their sympathy with Dr. Alford on the treatment which has led to his resignation and decide not to accept it. That the council considers the dual control of the hospital is not working satisfactorily and authorise their committee to bring up a report as to the expediency of the council taking over the sole ownership and management of the institution.

May 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Free Food for School Children.

IN connexion with the Education Bill for Scotland at present before Parliament considerable discussion has taken place among those interested on the subject of free food for school children. At a conference in Glasgow held under the auspices of the committee of the Queen Margaret Settlement and the Charity Organisation Society a letter was read from the medical officer of health of Glasgow in which he said that one of the most interesting revelations of the present school inquiry was that the fatherless child in one-apartment families was better cared for—i.e., better clothed, better fed, and cleaner—than the one-apartment child whose father was alive. This seemed to him to emphasise the need for the feeding of children on a much larger scale than had hitherto been attempted. If the figures obtained in the inquiry had any significance it lay in the suggestion that the underfed child was educationally on a low level and was likely to become industrially inefficient in later years. The Glasgow trades council, in discussing the same question, by a large majority supported a resolution in favour of the feeding of all school children, the argument urged in favour of this proposal being that if only a section of the children received food it would cast a stigma upon that section.

The Treatment of Glanders.

Representatives of the Glasgow corporation and the Lanarkshire county council recently interviewed the President of the Board of Agriculture on the subject of glanders among horses and the methods of preventing the disease. It was urged that a new order should be issued at once conferring additional powers on local authorities to deal with outbreaks. Glasgow and Lanarkshire, like the local authority of London, desire the compulsory application of the mallein test Numerous experiments in Glasgow seem to have supported the views of those who have faith in the curative action of mallein. Another matter dwelt on was the desirability of fixing on the Imperial Exchequer the expense involved in the slaughter of animals not clinically affected. It was claimed by the deputation that the disease could be cured and that horses could be permitted to work during the period of reaction with the mallein test.

Juvenile Smoking.

The magistrates' committee of the Glasgow corporation has again been considering the question of juvenile smoking. The suggestion was discussed of making it an offence for a boy under the age of 16 years to be found using tobacco or having it in his possession for his own use. The school board has taken the initiative in issuing an appeal to householders to discourage energetically the evil practice of juvenile smoking.

Glasgow Dental Hospital.

The annual report shows that this hospital is fortunate in having a deficit of only £3 18*s.* 5*d.* The number of patients who attended the hospital during 1904 was 10,062, being 1756 more than in the previous year. The total number of operations was 9122, of which 2698 were extractions and 6424 preservative operations. In 338 operations anæsthetics were used. These figures bear ample testimony to the large amount of philanthropic work being done by the hospital among the suffering poor of the city. If, as is suggested, defective teeth are at the bottom of most of the dyspeptic ailments of the present day an institution such as this deserves every encouragement. We hear a good deal nowadays about preventive medicine but in this case we have a legitimate opening for preventive surgery.

Measles in Glasgow.

The medical officer of health reports that during last winter measles was very prevalent, especially in the eastern and southern districts of the city. Acting in coöperation with the school board on the principle that the closing of infants' sections should anticipate instead of follow the extension of the disease, action has been taken in a considerable number of instances during the winter and the results have been encouraging enough, although not spread over a sufficient time to show what the full value of the system may be as a method of stemming a rising tide of infection from measles.

Consumptive Sanatorium for Dumfriesshire.

A proposal was made some time ago to erect a sanatorium for the treatment of consumptives in Dumfriesshire. The movement has been going steadily forward and now it is announced that about £7000 have been collected in support of the scheme. It is proposed, to begin with, to make provision for 20 patients, leaving it to be afterwards discovered for how many more it is necessary to provide.

Fees for Attending Accidents.

Glasgow medical men are rebelling just now against what they consider the unfair treatment meted out to them in the case of street accidents. Where a policeman takes an injured person to a surgery an "ex gratia" payment is certainly made, but no recompense is made to the medical man in the many cases where the injured person is taken by a civilian and a policeman is afterwards called in. In all these cases, which are, of course, reported by the policeman to headquarters, no payment whatever is made and the medical man, in addition to the expenditure of time and labour, is put to the expense of the necessary surgical dressings. The Eastern Medical Society has taken the matter in hand and is pressing the claims of the medical men upon the attention of the "watching and lighting committee" which deals with such matters.

Lanarkshire Inebriates' Home.

Lanarkshire is in the unfortunate (or fortunate) position of having an inebriates' home and having no inebriates to put in it. The home at Hairmyres has only been in existence a few months and although it has no patients it seems, according to the convener of the committee, to have done good in a negative way already, as a number of those persons who had been often convicted have not been up during the last few months. One member of the committee suggested that in the meantime the building should be used as a consumptive home, but the general impression seems to be that unfortunately there will be no difficulty in getting inebriates to treat in the home.

Widal's Reaction.

The Clydebank and Renfrew joint hospital board has had before it a complaint by a local medical practitioner to the effect that a patient certified by him as suffering from enteric fever had been admitted to the hospital and discharged a few days later without any directions as to isolation and that after dismissal an examination of the blood gave a positive Widal reaction. The medical officer in charge of the hospital stated that he recognised the Widal reaction as a relative and not as an absolute test, and that he relied on the clinical diagnosis. If a patient could be cured with a dose of castor oil he would not detain him in hospital.

The Health of Aberdeen.

Dr. Matthew Hay, medical officer of health, reports that the death-rate from all causes during the month of April (17·72 per 1000 per annum) was considerably below the rate (19·26) for the preceding month and even still more below the rate (20·66) for the corresponding month of last year. Dr. Hay also reports that scarlet fever continued to decline, 12 cases with no deaths having been reported during the month, as against 16 cases with one death in the preceding month. Diphtheria greatly declined during the past two months, the number of cases notified in each month falling from 18 in February to eight in March and to two during the past month. There have been no deaths from this disease since January. Typhoid fever produced two cases during the month with one death. This is the first death from typhoid fever since last November and only the second death since April of last year. The epidemic of typhus fever, which gave cause for so much anxiety at the beginning of the year, appears now to be practically at an end. Except for one doubtful case removed for observation to hospital towards the end of the past month no case has been reported since April 11th. Six cases were notified in the early part of April but three of them were of cases which had been taken ill late in February or early in March but had not been sooner reported owing to the slight and somewhat doubtful character of the illness, the diagnosis having been rendered certain only by the occurrence of a subsequent undoubted case in each of the two families to which the cases belonged. The remaining three cases began in the last days of March, though not formally notified till the beginning of April, so that it may be said that the epidemic appears to have closed with the end of March. Four of the six cases notified were practically within one family and one case was that of a nurse at the City Hospital who had been nursing suspected cases. All of the cases have made a good recovery except one—a case of an old man whose daughter and grandchildren were suffering from typhus fever and who was believed to have had an attack of the same disease in early life. Erysipelas declined somewhat during the month, 17 cases having been notified as against 25 in the preceding month. There was one case of puerperal fever which terminated fatally. In the preceding month there was also one case, but up to that month there had been no case for four months. Measles declined greatly during the month, only 17 cases having been intimated or discovered, as against 55 in the preceding month. Three deaths were registered during the month, as against one in the preceding month. Whooping cough showed also a considerable decline during the month, 15 cases having been reported, as against 24 cases in the preceding month. One death was registered, as against four deaths in the preceding month. There were six deaths from influenza, as compared with 11 deaths in the preceding month.

May 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Ireland.

AT a stated meeting of the President and Fellows of the Royal College of Physicians of Ireland held on May 5th Dr. A. Traill, Provost of Trinity College, Dublin, was unanimously elected an honorary Fellow of the College.

Public Health of Ireland.

From the returns of the Registrar-General, which were published on May 17th, it appears that the number of deaths in Dublin for the month is only slightly better than that of three other districts which are dealt with in the report. Galway is very high, with an average of 34 per 1000, and Sligo is not far behind with 31, while in 15 of the areas the rate is about 20.

Irish Medical Association.

Much dissatisfaction has been caused among members of the association and others by the publication styled the "Irish Medical Directory for 1905" in which the qualifications of members appear in full and in black print while those who elected not to join the association are partially ignored. To judge by the resolutions which have been passed in Belfast and elsewhere that publication will not have a long life. It seems impossible to account for the recent action of the Irish Medical Association except one believes in the old Latin aphorism—that those whom the gods wish to destroy are first sent mad. Dr. L. Kidd of Enniskillen, Dr. R. Bodkin Mahon of Ballinrobe, and Dr. G. E. J. Greene of Ferns are all candidates for the direct representation of the medical men of Ireland on the General Medical Council in opposition to Sir William Thomson, who has been their representative for many years.—At a meeting of the North Down branch of the Irish Medical Association, held in the Medical Institute, Belfast, on May 18th, Sir W. Whitla was re-elected President for the ensuing year, and Mr. J. Wybrants Olpherts (Downpatrick) honorary secretary and treasurer.

Retirement of Dr. P. O'Keeffe of the Irish Prison Medical Service.

Dr. P. O'Keeffe has recently announced his retirement from the Irish Prison Medical Service after a career of 40 years. His resignation was signalised by an entertainment given to him by the chief officers of his department, including the chairman and other officials of the Prisons Board. Dr. O'Keeffe is well known in Dublin and Cork society and is highly esteemed. He has had many interesting criminals under his charge d[illegible] Dr. Kirwan, who was [illegible] of Ireland in his time, [illegible] on Ireland's Eye. Other and more modern criminals who have been under Dr. O'Keeffe's supervision would be more interesting to hear of now. It is hoped that at some time he will publish an account of his curious experiences.

The St. John Ambulance Association.

The annual inspection of the Belfast division of the St. John Ambulance Association was held in the large inclosure at the rear of the Central Fire Station, Belfast, on May 19th, and was in every way a success, Mr. J. C. Denham, assistant commissioner of the association, stating that the division represented by the fire brigade was one of the most efficient which he had examined this year. It was stated that last year the ambulance (worked by the fire brigade officials) was called into requisition 2393 times, and during the present year, that was, from the end of June, 1904, it had been in use on 2105 occasions.

May 23rd.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Medical Superintendent Resigns after 29 Years' Service.

Dr. Charles O'Reilly, medical superintendent of the Toronto General Hospital, a position he has occupied since 1876, has resigned, his resignation to take effect on June 30th. When Dr. O'Reilly came from the hospital at Hamilton, Ontario, to take charge of what was ultimately to become the largest hospital of Canada, there were only 12 members on the acting and consulting staff, while to-day there is a staff of over 60. During the period of his superintendency 100,000 patients have been cared for in the wards, whilst in the maternity department some 4000 births have occurred. The hospital has gradually developed until to-day there is a constant floating population in the institution of some 500 people. Some years ago Dr. O'Reilly was instrumental in having established in the centre of the city an emergency hospital which annually attends to 2500 accidents and other emergency cases. Dr. O'Reilly will be entertained at a banquet by the profession of Toronto in the latter end of June. For a year or two he will travel abroad with his family.

Ontario Board of Health.

During the latter part of the month of April the regular quarterly meeting of the Ontario Board of Health was held in Toronto when the secretary, Dr. C. A. Hodgetts, presented the quarterly report of his department. He referred to the fearful mortality still prevailing throughout the province from tuberculosis, which had amounted to 500 lives for the first quarter of 1905, and urged the establishment of dispensaries for the treatment of cases of tuberculosis until such time as sanatoriums could be erected to take care of these cases. Dr. Hodgetts also took up the subject of the disinfection of Pullman and sleeping cars, which at the present time is not carried out in Ontario, and urged the board to recommend that legislation should be enacted in this direction. Notice of motion was given that at the next regular meeting of the board a discussion would take place upon the advisability of recommending the Government to establish a separate department of public health. The question of curtailing infant mortality was also considered and steps will be taken to lessen this through the coming summer months.

Professor W. Osler's Successor a Canadian Graduate.

Dr. Lewellys Franklin Barker, who has been appointed Professor of Medicine along with Dr. W. S. Thayer to succeed to the duties lately relinquished at Johns Hopkins University by Professor Osler, is a graduate of the University of Toronto of 1890. Dr. Barker was born near Philadelphia but early in his life his parents moved to Ontario, and Dr. Barker has received all his preliminary education in Canada. After graduation he entered the Toronto General Hospital for a year as house surgeon, going to Baltimore in 1892. In 1900 he was appointed to the chair of anatomy in the University of Chicago.

Ontario Hospitals Association.

The annual meeting of the Ontario Hospitals Association was held in Toronto on April 12th, the principal item of business being the formation of a special deputation to wait on the members of the provincial government asking for an increased grant to the hospitals of the province, to raise it from 50 cents per patient to 75 cents per patient. At the present time the Ontario Government gives annually to the hospitals of the province $110,000. The Premier has promised consideration of the subject. The statistics show that in the Ontario hospitals 39,223 patients were treated in 1904, as against 35,912 in 1903. The total revenue for these hospitals in that year amounted to $844,881, including the Government grant of $110,000. When divided this actually averaged 17 cents per day for each patient entitled to receive it, while the actual average cost of each patient was 89 cents per day. Mr. Edward Gurney of Toronto was elected President, Dr. Charles O'Reilly Vice-President, and Dr. John Ferguson, Toronto, secretary-treasurer.

British Columbia's Statistics for 1904.

The thirty-second annual report of the provincial registrar of British Columbia of the births, marriages, and deaths in that province in 1904 shows the registrations under the three headings to be as follows: births, 2139; marriages, 1252; and deaths, 1734. The figures for 1903 were: births, 2093; marriages, 1160; and deaths, 1572. Of the 2139 births in 1904 1121 were boys and 1018 were girls. Victoria and Vancouver, the two chief cities, contributed over one-half of the births, the figures for each being 471 and 593 respectively. The death-rate continues low. Under three years the deaths numbered 416; from 3 to 10, 69; from 11 to 21, 98; from 22 to 40, 484; from 41 to 60, 341; from 61 to 70, 169; from 71 to 80, 98; from 81 to 90, 45; and over 90, 3. Pneumonia claimed the greatest number of victims from any one disease, the number being 104. From tuberculosis the number was 79.

The Newfoundland and Labrador Medical Mission.

Dr. Wilfrid Grenfel, the English medical missionary who for the past 13 years has been devoting his life to the amelioration of the ills of the fisherfolk of Labrador and the north-west coast of Newfoundland, has been making his annual visit to New York, Toronto, and Montreal in the interests of his mission. Dr. Grenfel has been instrumental in establishing three hospitals amongst these people, and by the generosity of Lord Strathcona he has a hospital ship which during summer time he sails up and down the coast administering to the needs of the sick. In winter his dog team and sled carry him often 100 miles to a patient, and patients have been brought to him that distance on dog sleds. This summer Dr. Grenfel has secured the services of two young specialists of Boston to accompany him.

Toronto Clinical Society.

The last regular meeting of this society was held on the evening of May 3rd when the following officers were elected: President, Dr. Adam H. Wright; Vice-President, Dr. H. B. Anderson; recording secretary, Dr. George Elliott; corresponding secretary, Dr. W. J. McCollum; treasurer, Dr. Geoffrey Boyd; and executive committee, Mr. E. E. King, Dr. W. B. Thistle, Dr. R. J. Dwyer, Dr. D. J. Gibb Wishart, and Dr. H. J. Hamilton. The annual banquet was held on May 6th, when a most enjoyable evening was spent, most of the fellows and members being present.

News Items.

The Manitoba Medical College, Winnipeg, will erect a new medical building at a cost of $50,000.—The General Hospital, Montreal, is erecting a new administration building and two new wings at a cost of $200,000.—Dr. Francis Wayland Campbell, Montreal, Dean of the Medical Faculty of Bishop's College University, has died at the age of 58 years.—The Medical Faculties of Bishop's and McGill Universities, Montreal, are to amalgamate.

May 16th.

NEW YORK.

(FROM OUR OWN CORRESPONDENTS.)

Professor W. Osler's Retirement.

IN the end of April Professor Osler gave a farewell address at the annual meeting of the Maryland Medical Society at Baltimore on the subject of Unity, Peace, and Concord and this was followed by a banquet at which he was the principal guest and several excellent speeches were made. There have been several minor leavetakings at professional societies and a portrait is in process of being painted, but the chief compliment paid to him by his medical brethren occurred on May 2nd in a monster banquet at the Waldorf-Astoria Hotel, when some 600 physicians, surgeons, and gynæcologists assembled from all parts of the United States and Canada. The large hall was filled, the Stars and Stripes and Union Jack were mingled, and the two tiers of galleries were crowded with ladies. Dr. Tyson (Philadelphia) acted as chairman, or, as it is called here, toastmaster, and on Professor Osler's left was Dr. Keen, the Philadelphia surgeon. Other seats at the high table were occupied by Dr. Gibson, Dr. Dickinson, Dr. St. John Roosa, Dr. Malloch, Dr. Delafield (New York), Dr. Wilson (Philadelphia), Dr. Frank Billings (Chicago), Dr. Frederick Shattuck (Boston), Dr. Musser (Philadelphia), Dr. Shepherd (Montreal), Dr. Chadwick (Boston), Dr. S. Weir Mitchell (Philadelphia), Dr. F. M. Sandwith (London), Dr. John S. Billings (New York), Dr. Jacobi (New York), Dr. Welch (Baltimore), Dr. Polk, and Dr. Janeway (New York). Dr. Shepherd spoke of Professor Osler's able work in Canada from 1870 to 1884 and was followed by Dr. Wilson who spoke on Professor Osler in Philadelphia as teacher and clinician, and by Dr. Welch who spoke on Professor Osler in Baltimore as teacher and consultant. Then followed Dr. Jacobi who humorously praised him as an author and physician and then Dr. Weir Mitchell, after a most graceful speech, presented to the guest a beautifully bound copy of Cicero's "De Senectute," translated by James Logan and printed by Benjamin Franklin, both of Philadelphia. Professor Osler, in a most feeling speech, thanked all present for the overwhelming regard and friendship shown to him by his many professional friends. "I have had but two ambitions in the profession," he said, "first to become a good clinical physician and, second, to built up a great clinic at the Johns Hopkins University on Teutonic lines." During the evening some former pupils sang to the tune of the British National Anthem some impromptu verses, of which this is one:—

> "Look at his arteries,
> Judge of his age by these,
> Scarce thirty-five.
> May he ne'er pass his prime,
> In symptom or in sign,
> Younger in spite of time;
> Long live our chief.
>
> *Chorus*—God save the mighty chief,
> We part from him in grief,
> God save our chief."

The evening was a very eventful one and all agreed that no other member of the medical profession in America could have had such a farewell.

Yellow Fever in Panama.

Colonel Gorgas, chief sanitary officer of the American Isthmian Canal Commission, has recommended that no more employés be sent to the isthmus until suitable quarters can be provided for them. On May 8th Mr. R. R. West, auditor of the Panama Canal Commission, died from yellow fever in Panama.

Meningitis in New York.

There has been an increase in the number of deaths from cerebro-spinal meningitis in the week ending May 6th compared with the preceding week. The weekly death report of the department of health states that for the week ending May 6th there were 110 deaths from the disease in the city of New York, against 87 in the preceding week. In the two previous weeks there were 104 deaths and 117 deaths from this cause respectively. The Marine Hospital Service of the United States is for the first time keeping a separate record of deaths from cerebro-spinal meningitis. The reports of this service up to the present time, which are probably far from complete, give the number of deaths from the malady in the United States since July 1st, 1904, as 2856. The entire number of deaths from this cause in the State and city of New York is given as 2315. In New Jersey the deaths from the disease numbered 170 and in Massachusetts 74 cases proved fatal. As illustrating the deadliness of cerebro-spinal meningitis it is stated that of 231 cases of the disease reported to the Marine Hospital Service 167 proved fatal.

May 16th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Continued Excessively High Rate of Mortality from Plague throughout India.

THE plague epidemic continues with unabated virulence. For the week ending April 22nd 54,602 deaths were recorded, as compared with 51,786 for the preceding seven days. The death-roll for 1905 promises to exceed all former records. In 1901 the total deaths from plague were returned at 273,679, in 1902 the number rose to 577,427, in 1903 it reached 851,263, and in 1904 it was 1,022,299. From Jan. 1st of the present year up to April 15th the number of fatal cases is reported at 576,366 and it is very doubtful whether these figures tell the whole truth. Of the total of 64,214 seizures with 54,602 deaths during the week ending April 22nd the Bombay Presidency had 3497 cases and 2787 deaths; Madras, 65 cases and 65 deaths; Bengal, 4993 cases and 4351 deaths; the United Provinces, 18,249 cases and 16,637 deaths; the Punjab, 33,162 cases and 27,362 deaths; Burma, 183 cases and 175 deaths; the Central Provinces, 223 cases and 175 deaths; Mysore State, 50 cases and 40 deaths; Hyderabad State, 401 cases and 316 deaths; Central India, 117 cases and 24 deaths; Rajputana, 2924 cases and 2406 deaths; and Kashmir, 359 cases with 215 deaths. These detailed figures will show how the disease has extended over the country and the heavy mortality of the cases. The mortality is higher this week in the Punjab by 3420; in the United Provinces by 753; in Rajputana by 200; in Burma by 20; in Kashmir by 28; in Bombay city by 132; and in Calcutta by 130. The only noticeable decrease is in the districts of Bengal, where the epidemic seems to be abating. In this area, however, the outbreak occurred earlier in the season. During the present outbreak the anti-plague serum from the Pasteur Institute in Paris has been somewhat extensively used for the treatment of cases both in Bombay and Calcutta and although it is early to form a definite opinion numerous individual reports would seem to show its value.

The Encouragement of Inoculation against Plague

A somewhat novel proposal was made to the Government of Bombay that it should pay to the family of anyone who died from plague within one year after inoculation the sum of 100 rupees. This suggestion was not accepted by the Government of Bombay, which, moreover, in answer [illegible] usiasm for inoculation, [illegible] ss its support. It is very [illegible] shows its own faith in inoculation, and not only expresses it freely but offers some tangible inducement to the people, the benefits of this prophylactic are not likely to be taken advantage of by the masses. Another proposal has been put to the insurance companies—viz., that they should offer some form of assurance against death from plague and at the same time encourage inoculation by giving favourable terms to those who have been protected. The insurance companies might go even further and, following the principle of the sanatoriums for consumptives maintained in Germany by the insurance companies there, offer to give medical treatment to their inoculated clients attacked with plague. The risk of death from plague, even after inoculation, could be still further reduced by the use of anti-plague serum.

May 4th.

Obituary.

PROFESSOR EZIO SCIAMANNA.

PSYCHOLOGICAL research in the experimental laboratory and the clinical ward loses an accomplished and indefatigable votary in Dr. Ezio Sciamanna who died suddenly in Rome on May 15th. He had taken an effective part in the proceedings of the International Congress of Psychology recently held there and at its close complained of recurrent lancinating pains over the region of the heart. An attack of bronchial catarrh from which he had partially recovered but which was still active enough to induce frequent fits of coughing seemed to aggravate, if not to provoke, the cardiac symptoms and it was on the occasion of one of these said fits that early on the morning of the 15th he experienced a sudden sensation as if of impending asphyxia. Professional aid was at once in attendance but without avail and after a few convulsive seizures, accompanied by apnœa very painful to witness, he passed away.

A Roman by birth, having been born in the suburbicarian diocese of Albano in 1850, Ezio Sciamanna was educated at the metropolitan University and proceeded in due course from the faculty of arts to that of medicine in which he graduated with distinction in 1876. Having chosen medico-psychology as his special walk he made a series of visits to the great schools of the Continent and the British Isles, spending most of his time at those of Paris and London, in the former of which he gave much attention to the courses of Charcot and Magnan. Thanks to these he returned to Italy with unusually sound and varied equipment in psychological medicine and in 1881 was appointed "Liberodocente" in neuro-pathology in the Roman University. Four years thereafter he was promoted to the chair of Clinical Psychiatry in the same school and in conjunction with his colleague, Dr. Giuseppe Sergi of the Institute of Experimental Psychology and Anthropology, he founded the *Rivista di Psichiatria e Neuropatologia* which soon achieved an authoritative place among its sister periodicals and which still enriches its special subject matter with the same staff of contributors under its new name and form of the *Annali della Clinica Psichiatrica*. Sciamanna's contributions to both journals are over 100—hardly one of them without distinct merit for independent observation and research and for a truly "Latin" lucidity and charm of style. He was the first of his professional compatriots to prosecute experiments on the "electric excitability of the cerebrum humanum," while his communications on "cerebral tumours," on "constructional psychoses," on "psychic tic," and cognate lesions or maladies have found honourable mention in more than one treatise—Italian and English, French and Austrian, German, Dutch, and Danish. At the recent International Congress he read a paper on the thesis that the psychical functions are not the special outcome of one part of the encephalon only but that they energise in necessary relation with the "attività complessiva dell' intero encefalo" (the combined action of the encephalon as a whole). He strengthened his position with observations on apes and vindicated them in the discussion which followed with a dialectic skill and a cogency which made his contribution one of the most memorable of the congress. Apart from his work in medico-psychology Sciamanna was a strenuous antagonist of obscurantism in all its forms, and though an ardent and uncompromising combatant never failed in the courtesy due to sincere, if mistaken, controversialists. These truly chivalresque qualities endeared him to colleagues and pupils alike, while his "sense of citizenship," all too rare in Italian public life, roused him on occasion to intervene in the municipal and even the political arena, when interests cherished by all enlightened sons of Italy and of Rome appealed for vindication or support. He was a "Consigliere della Congregazione di Carità"—a post in which he showed that true benevolence which is all the more appreciated that it is circumspect and discriminating. He was buried on May 17th in the family vault at the Campo Verano in the presence of numerous colleagues, pupils, past and present, and prominent citizens.

GEOFFREY RICHARD SLADE, M.A., M.D. CANTAB., M.R.C.P. LOND.

AFTER a short illness Dr. G. R. Slade died at the London Hospital on May 16th in his thirty-third year, having been on duty at the Pathological Institute of the hospital within a week of his death. He was educated at Charterhouse and Trinity College, Cambridge, where he had a distinguished career as a classical scholar. After obtaining first-class honours in 1893 he selected medicine for his future profession and entered the London Hospital as a third-year student in 1896. He qualified in 1900 and held the usual resident appointments. Three years ago he became associated with the Pathological Institute, of which he was director at the time of his death. In this capacity he did much good work, a specimen of the results of which appeared a few weeks ago in THE LANCET. Professionally he was a most conscientious worker with a true love of science and a great knowledge of medicine and pathology which he was able to impart in a lucid and convincing style.

As a colleague the truthfulness and straightforwardness of his character commanded the deepest respect and his faultless unselfishness inspired everyone with the sincerest admiration and devotion. As an individual his manifold virtues endeared him to all. He was the recipient of many confidences and his large stores of wisdom and sympathy were in constant request. So passes from among us one of the most promising of the rising generation of physicians. Proficient not only in medicine but also in letters and philosophic thought, he was the embodiment of a type of which the profession, as well as his fellow workers and friends, might well be proud. He died from septicæmia contracted in the performance of his work, and by his death another name is added to the long roll of martyrs in the cause of medical science. To those who mourn him we offer our sincere sympathy.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Eugène Hubert, professor of midwifery in the University of Louvain, at the age of 66 years.—Dr. Yêrofêieff, formerly professor of ophthalmology in the University of Tomsk.—Dr. Conrad Eckhard, professor of physiology in the University of Giessen, at the age of 83 years. He published many valuable works on anatomical and physiological subjects.—Dr. Samuel von Bash, extraordinary professor of experimental pathology in Vienna. His published works cover a wide range and include very interesting accounts of the reign of the ill-fated Emperor Maximilian whom he accompanied to Mexico. His name is also well known in connexion with a sphygmomanometer which he devised.

WATER-SUPPLY OF WOOLACOMBE.—At the meeting of the Ilfracombe (Devon) district council held on May 17th it was stated that the inhabitants of the little watering-place of Woolacombe had decided on taking the water-supply from the Ilfracombe district council.

MIDLAND MEDICAL UNION: CHESTERFIELD BRANCH.—The annual dinner of this association was held on May 11th at the Portland Hotel. Dr. G. Godfrey Macdonald, the President of the Union, occupied the chair, and Dr. J. G. Shea (in the unavoidable absence of Mr. R. G. Allen, the Vice-President) was in the vice chair. Amongst those present were Dr. George Booth, Dr. W. Dyson, Mr. R. J. Pye-Smith, Mr. J. F. Cheesewright, Dr. S. Worthington, Dr. J. W. Martin, Dr. H. J. Rankin, Dr. Arthur J. Hall, and many others, together with Mr. G. S. O'Rorke, LL.D. (general secretary). The toast of "The Midland Medical Union" was proposed by Mr. Cheesewright and responded to by the President. The toast of "The Guests" was proposed by Dr. Booth, the ex-President, and responded to by Dr. Martin and Mr. W. H. Rowthorne. An informal discussion took place on matters relating to the objects of the union and interchange of experience in attaining fair and reasonable remuneration for medical contract services by unity of action in particular districts.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 23RD.

THE eighty-first session of the General Council of Medical Education and Registration was commenced to-day at the offices, 299, Oxford-street, London, W., Dr. DONALD MACALISTER, the President, being in the chair.

New Members.

Sir Thomas Myles, appointed by the Royal College of Surgeons in Ireland as a member of the Council in room of Sir Charles Ball, was introduced by Sir William Thomson and took his seat. Dr. Arthur Atock, appointed by the Apothecaries' Hall of Ireland as a member of the Council to succeed the late Mr. C. R. C. Tichborne, was introduced by Dr. Little and took his seat.

The President's Address.

[The PRESIDENT commenced his address by referring to the losses sustained by the Council through the deaths and resignations of members and officials. He continued:—]

I would now allude briefly to certain matters which have occupied my attention during the recess. In accordance with your resolution of Nov. 29th I addressed a communication to the Lord President of the Privy Council on the subject of medical and dental companies and of the abuses to which they give rise. The Lord President, in reply, asked for detailed evidence in support of our representations. This evidence the Registrar, with the help of members of the Companies Bill Committee, was enabled to collect and to forward. It is now under the Lord President's consideration. It will be remembered that, according to the judgment of Chief Baron Palles, a dental company whose proposed title is such as to mislead the public into supposing that its business is carried on by qualified persons may lawfully be refused registration under the Joint Stock Companies Acts. The question arose whether a company already registered, whose title was open to the same objection, might lawfully remain upon the register. A judgment in the negative has now been given in the High Court of Justice in Ireland by the Master of the Rolls in the case of the Attorney-General *versus* Appleton and others. This important decision was made the subject of questions in Parliament by Sir John Tuke who has been most active in pressing the matter on the attention of the Government; and I communicated a full report of the case, courteously furnished by the British Dental Association, to the Lord President. The purpose of these questions and communications was to ascertain what steps could be taken to procure a similar declaration of the law in Great Britain. The replies will be laid before you. The last of them, received on Saturday, is of primary importance to the dental profession, but the underlying principle admits of a much wider application. The documents indicate that definite advance is being made in the direction desired by the Council in its resolution of May 31st, 1904, and you will doubtless refer them to the Companies Bill Committee for its information. As the result of a confidential communication from the Army Council this Council on Nov. 22nd, 1904, appointed a committee to inquire into the operation of the Anatomy Acts and their effect on the teaching of anatomy and practical surgery in Great Britain. A further communication from the War Office was received in March, from which it is apparent that the inquiry you directed is of pressing importance. To facilitate the work of the committee I have opened communications with a number of the authorities concerned, and the information thereby obtained, much of which is of a confidential character, will require careful consideration. The Office Site Committee, with the valuable aid of your solicitor, has been occupied in arranging for the future tenancy of the Council's house in Hanover-square, the existing lease of which expires at Midsummer next. The negotiations have been protracted and sometimes difficult but I may be allowed to anticipate the report of the committee so far as to say that we have now found a satisfactory tenant at a rent considerably larger than that hitherto obtained and on conditions which the Council has already approved in advance.

The Council will also learn with satisfaction that the accounts for the year 1904 are more favourable than those for any year since 1895. At the end of 1903 our deficit was some £2165; at the end of 1904 it was only £218, or about one-tenth as great. The Finance Committee will report on the items which have contributed to this substantial improvement, but it is noteworthy that the result is attributable not to any increase of ordinary income but to greater economy of expenditure. Whether this degree of economy can be maintained in future years without impairing the Council's efficiency it is difficult to forecast. But though I may be, as I have been, charged with incurable optimism regarding the Council's finances I still think that in ordinary years equilibrium between income and expenditure is possible of attainment, even without the aid of fresh legislation, and I am strengthened in this belief by the opinion of the Finance Committee. If the vigilance of your officers is supported by the resolve of the Council to discountenance all expenditure of time and money that does not directly conduce to efficiency it is not extravagant to hope that the accounts of the coming years may be even more satisfactory than the last. The closing year of office of my distinguished predecessor in the chair has shown us what can be done in this direction and it will be my ambition to assist to the best of my power in maintaining the ground we have gained under his leadership. But while we strive after economy on the one hand we must not neglect any legitimate means for the improvement of our income on the other. Where the equilibrium is precarious even a small addition to the right side of the balance is important. Dr. Mackay's suggestion—that the fees for the restoration of lapsed names to the registers and for the registration of higher titles should be slightly raised—has proved to be fruitful, for it has added over £400 to the receipts of the year. The higher fee, so far as it represents a fine for negligence, will incidentally tend to keep the registers more correct. The fee for recording additional qualifications, being, as it were, a small tax on new dignities, is paid with comparative complacency by the newly dignified. Dr. Mackay's proposal is thus abundantly justified and the Chancellor of the Exchequer in search of fresh sources of revenue might well take counsel with him.

The suggestion has been made from an important quarter that one of the services gratuitously performed by the Council might be made self supporting in a similar way. I refer to the maintenance of our Students' Registers. The General Registrar, with the help of the branch registrars, has ascertained that the ordinary expenditure on this branch of our work—for printing, postage, salaries, and time occupied in committees and councils over its details—may be estimated at about £400 a year. Against this outlay the only receipts are some £20 a year from fees for late or exceptional registration. If a fee, say, of 5s. were charged for the certificate of registration in ordinary as well as exceptional cases the actual cost would just be covered and the Council's funds would be relieved to a corresponding extent. It is represented that for such a step no new legislation would be required, that the Students' Registers might remain on their present "voluntary" basis, that the trifling fee would be readily paid and easily [illegible] the Council and of [illegible] registration would [illegible] entations are just, and I offer them for your mature consideration, the Council might be well advised to make the experiment. The improvements in the office sanctioned at the last meeting have been carried out under the supervision of the General Registrar and, thanks to his care and [illegible] well within the estimate. T[illegible] better keeping of the register[illegible] to registration has now been provided and the new system, already tried and approved in the dental department, is being rapidly applied to the others. The expense in this case will certainly contribute to efficiency. The like statement may also be made regarding the outlay on cleaning and redecorating the Council chamber. This work had been postponed until it was certain that our occupancy of the premises would continue. When the doubt was finally removed the Registrar was instructed to put the chamber and galleries into tenantable condition. The work of the [illegible] when it is carried [illegible] reports of the [illegible] es of Oxford and London would be brought before the Council by the Examination Committee. In his opinion they were highly satisfactory. After referring to the Pharmacopœia Committee the President announced that the penal cases would be heard on Wednesday and Thursday and concluded his address by assuring the chairmen of committees and other members of the Council of his willingness to assist them in every possible manner.]

On the motion of Dr. WINDLE the President was thanked for his address, which was ordered to be printed in the minutes.

The Business Committee.

Dr. NORMAN MOORE moved that the following members should compose the Business Committee: The President, Dr. Windle, Dr. Bruce, Sir Christopher Nixon, and Mr. Young.

Sir JOHN MOORE seconded the motion, which was agreed to.

Yearly Examination Tables.

On the motion of Dr. WINDLE, *seconded by Dr.* NORMAN MOORE, the following yearly tables for 1904 were received and entered on the minutes:—

[illegible] for commissions in the [illegible]

Vote of Thanks.

Sir PATRICK HERON WATSON moved:—

> That the th[illegible] of the Medi[illegible] General of the [illegible] for India resp[illegible] to the Counci[illegible] tinue to be furnished to the [illegible]

Dr. MCVAIL seconded the motion which was agreed to.

Restoration of Name.

The Council having sat *in camerâ*,

The PRESIDENT intimated that the Council had resolved to direct the Registrar to restore to the Medical Register the name of Samuel B. Shekleton.

Amendment of the Companies Acts.

The PRESIDENT said he had now to lay before the Council a statement of the steps taken since November, 1904, in regard to the suggested amendment of the Companies Acts by himself and also by Sir John Batty Tuke, to whom they owed a great deal for having pressed these matters on the attention of the Government. The latest expression of opinion by the Privy Council was contained in the following letter:—

> Privy Council Office, May 19th, 1905.
>
> SIR,—Referring to your letter of 17th inst. on the subject of the registration of medical and dental companies and inquiring whether, in view of the decision of the Master of the Rolls in Ireland in the case of the Attorney General for Ireland v. Appleton and others, the [illegible] General for England would take similar proceedings in the [illegible] matter, [illegible]
>
> I am, &c.,
>
> (Signed) A. W. FITZ ROY.
>
> The Registrar, &c.

The process should be that through the Attorney-General who must consent to act an injunction should be asked for to prevent a company already registered with a title which had been misleading from remaining on the register of joint-stock companies If one good case were brought up and the decision were the same as that given in Ireland that would mean that a number of companies with misleading titles in connexion with medical and dental practice might be removed from th[illegible] companies. The sugg[illegible] Association should t[illegible] position, no doubt, to [illegible] case and present it in a proper form and in proper course. He moved that the documents in connexion with the matter be placed before the Companies Bill Committee to be considered.

Mr. TOMES, in seconding the motion, said that the Council was deeply indebted to the President for bringing about this result.

The motion was agreed to.

It was agreed to enter the report in the minutes of the day.

Request for Change of Designation.

The Council considered the report of the Executive Committee in regard to the petition from 767 Licentiates of the Apothecaries' Society of London requesting an alteration in the Medical Register of the designation therein given to the qualification granted by the Society.

The report was ordered to be entered on the minutes.

The PRESIDENT said the prayer of the petition was as follows:—

> Your petitioners therefore humbly pray that the General Council will forthwith order that, in respect of all persons who have passed or shall pass the qualifying examination of the Society conducted in manner prescribed by the Medical Act, 1886, and have received or shall receive the diploma of the Society, the qualification entered or to be entered in the Medical Register shall be changed from "Licentiate of the Society of Apothecaries" to "Licentiate in Medicine, Surgery, and Midwifery of the Society of Apothecaries," or such abbreviation thereof or other title as shall indicate that the persons holding the said qualification are legally qualified to practise in medicine, surgery, and midwifery.

He would direct the attention of the Council to the Medical Act of 1858 which governed this matter. It described the qualifications that were to be registered. After consideration of all those points the committee had no option but to come to the conclusion that without a change on the schedule of the Acts, which would require fresh legislation, the Registrar would not be justified in changing the designation of the Licentiates of the Society of Apothecaries.

Sir HUGH BEEVOR supported the recommendation of the Executive Committee.

Dr. WINDLE moved the approval of the report which was seconded by Dr. NORMAN MOORE.

Sir THOMAS MYLES said that apparently the Council had no power to alter the title, but he would like to know whether they might not suggest to those gentlemen how they were to get the alteration which they desired.

Dr. ATOCK agreed with the suggestion of Sir Thomas Myles.

Mr. BROWN hoped that the Council would do more than simply acknowledge the petition.

Sir CHRISTOPHER NIXON submitted that the application for the change which the Licentiates desired should come from the body itself. They had no right to interfere with the status or title of a body simply on the application of the Licentiates. If the body made an application to the Council the Council would point out that they would have to obtain an Act of Parliament for the privilege they wanted and that the Council would be prepared to assist in obtaining that. He thought that the Society of Apothecaries had an extremely strong case.

Dr. NORMAN MOORE said that he took an entirely different view. There had been prevalent in their profession an unfortunate desire, which he thought ought to be discouraged, to claim titles which had not been earned. They constantly heard that people who passed a certain examination were quite as good as those who had studied at the University and who had the degree of doctor. This was a degrading tendency, against which the Council should set its face. The Society of Apothecaries of London had an honourable history and if he were a Licentiate he should be proud of the title and not anxious to assume another.

The PRESIDENT said that there was no intention on the part of the committee to send a curt reply to the petitioners. The petitioners asked a definite thing and it was wise on the part of the Council to confine itself to a definite answer. The petitioners did not ask the Council to help them to obtain fresh legislation or to promote a Bill in Parliament. The finding of the committee was a precise answer to a well formulated and clear question. The Council placed on the certificate of registration the statement that the qualification was a complete qualification for medicine, surgery, and midwifery, and on the first page of the Register there was a statement to the same effect. Mr. Muir Mackenzie advised the committee that that was the utmost extent to which their legal powers enabled them to go. It showed that the Council was anxious to make it clear to the public that those gentlemen were fully qualified.

The motion was agreed to and the report approved.

Investigations by Medical Unions.

The Council next considered the petition from the County of Durham Medical Union requesting that when cases have been investigated by their society or any similar one the General Medical Council should accept the conclusions arrived at and take action accordingly. In reference to this petition the Executive Committee recommended that a reply should be sent pointing out that in all proceedings before the Council the rules of evidence in judicial proceedings in courts of law must as far as possible be followed and that accordingly the suggestion of the petitioners was one that the Council was unable to adopt.

The report was received and entered on the minutes.

The PRESIDENT pointed out that the legal advisers of the Council had again and again insisted that the rules for evidence in judicial proceedings in courts of law must so far as was practicable be followed.

Dr. WINDLE moved approval of the recommendation of the Executive Committee.

This was seconded by Mr. JACKSON and agreed to.

Invalid Medical Certificates.

The Council took up a communication from the British Medical Association which was referred to the General Medical Council by the Executive Committee for its information.

> On May 24th, 1904, a communication was read to the Executive Committee from the Medico-Political Committee of the British Medical Association forwarding a communication from the education committee of the borough of Bootle in regard to the giving of a medical certificate by a person described as a local chemist and druggist in the case of a girl unable to attend school, whereupon the following resolution was passed: That the attention of the Medico-Political Committee of the British Medical Association be called to Section 37 of the Medical Act, 1858; that they be informed that on the face of it the certificate forwarded to the Council appears to be invalid under that section and that the Council has no jurisdiction over chemists who give invalid certificates.
>
> On Nov. 21st, 1904, a further communication on the subject was considered by the committee and the whole correspondence was remitted to the General Council, by whom it was considered on Nov. 24th and 25th, 1904, on the latter of which dates Mr. Muir Mackenzie gave an opinion to the effect that:—
>
> Although Section 37 of the Medical Act, 1858, imposes a statutory duty on public bodies not to accept in specified cases certificates given by unregistered persons, there is no statutory penalty against either a public body for accepting or an individual for giving invalid certificates, but if the public body acted so systematically in this way as to create a public mischief the Attorney-General might intervene to prevent the provisions of the Act from being contravened. If a public body is not required by statute to receive certificates signed only by medical practitioners, it can accept certificates if it chooses from chemists or unregistered persons.

A further communication had been received from the British Medical Association. The medical secretary, referring in this letter to statements made by members of the General Medical Council, said statements appeared to have been made that the "certificate" was written on a chemist's memorandum form and that it purported to be signed by a chemist and druggist.

The letter proceeded:—

> I enclose the certificate and am instructed to point out that it is given on a printed form issued by the local education authority and headed "Form of Medical Certificate," and the document contains no indication that the person who signed it was not a registered medical practitioner.
>
> It will also be observed that this is not a case, as was suggested in the debate in the General Medical Council, i[illegible] authority knowingly accepted certificates of [illegible] from others than registered medical practitioners, but, on [illegible] the local education authority, on finding out that the signatory was not a medical practitioner, did not accept the certificate but brought it to the notice of the British Medical Association.
>
> It appears to the Medico-Political Committee that the exact form of this certificate is a matter of public importance as affecting the question whether the law at present makes adequate provision against imposition upon the public by the signing, by persons other than registered medical practitioners, of documents which purport to be medical certificates. I am, therefore, instructed to request that you will be so kind as to bring this letter before the Council in order that the form of the certificate in question may be made known to the Council and may be reported in its public proceedings, thus correcting misapprehensions to which the report of the debate in November last is found to have given rise.

BOOTLE EDUCATION COMMITTEE.

FORM OF MEDICAL CERTIFICATE
(for Educational purposes).

Bootle: *13th Feb., 1904.*

I hereby certify that *Elizabeth Hickey*, of *81, Seaforth St.*, is suffering from *Impetigo on back of head*, and is not fit to attend school, but will probably be able to return in *Two* { weeks. / months.

P. Williams,
123, Derby Road.

Sir VICTOR HORSLEY moved that the communication be received and entered on the minutes.

The PRESIDENT, in seconding the motion, said he was afraid he was responsible for some of the misapprehension that had existed in the debate. He was glad the certificate in question had been produced.

The motion was agreed to.

Mr. BROWN suggested that some action should be taken.

The PRESIDENT said that if Mr. Brown wrote out a motion indicating the action he wished to take they would then discuss it.

Dental Business.

The Executive Committee presented the following report on the dental business transacted since the last meeting of the Council:—

himself and various Government departments and the chairman of a departmental committee of the Board of Trade on the operation of

if possible, in coöpera-

tion with the Medical Counc

society the right to continue

answer to this communication

direction of the President.

On the motion of Dr. WINDLE, seconded by Dr. NORMAN MOORE, the report was received and entered on the minutes.

Visitation and Inspection of Qualifying Examinations.

The Executive Committee presented a series of revised standing orders for adoption by the Council relating to the visitation and inspection of qualifying examinations.

The PRESIDENT said that at the last meeting some ambiguity was discovered in the standing orders, and the Executive Committee had considered the matter, and the orders now proposed were the result of its consideration. The only question was whether they would express more clearly what the Council had acted upon for years. There was no change.

On the motion of Dr. MCVAIL, seconded by Sir VICTOR HORSLEY, the Council went into committee to consider the orders.

Dr. WINDLE moved the adoption of the first rule—viz.:

in

on

Dr. MCVAIL said that he had no objection to the rule if it were interpreted in the sense that visitation and inspection were to be distinct and different. If visitation and inspection meant the same thing he asked that the matter should be further looked into.

The PRESIDENT said that Dr. McVail was anticipating the discussion on the other rules. They had more than one legal opinion that visitation was a right conferred upon them by the Act of 1858, which could be carried out at any time they pleased, and that inspection was a right conferred upon them by the Act of 1886 which could also be carried out at any time. Therefore inspection and visitation could be carried out together if they thought fit. This rule did not force them to combine the two if they chose not to do so. He would point out that the tenth rule said that it would be the duty of the visitors and inspector to report "jointly or severally." The word "reports" was also used.

The motion was agreed to.

The second standing order was also approved after some discussion. Its terms were:—

The visitations shall be conducted by one or

Act, [illegible].

At this stage the Council resumed and then adjourned till the following day, when the time was taken up by the consideration of penal cases.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the first examination of the Board at the April quarterly meeting of the examiners in the subjects indicated:—

pool; Stanislaus Joseph Lauder, London Hospital; James Arthur Richard Lee, Sheffield University; Frederick Martin Lipscomb,

Charing Cross Hospital; and John Pryce Williams, Manchester University.

Practical Pharmacy.—John Henry Dyke Acland, St. Thomas's Hospital; Charles Amarasuriya, Ceylon Medical College and King's College Hospital; Berkeley Noel Ash, St. Bartholomew's Hospital, Harold Percivall Aubrey, Thomas Frederick Brown, Sidney Howard Browning and Vincent Ackroyd Palliser Costobadie, Guy's Hospital; Charles William Treskilder Baldwin, Charing Cross Hospital; Edward John Blewitt, Leonard Howard Bowkett, and Malcolm Ogden Cruickshank, London Hospital; Percy John Chissell, Middlesex Hospital; Cecil Ernest Clay, Yorkshire College, Leeds, and Edinburgh University; George Leslie Curnock, John William Doherty, and Frederic Nicklin Doubleday, private study; Sidney Herbert Daukes, Cambridge University and London Hospital; Adolf Henry Coombs Dawes, University College, Bristol, University College, and Westminster Hospitals; George Bennicke Edwards, London Hospital; Henry Granger, St. Thomas's Hospital; George Frederick Greening, Guy's Hospital; Cyril Verity Griffiths, King's College Hospital; Bernard George Gutteridge, private study; Reginald Beaumont Heygate, Middlesex Hospital; Richard Rossiter Huxtable, Charing Cross Hospital; Robert Rutson James, St. George's Hospital; David Morgan Jones, Glasgow University and London Hospital; Arthur Rieussett Littlejohn and Urban Marks, St. Mary's Hospital; Albert Lawrence Loughborough, St. Thomas's Hospital; Thomas Fletcher Lumb, Cambridge University and Middlesex Hospital; Owen Reginald McEwen and Echlin Storey Molyneux, London Hospital; [illegible] George Gordon Rigby, and Robert [illegible] hester University; Albert Clifford [illegible]; Cecil Walpolo Richard Preston, Guy's Hospital; Harold Edgar Priestley, St. George's Hospital; James Edmund Smith, Alan Richmond Snowdon, Charles Fitz-Gerald Willes, and Kenneth Wolferstan, St. Bartholomew's Hospital; William Hugh Raymond Streatfeild, Cambridge University and St. George's Hospital; George Thom, King's College Hospital; Harold Thomsett Treves and James Montague Wyatt, St. Thomas's Hospital; Richard Grenville Vaughan, University College, Bristol; and Harold Douglas Wyatt, Guy's Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—A. Bernfeld (Section I.), Royal Free Hospital; J. A. Davies (Section II.), Manchester; J. W. Rollings, Charing Cross Hospital; J. L. Schilling (Sections I. and II.), Leeds; I. C. Thorburn (Section II.), Liverpool; J. A. R. Wells (Sections I. and II.), St. Thomas's Hospital; G. Wilmersdoerffer (Sections I. and II.), Royal Free Hospital; and R. W. L. Wood (Sections I. and II.), Leeds.

Medicine.—R. Heathcote (Sections I. and II.), Manchester; W. V. Pegler (Section I.), Leeds; C. A. Sampson (Sections I. and II.), Charing Cross Hospital; and J. L. Schilling (Sections I. and II.), Leeds.

Forensic Medicine.—J. B. Bradley, Birmingham; W. G. H. Cable, London Hospital; W. L. Crabtree, Leeds and Charing Cross Hospital; A. G. C. Findlay, University College Hospital; R. J. O. Harley, Dublin and McGill; R. Heathcote, Manchester; W. A. King, Charing Cross and St. George's Hospitals; W. S. Mitchell, St. Mary's Hospital; W. G. O'Malley, London Hospital; J. L. Schilling, Leeds; and A. L. Walters, St. Thomas's Hospital.

Midwifery.—W. V. Pegler and J. L. Schilling, Leeds; R. Spears, University College Hospital; and E. Sutcliffe, Leeds.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: J. B. Bradley, J. A. Davies, R. J. O. Harley, J. W. Rollings, J. L. Schilling, I. C. Thorburn, J. A. R. Wells, and R. W. L. Wood.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—FELLOWSHIP EXAMINATION.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

C. A. K. Ball, B.Ch., &c., Univ. Dublin; J. J. Bell, L.R.C.S.I., &c., Edin.; J. S. Dunne, L.R.C.S.I., &c.; P. H. Falkner, L.R.C.S.I., &c., Captain R.A.M.C.; W. H. Hornibrook, L.R.C.S.I., &c.; J. P. Marnell, L.R.C.S.I.; T. J. Nicholl, L.R.C.S.I., &c.; and J. P. Ziervogel, L.R.C.S.I., &c.

The following have passed the primary part of the Fellowship examination:—

J. M. Alcorn, student, R.C.P. & S.I.; C. M. Benson, B.Ch., &c., Univ. Dublin; J. B. Butler, student, Royal Univ. Ireland; H. M. Johnston, B.Ch., Royal Univ. Ireland; J. M'Namara, student, R.C.P. & S.I.; and A. A. Murphy, student, R.C.P. & S.I.

TRINITY COLLEGE, DUBLIN.—At the previous medical examination the following passed in the subjects indicated:—

Anatomy and Institutes of Medicine.—Bethel G. H. Solomons and Arthur E. Knapp.

Physics and Chemistry.—Thomas P. S. Eves, James P. S. Dunn, and Francis W. H. Bigley.

Botany and Zoology.—Richard H. Mathews, Thomas A. Watson, Henry H. James, and James D. Murphy.

At the final examination in surgery held in Trinity Term the following candidates were successful:—

William J. Powell, George MacG. Millar, Charles R. Morris, John Murdoch, Joseph W. Houston, Henry H. A. Emerson, William Nunan, John A. Pringle, Cecil A. Boyd, William G. Harnett, Cecil Scaife, Montgomery D. Ferguson, Charles C. Williams, and William F. Samuels.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna:* Dr. Emilio Cavazzani of Padua has been recognised as *privat-docent* of Pharmacology.—*Florence:* Dr. Nazareno Tiberli has been recognised as *privat-docent* of Bacteriology.—*Budapest:* Dr. Johann Wenhardt has been recognised as *privat-docent* of Internal Medicine.—*Prague (German University):* Dr. Friedrich Ganghofner and Dr. Alois Epstein, Extraordinary Professors of Children's Diseases, have been promoted to Ordinary Professorships.—*Vienna:* Dr. Robert Brewer has been recognised as *privat-docent* of Internal Medicine and Dr. Otto Loewi as *privat-docent* of Pharmacology and Toxicology.

H.R.H. the Duchess of Albany has promised to attend a garden fête to be held at the Manor House, Stoke D'Abernon, Surrey, by kind permission of Mr. and Mrs. F. A. Phillips, on Saturday, June 17th, in aid of the funds of the Royal Waterloo Hospital for Children and Women.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At a meeting of the President and Fellows of the College held on May 5th, Dr. A. Traill, Provost of Trinity College, Dublin, was unanimously elected an Honorary Fellow of the College.—The Licence in Medicine of the College has been conferred on Mr. J. E. St. George Queely and the Midwifery Licence on Dr. A. C. Dondy.

VOYAGES D'ÉTUDES MÉDICALES.—The recent visit to Paris of so many British medical men has caused renewed interest in this organisation. It was started by Dr. Carron de la Carrière and is a scheme for bringing the merits of the French health resorts into greater prominence than they now enjoy. For the purposes of the scheme France is divided into five districts. Each year a separate district is taken and the health resorts in that district are visited and examined in detail. This year's voyage is to be to the Pyrenees and the stations included will be, among others of the spas, Luchon, Barèges, St. Sauveur, Eaux Bonnes, and Eaux Chaudes, and of the health resorts Pau, Biarritz, and Arcachon. A feature of this journey is Lourdes to which great interest attaches from a psychological standpoint. The number of British adherents to the Voyages d'Etudes Médicales has hitherto been small and it would be highly fitting and very gratifying if the excellent relations recently established could be cemented by a considerable accession to the number this year. The time of the year selected is the first week in September; the price is very moderate, amounting to about £12 for a fortnight's travelling and accommodation. The travelling is by first-class special train throughout and the accommodation is the very best which each place affords. Full particulars of this year's trip are not yet available but this, at any rate, is certain. The rendezvous is at Luchon on Sept. 1st, the stations to be visited are interesting and important in the highest degree, the district surpasses in beauty even that of the Alps, and last, but not least, visitors from this country will meet with a welcome the cordiality of which will surprise and delight them. Inquiries, which may be in English, should be addressed to Dr. Carron de la Carrière, 2, Rue Lincoln, Paris.

MODERN IMPROVEMENTS IN THE HYGIENIC CONDITIONS OF INDUSTRIAL OCCUPATIONS.—At a meeting of the Royal Statistical Society held on May 16th a paper, entitled "The Effect, as shown by Statistics, of British Statutory Regulations directed to the Improvement of the Hygienic Conditions of Industrial Occupations," was read by Mr. Leonard Ward, H.M. Inspector of Factories. The paper opened with a brief historical survey of the hygienic clauses of the Factory and Workshop Acts and the Coal and Metalliferous Mines Acts, and proceeded to review the well-known unhealthy conditions and absence of hygienic surroundings attending the employment of adults and children in factories and mines which obtained prior to, and during the early stages of, industrial legislation. The effect of progressive legislation in ameliorating the insanitary conditions was next considered from three different, but closely related, standpoints—namely, the effect on (1) the mortality-rates; (2) the "sickness experience"; and (3) the physique of the operatives employed in the several typical occupations under review. The steady improvement which has taken place in the conditions of employment in the cotton manufacture during a century of statutory sanitary reform was traced. The decline in the death-rates from phthisis and respiratory diseases in certain typical "cotton towns" was shown to be largely due to the enforcement of the hygienic clauses of the more recent Factory Acts, especially the Cotton Cloth Factories Act, 1889. Comparisons on the bases of weight and height were made between factory children of 1833 and factory children of 1873 and between non-factory children of 1833 and non-factory children of 1873. The results led to the inference that there had been a relative retardation of growth in children employed in textile factories, and that one effect of factory legislation had been to prevent undue deterioration in this class of operative. In the sections relating to the pottery, white lead, and lucifer match industries it was shown that substantial improvement in the shape of less lead and phosphorus poisoning had resulted from the enforcement of special sanitary measures. With regard to the health of coal and ironstone miners the evidence proved that 50 years of statutory regulations had produced such salutary results that the mortality of coal-miners of the present day only slightly exceeds that of agriculturists. Mr. Ward estimated that more than 15,000 lives had been saved during the last 50 years solely by the prevention of explosions of fire-damp or coal-dust, and that this had been mainly brought about by the provision of "adequate ventilation" as required by the Coal Mines Act of 1855 and subsequent Acts.

The Late Dr. J. E. Dutton: An Impressive Funeral.—A mail which has arrived at Liverpool from the Congo confirmed the news of the sad death of Dr. J. E. Dutton, of the Congo expedition of the Liverpool School of Tropical Medicine, on Feb. 27th. His death was the direct result of overwork. He persisted in working during his convalescence *from a severe attack of spirillum fever* which he was at the time closely investigating. He was suddenly taken ill and after four days of unconsciousness died in the presence of Dr. J. L. Todd and Dr. Heiburg, other members of the expedition. The esteem in which he was held by the natives was very strikingly displayed at the funeral, which took place on Feb. 28th. A simple cross was placed on the coffin and the officers of the post laid a palm branch on it. There were 12 bearers, all native sergeants, and the coffin was preceded by a bugle band and followed by Dr. Todd, Dr. Heiburg, Commandant Verdick, and all the white officers, together with soldiers and natives, the latter saluting before joining in the funeral procession. Over 1000 people were present to see the coffin pass to its resting place and the Burial Service was read by Dr. Todd.

Volunteer Ambulance School of Instruction.—The annual banquet of the staff and members of the school took place at the Trocadéro Restaurant on May 18th, Surgeon-Colonel P. B. Giles, 30th Field Army Brigade, Senior Medical Officer, being in the chair. Colonel Giles, in responding for the school, said that the school was very prosperous and that nearly 700 medical officers from all parts of the empire had passed through it as well as some 4000 stretcher bearers. He recognised that the prosperity and the efficiency were due to the loyalty of the instructors, the officers, and the non-commissioned officers. He really thought that the new examination for promotion would be beneficial as it required further study and a more intimate acquaintance with the interior economy of the Royal Army Medical Corps, and that the examination was popular with medical officers was evident, for at the present moment the school had a large class preparing for it. The chief difficulty to be faced was the dearth of officers entering the service and he felt certain from his knowledge of affairs that the regulation course at Aldershot or elsewhere was an impossibility; not 1 per cent. of officers could afford the time required to attend. He thought and hoped that as there was a member of the Advisory Board present the Government might see its way to issue allowances to officers attending the school provided that they attended regularly and passed the required examination. Such a concession would induce a greater number to join the service which at the present moment was imperilled wholly and solely by reason that the Government did not hold out sufficient inducement for well qualified men to join. He was glad to read in a recent speech of the Director-General that he intended to bring the Volunteer Medical Service more into line with the Royal Army Medical Corps and so obtain a higher state of efficiency from the senior medical officers; intelligent and liberal treatment of volunteer medical officers would create an efficient corps to supplement the Royal Army Medical Corps in time of national danger. During the late war had the Volunteer Medical Service been, as it should and very easily could be, made efficient then there would have been officers and men sufficiently trained to supplement the Royal Army Medical Corps and no need for the employment of civilians. During the evening the string band of the Cadet Battalion of the Royal Fusiliers gave an excellent selection of music. The arrangements for the banquet were made by the mess president, Surgeon-Captain E. M. Callender, and a very enjoyable evening was spent.

On July 17th next, says the *Russ*, the Pan-Russian Dentists' Congress will open in St. Petersburg.

Seamen's Hospital, Cardiff.—Sir W. T. Lewis has contributed £1000 to endow a bed, to be named "The Lady Lewis Bed," at the new Seamen's Hospital, Cardiff.

Presentation to a Medical Practitioner.—At the annual meeting of the Padstow (Cornwall) branch of the St. John Ambulance Association, Mr. Richard Palk Griffin, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., was presented with a cabinet containing cigars in appreciation of his services as honorary instructor.

Dawlish Cottage Hospital.—Mrs. Nosworthy of Dawlish, in Devonshire, has given £1200 to defray the cost of the reconstruction and enlargement of the Dawlish Cottage Hospital and the High Sheriff of Devon (Mr. Bayldon) has promised £120 for the heating of the new portion of the building.

Donations and Bequests.—Mrs. Caroline Judith Stanier has by will bequeathed £1000 to the Salop General Infirmary and £1000 to the North Staffordshire Infirmary.—The British Home and Hospital for Incurables, Streatham, has received a gift of 10,000 shillings from Miss Thomas of London towards the 200,000 shillings for which appeal is being made.—The late Mr. James Donald, manufacturing chemist, of Glasgow, whose will has just been proved at over £106,000, left amongst other bequests to public institutions £3000 each to the three Glasgow infirmaries—the Royal, the Western, and the Victoria.

Homes for Inebriates Association.—The report of this association, of which Sir Charles Cameron, Bart., M.P., is the president, for the year 1904–05, together with the twenty-first annual report of the Dalrymple Home at Rickmansworth, has just been published by Mr. H. K. Lewis, Gower-street, London, W.C. Though the number of patients presenting themselves for treatment was less than last year and financially the home accounts show a loss on the year's working of £74 10*s*. the work of the association has been satisfactory and the valuable services of Mr. F. S. D. Hogg, the medical superintendent of the Dalrymple Home, and his staff are cordially acknowledged by the committee of management. Mr. Hogg, in his report, states that during the year eight patients were admitted under the provisions of the Inebriates Acts and 23 as private patients, 31 in all.

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34 patients have been discharged during the year and 16 remain under treatment. Adding this number, 16, to the total recorded discharges the result, 771, is the number of patients admitted since the home was opened. Donations and promises of annual subscriptions will be received by the chairman, the Rev. Canon Duckworth, D.D., 5, Abbey-road, St. John's Wood, London, N.W., and the secretary, Mr. John Swinford Francis, Court-chambers, 173, Marylebone-road, London, W. Cheques may be crossed "London and County Bank, Paddington Branch."

Central Midwives Board.—A meeting of the Central Midwives Board was held at 6, Suffolk-street, Pall Mall, London, on May 19th, Dr. F. H. Champneys being in the chair. It was reported to the Board that a certain midwife who had been admitted to the roll was not a person of good character. According to a newspaper cutting received this midwife was concerned in a police-court charge in an assault case connected with a man with whom she was stated to be living, though not married to him. It did not appear to the Board that such a report of immorality could be acted upon by the Board. In the case, however, of another woman who applied to be placed on the roll as a midwife the Board refused the application in consequence of a communication received from the clerk of the county council in whose district the woman resided informing the Board that the woman had been convicted of being drunk on three successive days in one week. The Board discussed certain applications from medical men as teachers of midwifery under Rule C 1 (3). Mr. E. Parker Young urgently insisted on the necessity of the Board recognising general practitioners as teachers of midwifery because, by refusing to sanction many of these applicants as teachers, a great injustice was done to women desirous of being trained as midwives. These general practitioners who were refused the sanction of the Board as teachers of midwifery had been instructing midwives in midwifery for many years. The localities where these general practitioners gave lectures were at some distance from institutions for training midwives. It was unfair to these poor women to make them travel in some cases more than 30 miles to attend lectures on midwifery, when by sanctioning general practitioners as teachers any such hardship could be avoided. General practitioners were perfectly competent to teach these women and it was the duty of the Board to make the Act work as easily as possible for women training as midwives. After Dr. Champneys had said that there had not been any boycotting of general practitioners, Mr. Young submitted a motion that certain general practitioners should be recognised as teachers of midwifery. The motion, however, was not adopted by the Board.

BRISTOL LUNATIC ASYLUM.—Dr. J. V. Blachford, the medical superintendent, in his annual report to the visiting committee of this institution for 1904 states that the percentage of recoveries on the admissions, excluding transfer cases, was 42·59. 112 patients were discharged recovered during the year, 10 being transferred to other asylums. There were 110 deaths, the death-rate on the average number of resident patients being 12·02 per cent.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Bubonic Plague in India and Scotland.

Mr. SEYMOUR ORMSBY-GORE has given notice of his desire to call attention to the increase of bubonic plague in India and to propose a motion and Mr. WYLIE has put down a similar motion as to the outbreak of plague at Leith and other parts of Scotland. No day has been fixed for either motion.

HOUSE OF COMMONS.

THURSDAY, MAY 18TH.

THE LANCET *and Vaccination.*

Sir JOHN ROLLESTON asked the President of the Local Government Board whether he was aware that the recently published opinions of Dr. S. Monckton Copeman and of the Commissioners appointed by THE LANCET in 1900 and 1902 to examine the various lymphs on sale in this country, supported the view that large marks were not an evidence of efficient vaccination, and that small marks were not an evidence of inefficient vaccination; and that the same authorities had shown that in consequence of the modern methods of vaccination it was possible to produce the Board's stipulated area of vesiculation—viz., not less than half a square inch—without leaving anything like a corresponding area of marks; and whether he proposed to take any steps to amend the Board's Vaccination Order of 1898 so as to make it more consistent with the latest medical evidence on these points.—Mr. GERALD BALFOUR answered: Dr. Copeman informs me that in his opinion large scars are not necessarily evidence of efficient vaccination and small scars are not in themselves evidence of inefficient vaccination, but that usually the area of the scar corresponds fairly closely with that of the vesicle which preceded it. These opinions do not, as I am advised, render it necessary or desirable to amend the Vaccination Order, 1898, which does not make the area of the scar a criterion of successful vaccination.

Disinfecting Clothing of Small-pox Patients.

Mr. DONAL SULLIVAN asked the Chief Secretary for Ireland whether his attention had been called to the fact that the Irish Local Government Board now stated that the disinfecting chamber erected in 1895 in the Athlone workhouse under the system known as Dr. Scott's Patent Hot Air Disinfecting Chamber, and approved by the Board, was useless and why the Board sanctioned the necessary loan.—Mr. LONG replied: The Board has not stated that this disinfecting chamber is useless but in reply to the guardians' inquiry whether it was sufficient for the purpose of disinfecting the clothing of small-pox patients it stated that such a chamber is not to be depended upon and that disinfection after small-pox requires special efficiency. The Board understands that disinfection by hot air is rapidly falling into disuse. Experience has shown that such disinfection is not as efficient as disinfection by steam, as the hot air does not penetrate the clothing so thoroughly as steam. When sanctioning a loan in 1895 the Board imposed no conditions upon the guardians as to the description of disinfector which they should obtain.

Blood Poisoning in an Infirmary.

Mr. SLOAN asked the Chief Secretary for Ireland whether he was aware that cases of blood poisoning occurred in the Cootehill union infirmary in January, 1904, alleged by the medical officer and inspector to be due to rotten floors and want of sanitary accommodation; and whether, [illegible] made on behalf of the seven electoral [illegible] necessary alterations to be made and tha[illegible] the Local Government Board to confer with the board of guardians, he could say what action, if any, had been taken in the matter.—Mr. LONG replied: Cases of septicæmia occurred in this workhouse in January, 1904. The medical officer was of opinion that the germs of the disease were in the floors and possibly in the walls. The Local Government Board's inspector inquired into the matter and reported that it was difficult to find the direct and definite cause of the outbreak, as there are several ways in which infection of the kind could be conveyed. He advised the guardians to make certain alterations and thereupon they decided to obtain an estimate of the cost. No further action has, however, been taken by the guardians but the new board will come into office next month and the Local Government Board will urge it to take the matter in hand.

MONDAY, MAY 22ND.

Insanitary Mattresses and Disease.

Mr. FULLER asked the President of the Local Government Board whether his attention had been drawn to the insanitary condition of certain cheaper kinds of flock used in the manufacture of cheap mattresses; and whether he would take steps, by legislation or otherwise, for the prevention of the spread of infectious disease arising from the use of insanitary and unwashed materials.—Mr. GERALD BALFOUR said: My attention has been drawn to the sale and use of unwashed flock for bedding and other purposes. The compulsory cleansing of the materials referred to could not be generally secured under the existing law. The point has been noted for consideration but I cannot at present hold out any prospect of legislation on the subject.

Evasions of the Medical and Dental Acts.

Sir JOHN BATTY TUKE asked the Home Secretary whether he had received an opinion from the Law Officers of the Crown concerning evasions of the Medical Acts and of the Dentists Act under the provisions of the Companies Acts; and, if so, whether he would communicate it to the House.—Mr. AKERS-DOUGLAS said: The Board of Trade has received an opinion from the Law Officers, but I am unable to accede to my honourable friend's request, as such opinions are treated as confidential.

TUESDAY, MAY 23RD.

The Prevention of Malarial Diseases.

Sir MANCHERJEE BHOWNAGGREE asked the Secretary of State for India whether he was aware that the efforts of the Mexican Government and the Superior Board of Health of Mexico to stamp out yellow fever and all malarial diseases by exterminating the mosquito by the adoption of certain scientific methods had met with considerable success; and whether, having regard to the fact that malarial fevers were constantly prevailing in parts of India, he would cause inquiries to be made in connexion with the Mexico experiment with the object of giving it a trial in India.—Mr. BRODRICK replied: I have seen a pamphlet on the subject by the Superior Board of Health at Mexico and propose to send a copy of it to the Government of India. Experiments of a somewhat similar kind have for some time past been in progress in India and the experts conducting them are doubtless aware of what is being done in the same direction in other parts of the world.

The Medica[illegible] and Denta[illegible] Registers.

Mr. WEIR asked the Home Secretary whether he could state how many medical and dental practitioners had been struck off the Register during the last ten years for infamous or disgraceful conduct; and in how many instances the names of practitioners had been restored to the Register during the same period.—Mr. [illegible] I have asked the General Medical Counc[illegible] information and when it is received I shall be happy to [illegible] it to the honourable Member.

SELECT COMMITTEE ON REGISTRATION OF NURSES.

The Select Committee of the House of Commons which is considering the expediency of the registration of nurses heard further evidence on May 18th.

Sir Victor Horsley and Dr. Langley Browne appeared as representatives of the British Medical Association and sat together at the witnesses' table.

Replying to the CHAIRMAN (Mr. H. J. TENNANT), Sir VICTOR HORSLEY said that the British Medical Association consisted of close upon 20,000 medical practitioners and it was therefore in their opinion, the only voice of the medical professi[illegible] the corporate bodies did not [illegible] the councils of those bodies—such as the College of Physicians. He was chairman of the representative meeting of the Association at Oxford last year. This meeting consisted of delegates chosen by each division of the Association. The following resolution was passed at the Oxford meeting:—"This meeting approves of the principle of the registration of nurses; and further resolves that the foregoing resolution be transmitted to the Select Committee." The representative meeting did not in any way enter upon the provisions of the two Bills now before Parliament, keeping an absolutely open mind as to details of legislation that might be proposed. The resolution was carried *nemine contradicente*, there being no opposition as far as he could recollect. The vote was taken by a show of hands. About 154 members were at the meeting out of a possible attendance of 200. In the discussion some delegates stated that they were not directly instructed by their divisions to vote on the point but they had full powers, the matter having been previously referred to their divisions. As far as he could remember one or two critical speeches were made against the resolution. He had received notice that at the Leicester meeting in July this year one division would appear in opposition to this vote. Practically all the members present at last year's meeting supported the resolution and the feeling was so clear that he did not think this further resolution at the Leicester meeting would have any chance of being carried. The matter of registration of nurses and the principle of it had been before the British Medical Association for a very considerable time about 20 years altogether. The first vote that was taken in a public meeting of the Association occurred ten years ago on July 30th, 1895. At the general meeting of the Association held in sub-committee.

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Dr. LANGLEY BROWNE: The better trained the nurse is the less likely she will be to do that.

Sir VICTOR HORSLEY, continuing, said there must be a State examina

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perience. He had often known partially trained nurses pose as perfectly trained nurses and receive the same remuneration from patients.

be a penal clause punishing persons practising nursing for gain and illegally entering into competition with a person trained and registered. That was undoubtedly the idea in the minds of the British Medical Association. He would, however, regard as satisfactory a system of voluntary registration if managed by the State.

Mr. C. HOBHOUSE: Do you agree that nobody is to be allowed to nurse for gain unless after three years' training and registering?—Dr. LANGLEY BROWNE: Quite. I think that is the idea. Of course, it does not mean that one woman must not go to nurse another but that she ought not to be allowed to follow the profession of a nurse.

Sir VICTOR HORSLEY. The word in the Midwives Act is "habitually" As to the composition of the Central Board the opinion of the Medico-Political Committee was that the proposals in the two Bills were extravagant and that the boards therein proposed

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Dr. PERCY ALLAN said that he was in general practice and he [illegible] almost entirely with what *Sir Victor Horsley had said.*

Mr. J. S. WHITAKER, medical secretary of the [illegible] Association, said he wished to reply to the statement of the last witness regarding the representative character of the British Medical Association. The meeting of which Sir Victor Horsley spoke was a *meeting* of representatives drawn from all over the country. Each representative was chosen by the physicians
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The committee *adjourned.*

Further evidence was taken on Tuesday, May 23rd.

Mrs. C. HOBHOUSE was first called. She stated that she had been on the committee of the Rural Nursing Association of Wiltshire since 1893 and had been treasurer, secretary, and chairman successively of that body. There were 15 nurses on the staff. Approximately 1000 nurses had passed through the hands of the committee, some for rural purposes and some for colonial work. She hoped that any Act which dealt with registration would not overlook the consideration of nurses fit to nurse the poor in the rural districts.

The CHAIRMAN: I think the committee would certainly bear that in mind.

WITNESS, continuing, said that the proportion of trained rural nurses was about 1 in 8. She had been satisfied with the manner in which they had discharged their duties. As a rule in rural districts the nursing required was of a simple character, the acute cases going to hospitals. Therefore, in the first place the rural district could not support the trained nurse financially and, in the second place, the best class of highly trained nurses would not remain because of the lack of acute cases.

The CHAIRMAN: If a Registration Act were passed similar to the Midwives Act you would be rather apprehensive that the partially trained nurse would not be able to nurse as she does now?

WITNESS: It depends on the lines which registration follows. It may be done in such a way as to make it extremely difficult to get probationers. Continuing, Mrs. Hobhouse said she thought that the best course to pursue with regard to these partially trained nurses was probably that suggested in the resolution of the British Medical Association. If it were possible for rural nurses to get certificates showing they were capable of doing a certain class of nursing and thereby work up to a higher grade later she thought it would be extremely advantageous. Her experience was that there was a great shortage of highly trained nurses in all parts of England. She thought the reason was largely that the training certificate usually approved by most committees was that of the London hospitals. There were not enough nurses turned out in London to meet the demands and therefore nurses trained in the provinces were also forthcoming. The training in many of the provincial hospitals was quite as good, if not better, than in many London hospitals, but broadly speaking in the public mind it was not so.

The CHAIRMAN: Would it not help the situation to have a system of registration?

WITNESS: It depends on how it is done. If it is made too stringent the shortage would be intensified. Hospitals might coöperate for the purpose and so level up the training in hospitals.

The CHAIRMAN: If registration were made reasonable you would welcome it?

WITNESS replied that if it were made reasonable it would be rather helpful. It might tend to give the provincial hospitals a status they did not now hold, although they deserved it.

The CHAIRMAN: How would you classify the nurses to be employed in the rural districts?

WITNESS: Primarily they would be obstetrical.

The CHAIRMAN: Would there not be some overlapping? Would they come under the Midwives Act?

WITNESS: Certainly.

The CHAIRMAN: Would you have them undergo two examinations?

WITNESS: I do not think you could make them pass both.

The CHAIRMAN: A nurse certified by the Midwives Board would not be allowed to nurse cases of pneumonia and diphtheria?

WITNESS: It would entirely depend on her knowledge.

Continuing, Mrs. HOBHOUSE said it would be most harmful to make it a penal offence for any person to nurse for gain unless she obtained a certificate.

As regarded the question of n[illegible] medical men. WITNESS said she h[illegible] men feared such competition. In [illegible] ground for that fear, but generally speaking there was not. It depended very much on the status of the medical man, whether he had been established for some years or had only just started. In the latter case people were apt to send for the nurse.

WITNESS thought some scheme of registration would be helpful but she wished to see something more definite before committing herself to any scheme. In the first place, the examination should be based upon a curriculum for training. There might be a minimum time limit for the highly-trained nurse of two years, although she did not think it was necessary. Another essential feature was that the training should not be in one hospital and hospitals should have the power of co-operation for the purpose. The mere fact of registration should not be regarded as a guarantee of a nurse's character. She would also have examinations based on a curriculum for the less highly-trained nurses who were quite able to pass an examination.

Replying to Mr. DOUGLAS, WITNESS said if a minimum training could be arranged for rural nurses so as to make it a first step in the nursing profession it would assist rural nursing considerably. The fact of other nurses having their certificates recognised by the State would be detrimental to the supply of rural nurses because they had to look forward after their time of service in the association for promotion and the tendency would be for every sort of appointment to go to registered nurses. She thought the disadvantage would be removed if hospitals were empowered to recognise in some degree as an instalment of training the work done outside. If nursing associations were allowed to certify the first year of a three years' curriculum the objection would be removed.

Questioned by Dr. C. F. HUTCHINSON, WITNESS thought that the standard of [illegible] ably improved during the [illegible] classification or two grad[illegible]

Dr. W. G. DICKINSON was next called. He said he had been in practice in London for many years. He considered the registration of nurses was unnecessary because the present arrangements were quite satisfactory. If the wealthy had bad nurses it was their own fault, and if the poor had bad nurses it was the fault of the institutions that sent them out. Compulsory registration of all nurses was quite out of the question. The only difficulty he had in regard to nurses was due to his own fault. He could recall several unsatisfactory nurses whom he took on their own recommendation instead of applying to a suitable body or hospital. He would be in favour of registering nurses' homes and institutions. He thought the scheme of registration would fail financially because the nurses would not register in the numbers that had been estimated.

Replying to Mr. HOBHOUSE, WITNESS said a great bulk of the members never took part in the proceedings of the British Medical Association and it was very easy to pass resolutions in which members were not particularly interested.

Mr. HOBHOUSE: Is this regarded as a burning question among medical people?

WITNESS: I should not say so.

Asked if he had anything to add WITNESS said it was stated the other day that the Incorporated Medical Practitioners' Society had passed a resolution in favour of the registration of nurses. That was the case, but the result was that a large number of members decided to resign and he believed the resolution was eventually rescinded.

Miss KENT, who said she had been engaged in nursing in the provinces and London for 13 years and was at one time night superintendent in a Dudley hospital, was called. She regarded registration as being most essential. It would safeguard the public and raise the status of the profession. A number of small nursing institutions were springing up all over the country which charged as much as 25 per cent. on the earnings of the nurses. They were managed by people who had no knowledge of, or sympathy with, nurses. They oppressed and sweated nurses.

The committee then adjourned.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

Mucous Membranes, Normal and Abnormal, including Mucin and Malignancy. By Wm. Stuart-Low, F.R.C.S., Assistant Surgeon, Central London Throat Hospital. Price not stated.

DUCKWORTH AND Co., 3, Henrietta-street, W.C.

Metapsychical Phenomena, Methods, and Observations. By J. Maxwell, Doctor of Medicine, Deputy-Attorney-General at the Court of Appeal, Bordeaux, France. With a Preface by Charles Richet, Member of the [illegible] siology in the Faculty of [illegible] Sir Oliver Lodge. Also [illegible] plex Case," by Professor Richet, and an Account of "Some Recently Observed Phenomena," by the Translator, L. I. Finch. Price 10*s*. net.

FISCHER, GUSTAV, Jena.

Das Biologische Verfahren zur Erkennung und Unterscheidung von Menschen- und Tierblut, sowie anderer Eiweisssubstanzen und seine Anwendung in der forensischen Praxis. Ausgewählte Sammlung von Arbeiten und Gutachten. Von Professor Dr. Uhlenhuth, Stabsarzt. Price M. 3.

LIVINGSTONE, E. AND S., 15, Teviot-place, Edinburgh.

Manual of Diseases of Children. By James Burnet, M.A., M.B., M.R.C.P. Edin., Registrar, and Assistant to the Extra Physicians, Royal Hospital for Sick Children. Price 6*s*. 6*d*. net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

The Practice of Medicine. A Text-book for Practitioners and Students with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Third edition, thoroughly revised, and in parts rewritten. Price 24*s*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BLAKISTON, ARTHUR ALEX., M.R.C.S., L.S.A., has been appointed Deputy Medical Officer for the Third District of the Wells (Somerset) Union.

BRIDGES, E. CHITTENDEN, M.D., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Victoria Hospital for Children, Chelsea.

CUNNING, JOSEPH, M.B., B S. Melb., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Victoria Hospital for Children, Chelsea.

HEATON, CHARLES, M.D. Brux., M.R.C.S., L.R.C.P., has been appointed Honorary Assistant Visiting Surgeon to the Royal Sea-Bathing Hospital, Margate.

HOOPER, GEORGE HENRY JAMES, M.D. Lond., L.R.C.P. Lond., M.R.C.S., J.P., has been appointed Chairman of the Sutton (Surrey) District Council.

HOOPER, Miss E., M.B., B.S. Lond., has been appointed Resident Clinical Assistant to the Hospital for Women and Children, Leeds.

JOLLIE, P. OSWALD, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., has been appointed Medical Officer and Poor-law Vaccinator for Colmonell, Ayrshire.

LOCK, JOHN LEWIS, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Medical Officer to the Infirmary of the Uxbridge Union.

LYLE, H. WILLOUGHBY, M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Ophthalmic Surgeon to the Royal Ear Hospital, Soho, and Consulting Ophthalmic Surgeon to the Beckenham Cottage Hospital.

SARGENT, PERCY, M.A., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Surgeon to Out-patients, Victoria Hospital for Children, Chelsea.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident House Physicians, unmarried, for six months. Honorarium at rate of £25 per quarter, with board lodging, and washing.

BIR[illegible] FOR SKIN AND URINARY [illegible]stant. Honorarium at rate [illegible]

BODMIN, CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £135 per annum, rising to £155, with board, [illegible]

[illegible]ON AND HOSPITAL FOR [illegible] Salary £40, with board, [illegible]

[illegible]tant House Surgeon for six months, renewable. Salary £70 per annum, with board and [illegible]

[illegible]d, S.W.—Clinical Assistant [illegible]

[illegible]ysician. Salary £90 per [illegible]

[illegible] ASYLUMS BOARD ASYLUM.—Senior Assistant Medical Officer, unmarried. Salary £250 per annum, rising to £300, with rations, lodging, attendance, and washing.

DUDLEY, THE GUEST HOSPITAL.—Honorary Surgeons.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing. Also Eight Clinical Assistants.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond street, London, W.C.—Assistant Physician. Also Anæsthetist, with honorarium of 15 guineas for one year.

[illegible]

[illegible] Tenens for July and August. Salary £3 3s. per week, with board, lodging, and attendance

[illegible] Medical [illegible] 150, with [illegible]

[illegible]l Officer [illegible]am, with board and residence.

MANSFIELD, NOTTINGHAMSHIRE CONSUMPTION SANATORIUM.—Resident Medical Officer (female). Salary £100 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—Assistant Physician.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank road.—Resident Medical Officer (female). Salary £50 per annum, with board, residence, and laundry.

[illegible]ST CORNWALL HOSPITAL.—[illegible]onths. Salary at rate of £50 [illegible]

[illegible] non resident. Honorarium at [illegible]

[illegible]SPITAL, West Strand, W.C.—[illegible]vell, [illegible]ical [illegible]um, [illegible]

[illegible]vent [illegible]

[illegible]V.—[illegible] for [illegible]

[illegible]tant Medical Superintendent. Salary £150 per annum, with apartments, board, and washing.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

TOTTENHAM HOSPITAL, London, N.—Casualty Officer for six months. Salary at rate of £40 per annum, with residence, board, and [illegible]

[illegible]LUM.—Second Assistant Medical [illegible] £150 per annum, with board, [illegible]

[illegible] FOR POORER CONSUMPTIVES.—[illegible]ed. Salary £200, rising to £300.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at New Ross, in the county of Wexford.

Births, Marriages, and Deaths.

BIRTHS.

BATEMAN.—On May 19th, at Avenue road, Regent's park, N.W., the wife of A. George Bateman, M.B., C.M., of a daughter

CARRUTHERS.—On May 11th, at Manor-house, Batheaston, the residence of her father, the wife of Alan Eskrigge Carruthers, M.A., M.B. Cantab., of a daughter.

FISH.—On May 20th, at Llanbedr Hall, Ruthin, North Wales, the wife of Cecil E. Fish, B.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., of a son.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE STORY OF THE ST. HELENS HOSPITAL.

ACCOMPANYING the annual report of the St. Helens Hospital for the year 1904 is an illustrated pamphlet dedicated to the memory of "Doctor Herbert Knowles," giving the story of that useful institution *compiled from articles which have appeared in the public press.* 35 years ago there was no hospital in St. Helens, though the need for some place where the sick poor could be adequately treated was felt by many. On the suggestion of Mr. A. G. Kurtz, Mr. J. Fenwick Allen sought out a suitable building which within three months was transformed into a hospital with four beds. The first patient was a farm labourer, the conditions of his admission being the payment of a shilling a day and that his own medical man should attend him. Mr. Allen became the first honorary secretary. How the hospital gradually grew to its present size with accommodation for 100 patients and with everything necessary for their proper treatment and comfort and the building of a nurses' home is sympathetically told in the pamphlet under notice, which is embellished with portraits of many prominent individuals connected with the history of the hospital. The illustrations [illegible] hospital [illegible] cost of [illegible] £22,500 [illegible] large subscriptions and by the generosity of working men, leaving a balance of nearly £4000 still to be provided. The management of this institution seems to be equally satisfactory to both medical men and their patients from the account given of the working of the hospital in the annual report, though to our mind the absence of a resident medical officer is not to be regarded as a safe condition of things unless there is some stipulation that cases of great emergency will not be received. The conditions of admission are aimed at solving some of the problems of hospital economy and are worth studying I. Every patient must contribute one shilling a day towards the funds of the hospital during the time he remains in, or have been a regular subscriber of one penny per week (or one halfpenny in the case of women and children) previous to the commencement of the sickness or date of the accident which causes him to seek admission. *II. At the works where a penny-a-week subscription* is made the workmen will be allowed the extra advantage of the admission of their wives and children under 13 years of age, free of charge, provided there be not more than one of a family in the hospital at a time. III. Accidents are admitted at all times. IV. Every patient selects and pays for his own medical man. V. Cases of sickness must be recommended by a medical man as suitable. VI. Patients admitted to the hospital as penny-a-week subscribers, or as members of the family of any such subscriber, will be sent to the Southport Convalescent Hospital, the Devonshire Hospital, Buxton, and the Eye and Ear Infirmary, Liverpool, free of charge to them, whenever the medical attendant considers it desirable that they should be sent there. VII. Patients for the Eye and Ear Infirmary, Liverpool, must procure certificates, one from a medical man and another from the works where they pay their subscriptions, and attend at *the hospital for instructions. The* permission to the patient to choose his own medical man, which clearly follows on the condition that he should pay him, puts the hospital at once in a different position from that occupied by the ordinary charitable institution. But is not the danger likely to occur that the patient, though assisted by charity and attended by medical men at the lowest possible cost, may believe that he is only receiving a due return for his pence?

A QUESTION OF ETHICS.

To the Editors of THE LANCET.

[illegible] for your opinion on the following [illegible] B is also practising in a village [illegible]n in practice about 19 years. B has been in practice about three years. A has a patient whom he used to attend before B came to the neighbourhood but on B's arrival the patient employs B and soon the patient asks A to meet B in consultation, which he does on two occasions. In a few weeks after the second consultation the patient sends to A saying he has finished with B and wants A to attend him, saying at the same time that if A refuses he is going to employ another medical man from the town. Now is A correct in accepting his old patient again as his ordinary medical man? Both A and B are general practitioners.

I am, Sirs, yours faithfully,

May 22nd, 1905. M.D.

*** The point upon which our correspondent invites our opinion is practically the same as that with which we dealt in our issues of April 29th, p. 1174, and May 6th, p. 1243, and he will find our opinion stated there. [illegible]ight [illegible] to change his [illegible] has [illegible] given up wish [illegible] the [illegible] patient will c[illegible]rise. [illegible] We therefore [illegible]

HOW A CHOLERA EPIDEMIC WAS STARTED.

Major Sykes. British Consul at Kerman, writes in his report for 1904-05: "For the first time since my residence in Kerman cholera broke out. A pilgrim returned from Meshed and died from cholera a few miles out of Kerman. His body was washed in running water and his clothes were sent into Kerman and sold, thus starting the epidemic. The entire Persian official community ran away, followed by everyone who could procure a mount, and as a result the villages were immediately affected. Business was at an utter standstill and the only bright side was the heroic labours of the medical men of the Church Missionary Society who fought the epidemic single-handed. Fortunately, the cold weather was near and by the end of December, after having run its course for about two months, with a loss of life aggregating perhaps 500, the epidemic ceased. Two salient points were brought out—viz., the necessity of providing properly trained Persian doctors and also the equal necessity of training the people to obey a few simple regulations for the preservation of their health."

THE BORIC ACID OF TUSCANY.

IN the course of a special report on the mineral wealth of the provinces of Siena and Grosseto, Mr. Chapman, the British Consul-General in Italy, mentions that a remarkable natural phenomena occurring in Tuscany are the "soffioni," or "blowers," which are to be seen in the neighbourhood of Pomarance. These emit steam and water at a very high temperature, as much as 257° F. it is said, with a noise similar to that of steam escaping from a boiler under very high pressure. In the year 1779 two savants of the period, Mascagni and Hoefer, in the course of their investigations into the nature of the curious phenomena, discovered that boric acid was present in the waters ejected by the "blowers." At the time the discovery was considered to have merely a scientific interest, but in the year 1818 it occurred to certain speculators, with M. Larderel, a native of France, at their head, that the recovery of the boric acid might be a profitable venture and works for this purpose were established on a small and tentative scale. To effect the evaporation of the waters and to recover the boric acid present artificial heat was adopted. But the process, for this reason, was not a success, the cost of fuel in a district bare of forests was found to be excessive. In the year 1825 the works and concessions were taken over entirely by M. Larderel and they have since remained in the same family. The financial success of this undertaking began to date from 1827, when M. Larderel solved the problem by applying the natural heat of the sources to the evaporation of the waters collected in boilers or tanks. This industry enjoyed remarkable prosperity during a period of about 40 years when both the producers and the parties to whom they sold their output for a term of years obtained practically their own prices. But the discovery of borax in California and Chili and of boracite on the borders of the Sea of Marmora brought about a great change in this respect. The Tuscan industry, however, holds its own and with an increasing consumption of this substance all over the world the outlook is more favourable now than it has been for some years past. The production of boric acid in Tuscany averages about 2700 tons per annum of the approximate value of £54,000.

"CHINOSOL COMPRESSED TABLETS."

IN our analytical notices last week it was incorrectly stated that the chinosol tablets mentioned contained five *grammes* of the pure powder. The quantity should have been reported as five *grains*.

AN OLD LANCET CASE.

To the Editors of THE LANCET.

SIRS,—I have recently come across an old silver lancet case which, so far as can be judged from the somewhat obliterated hall-marks, is of the date 1795-96, and perhaps Sheffield was the assay office. It bears on it the initials, doubtless of its original owner, "C.F.S." It contains two lancets, and the chief reason why I venture to trouble you with this communication is that I am desirous of knowing whether these lancets are contemporary with the case or of modern date. One of them bears as the name of the makers "Savigny & Co." and the other "Pratt." Perhaps some of your readers can kindly give me information as to these makers. I do not see the names in the list of surgical instrument makers in the Post Office Directory but, of course, that does not prove that the firms are not now in existence.

I am, Sirs, yours faithfully,

May 24th, 1905. PROVENANCE.

A. G.—How an "overworked doctor in hidden-away districts" comes to "want keeping up to his duty" passes our understanding. The man who already does more work than he ought cannot need spurring to do more; at any rate, no wise person would suggest the treatment. Patients with typhoid fever who are in poor circumstances can in London very seldom be nursed in their own homes.

Lancelot.—The regulations concerning the carriage of medicine by rural postmen are laid down in Clause 21 of the general regulations published in the Postal Guide. The Postmaster-General can withdraw the permission either generally or in any particular case, but we have no knowledge of its having been withdrawn so far.

General Practitioner.—Our correspondent sends us a report of what we presume was a public meeting and the matter to which he draws attention formed a portion of the report read at the meeting in question. In these circumstances we do not consider that the question of advertising can arise.

Ternuh.—From the information which our correspondent has sent us we do not think that there would be any objection to the marriage of the children in question, presuming, of course, that they exhibit no mental instability as they grow up.

B.Sc. would like to be referred to any book containing a clear account of the different theories of the numerous writers on Evolution since Darwin, also to the works of Mendel, Weismann, Beard, Bateson, and Weldon.

B. S.—The preparation mentioned by our correspondent contains bromides. These salts are, of course, very commonly given for epilepsy but they should certainly not be so given except under medical supervision.

Hector.—The same precaution should be taken with regard to diphtheria as with other infectious diseases.

W.—Our correspondent will find our opinion of Liquozone at p. 1309 of THE LANCET of May 13th.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (31st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (3rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (29th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Communication:—Mr. J. Murray: A Case of Odontome (illustrated with specimen, lantern slide, and microscopic section). Paper:—Dr. W. D. Miller (Berlin): Some Studies on the Anatomy of the Teeth and their Practical Application (illustrated by slides shown by means of the epidiascope).

TUESDAY (30th).—MEDICO-LEGAL SOCIETY (Rooms of the Royal Asiatic Society, 22, Albemarle street, W.).—8 15 P.M. Discussion on Some Notes upon Suicide (opened by Dr. W. W. Westcott).—Discussion on Feeling and Emotion in Eastern and Western Psychology, their bearing on Crime and Insanity (opened by Dr. Louise Appel.

WEDNESDAY (31st).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5 P.M. General Meeting. Election of President, Officers, and Council for the Year commencing October, 1905. 5 30 P.M. Ordinary Meeting. Address:—Dr. W. Murray: The Limitations of Treatment. 7.30 P.M. Annual Dinner at the Criterion Restaurant, followed by a Smoking Concert.

THURSDAY (1st).—NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Clinical Cases.

FRIDAY (2nd).—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. StClair Thomson, Dr. Waggett, Dr. A. Thorne, Dr. Kelson, Mr. de Santi, and others.

SATURDAY (3rd).—OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (Manchester).—10 A.M. Extra-Metropolitan Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. J. Pringle: Clinique. (Skin.) 5.15 P.M. Dr. J. Taylor: Some Acute Nervous Diseases in Early Life.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Mental Deficiency in Children (with cases).

NORTH EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture-Demonstration.—Dr. A. J. Whiting: Central and Peripheral Lesions of the Spinal Cord.

TUESDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. Rankin: Clinique. (Medical.) 5.15 P.M. Dr. J. M. H. MacLeod: The Treatment of Acne Vulgaris.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Hood: Clinical Aspects of Pneumonia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Ormerod: Hysteria.

WEDNESDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical.) 5.15 P.M. Dr. G. A. Sutherland: Pneumonia in Children.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. Jones: Question of Insanity from the Standpoint of the Medical Practitioner.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Lecture:—Dr. A. Latham: Pleurisy and its Relation to Tuberculosis.

THURSDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. J. Morrison: Some Practical Points concerning the Use of Midwifery Forceps.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Mr. Keetley. On Injuries of the Elbow.

HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Lecture:—Dr. Poynton: Combined Mitral and Aortic Disease.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Galloway: Demonstration of Dermatological Cases. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Lecture:—Mr. Doran: Surgical Anatomy of the Pelvis in the Female.

FRIDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Lake. Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. C. Williams: Finsen, Ultra violet, and other Methods of Photo therapy (illustrated by lantern slides.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Mr. Ballance: Surgery of the Nervous System.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 25th, 1905.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 19	30 05	N.E.	0·03	116	66	48	50	53	Cloudy
" 20	29 95	N E	0·10	107	61	46	48	49	Raining
" 21	30 01	N E.	...	59	54	45	44	43	Overcast
" 22	29 93	N.E.	...	107	54	40	41	46	Cloudy
" 23	30 01	N E.	...	116	56	33	41	48	Cloudy
" 24	29 87	W.	...	81	62	43	45	49	Overcast
" 25	29 96	S.W.	...	93	63	48	53	58	Fine

During the week marked copies of the following newspapers have been received:— *Cornish and Devon Post, Morning Leader, Gloucester Journal, Yorkshire Herald, Edinburgh Evening Despatch, Globe, Leeds Weekly Mercury, Notts Guardian, Darlington Echo, Bradford Argus, Freeman's Journal, Liverpool Courier, Literary Digest, Daily Chronicle, Liverpool Post and Mercury, Windsor and Eton Express, Newcastle Daily Chronicle, Newcastle Journal, Westminster Gazette, Reading Mercury, Mining Journal, Surrey Advertiser, &c.*

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Discours

SUR

LES CONDITIONS GÉNÉRALES DES ÉTUDES MÉDICALES ET DE L'ASSISTANCE PUBLIQUE À PARIS,

À PROPOS DU VOYAGE DES MÉDECINS BRITANNIQUES.

PAR LE DOCTEUR LUCAS-CHAMPIONNIÈRE,
CHIRURGIEN DE L'HÔTEL-DIEU; MEMBRE DE L'ACADÉMIE DE MÉDECINE.

LE voyage de nos confrères Britanniques à Paris a été un grand succès pour nous. Tous ceux d'entre nous qui avions été à Londres en Octobre avions conservé de l'accueil de nos hôtes un souvenir si parfait que nous avions à cœur de leur en témoigner notre reconnaissance et de leur montrer qu'à Paris nous ne manquions pas de faits et d'établissements scientifiques dignes de leur attention et bien prêts pour leur examen. Nous avons eu une première satisfaction: nos confrères sont venus nombreux. Les maitres les plus eminents ont bien voulu se mettre à leur tête. Ils n'ont point redouté la fatigue, se sont mêlés à toutes les fêtes et ont donné par leur parole un éclat singulier à toutes nos manifestations scientifiques.

Dès son arrivée sur la terre Française Sir Dyce Duckworth nous avait adressé en un Français correct et élégant un aimable salut au nom de tous les confrères Britanniques. Sir William Broadbent chaque jour, et plusieurs fois par jour, avec la bienveillance et la finesse d'esprit qui le caractérisent a pris la parole au nom de tous ceux qu'il présidait. Le Professeur Clifford Allbutt à la Sorbonne comme au banquet en un Français bien clair et plein d'érudition nous a montré combien il avait su conserver de la science Française qu'il était venu étudier. En Français aussi le Professeur Pye-Smith nous a parlé. Il a même à l'Hotel-Dieu rappelé ses souvenirs de Trousseau qui ont été au cœur de tous les élèves de ce grand maitre. En Français encore les deux discours fort remarquables prononcés sur la tombe de Pasteur par le Docteur Kingston Fowler, doyen de la Faculté de Médecine de l'Université de Londres, et par le Docteur Augustus Waller, chef des Laboratoires de l'Université de Londres. Tous deux ont été remarquables par la facilité de leur élocution, par la perfection de leur langage et par la très juste et vraiment éloquente appréciation de l'œuvre de notre grand Pasteur. J'ai été personnellement très enchanté d'entendre le Professeur Waller émettre cette pensée très philosophique sur laquelle j'ai pour ma part insisté il y a quelques années: "Nous sommes encore trop près de Pasteur pour juger l'œuvre et le savant. Il faut le recul du temps pour apprécier justement les découvertes qui ont transformé la science actuelle et qui auront sur la science future une répercussion que nous ne pouvons soupçonner." En Français encore un discours du Docteur Georges Ogilvie, qui nous avait déjà habitués à Londres à sa bienveillance d'une part et d'autre part à sa parfaite connaissance de notre langue, de nos habitudes, de notre esthétique et même de notre quartier latin.

Si les discours en Anglais ont été moins bien compris de la masse des médecins Français ils n'ont pas été moins bienvenus ceux qu'ont prononcé Sir William Macewen, l'un des chirurgiens dont les travaux sur les maladies et opérations des os sont les mieux connus en France; le Surgeon-General Keogh, qui nous a parlé de nos grands maitres militaires et de leur fraternité d'armes avec les chirurgiens Anglais, en chirurgien erudit; et enfin M. Lynn Thomas.

Nous sommes encore tout particulièrement reconnaissants aux dames Anglaises d'être venues nombreuses. Elles ont donné aux fêtes un grand éclat. Puis mêlées aux dames Françaises qui les ont reçues, elles nous ont donné la preuve que si une union scientifique entre les peuples est d'importance capitale, l'union morale, intellectuelle et familiale par les dames donne à l'union par la science tout le charme qui lui aurait manqué.

Ce n'est pas à un Français de décrire les fêtes de cette rencontre pourtant je tiens à dire que j'espère que le [illegible] organisées [illegible] lui a bien [illegible] Ville même, il se trouve que le Président du Conseil Municipal, le Docteur Brousse, est un médecin des plus estimés. Il avait tenu à ce que les médecins Britanniques ne l'oubliassent pas.

Je voudrais à propos de cette visite rappeler à nos confrères Britanniques, à ceux qui sont venus nous visiter, comme pour ceux qui n'ont point parcouru les hôpitaux Français, quelles sont pratiquement les conditions de nos établissements scientifiques et de nos établissements de bienfaisance. Au cours de ces journées j'ai été souvent interrogé sur plusieurs points, sur certaines conditions de notre éducation médicale et sur certaines conditions de notre assistance publique qui ont paru surprendre nos confrères. Certaines conditions leur ont paru peu comprehensibles. Certaines dispositions [illegible] montrer ici [illegible] tions et qui [illegible]

Un fait domine toutes nos institutions. En Grande Bretagne l'effort individuel est toujours libre et encouragé. En France des institutions de commune et d'état le remplacent souvent et l'empêchent de se développer. En Grande Bretagne nombreux sont les groupes dont on a respecté l'autonomie. En France centralisation à outrance. Les deux systèmes ont des avantages et des inconvénients et cadrent avec les mœurs très différentes des deux pays. Mais s'il est juste pour ceux qui souffrent d'un système de s'en plaindre il est juste aussi d'en reconnaitre les avantages.

L'enseignement médical est avant toutes choses tout particulièrement centralisé puisque Paris, à lui seul, produit beaucoup plus de médecins que les six autres Facultés Françaises de province ensemble. La faculté de Médecine de Paris représente théoriquement une agglomération de six mille étudiants en médecine en cours d'étude. On conçoit qu'une pareille agglomération doive échapper à toute surveillance disciplinaire et l'on peut dire qu'à Paris l'élève de l'enseignement supérieur est en état de liberté absolue tandis que l'élève de l'enseignement secondaire (lycées et écoles d'enseignement) était dans un état de surveillance et même de réclusion, ce qui est déjà bien différent de ce que l'on voit dans le Royaume Uni. Sauf certaines conditions d'examen et d'actes de présence pour certains travaux (anatomie et physiologie) il est absolument libre de travailler beaucoup ou de ne rien faire du tout. Les hôpitaux Parisiens ne sont pas comme les grands hôpitaux de Londres, des écoles et des centres d'enseignement. Cependant ils jouent dans cet enseignement un rôle considérable. La Faculté de Médecine leur emprunte bien [illegible] faire des services de clinique [illegible] t là qu'une très faible [illegible] Celui-ci est surtout [illegible] les hôpitaux Parisiens. Aux heures de visite, tout étudiant comme tout médecin a le droit, la liberté absolue de pénétrer partout. Il peut suivre toute visite. Il peut être appelé par le chef de service à participer à l'enseignement donné dans le service.

Le concours a fait de tout chef de service un professeur. Habitué par la préparation du concours, à la parole à la leçon impromptue, malgré l'absence de toute mission officielle, par coutume et par tradition, le chef de service est partout un maitre qui peut se faire entendre. Beaucoup de ces services, sans qualification officielle, ont été des centres d'études considérables et sont connus dans le monde entier.

Les études cliniques des élèves ont surtout pour fondement l'organisation du concours de l'internat. Les élèves dans les hôpitaux, les aides directs des chefs de services sont les externes et les internes. Ils ne peuvent les choisir que parmi eux. Deux degrès de concours les mènent au titre et à la fonction. Ils représentent une minorité, car les élèves en cours d'études à la Faculté de Médecine de Paris étant estimés au nombre de six mille, il y a seulement 750 externes et 240 internes. Les externes sont nommés pour trois ans; les internes pour quatre ans. Cela ne fait qu'un millier d'élèves, c'est à dire un sixième de ceux qui seront qualifiés pour l'exercice de la médecine. Mais on remarquera surtout le petit nombre des internes: 60 à 70 au plus chaque année deviennent internes. Le travail de préparation de cet internat représente un effort considérable, une éducation préalable extrêmement complète. Il en résulte que nos aides dans les hôpitaux ont déjà par eux même des titres personnels et une véritable valeur scientifique. Mais il en résulte aussi pour eux une durée considérable des études proprement dites.

Un bon élève qui passera par l'externat et l'internat n'arrive guère à l'externat qu'en troisième, à l'internat en quatrième ou en cinquième année d'études médicales proprement dites et souvent plus tard. L'internat durant quatre an ses études proprement dites sont de huit à dix années au moins. En compensation, la pratique hospitalière en fait un sujet très expert en clinique médicale, chirurgicale ou obstétricale. Il a quatre ans d'expérience hospitalière incomparable. Ce système a même pour l'éducation générale de très grands avantages car les internes agissent habituellement comme maitres vis à vis des autres élèves. L'enseignement mutuel est très en honneur dans les hôpitaux de Paris.

Cet enseignement est très peu coûteux pour les élèves car tous ceux qui conduisent ces études cliniques ne reçoivent aucune rémuneration. Un nombre seulement de médecins ou chirurgiens reçoivent de la Faculté de Médecine une petite somme pour prendre soin des élèves stagiaires, c'est à dire de tous les élèves non externes ni internes qui sont obligés de passer deux ans dans les services des hôpitaux et de justifier que pendant ce temps ils ont étudié la clinique. Le service des externes et internes compte pour ce stage.

Tous les chefs de service des hôpitaux ont été nommés à la suite de concours, c'est à dire qu'il leur a fallu justifier en public de leurs aptitudes pour la clinique, de leur éducation générale et de leur aptitude à parler et à écrire scientifiquement. Le concours a ses défauts et ses qualités. Il a comme qualité incontestable de donner un ensemble de médecins nécessairement instruits. Une fois qu'ils sont entrés par le concours des hôpitaux ils occupent les places successivement, par une hierarchie fondée sur l'ancienneté de nomination. On remarquera que presque tous les chefs de service ont commencé par être internes.

L'organisation des hôpitaux est sans analogie avec celle des hôpitaux Britanniques issus de l'initiative privée. L'administration de l'Assistance Publique, à coté de laquelle les établissements de bienfaisance privée ne représentent qu'une infime minorité, est chargée de toutes les formes de secours au pauvre, à l'indigent. L'indigent qui habite Paris a un véritable droit à ce secours. Les ressources de cette administration viennent de ses propriétés personnelles issues de dons généreux, de certains droits qui lui sont attribués (droit des pauvres ou contributions de tous les spectacles) et d'une subvention de la ville de Paris. Son budget annuel depassé 45,000,000 de francs. Le but qu'elle poursuit c'est de répondre au droit qu'à Paris tout indigent a d'être hospitalisé ou secouru. De fait ce programme est réalisé. On peut constater qu'aucun des malades pauvres voulant entrer à l'hôpital n'est refusé. Cette facilité d'accès amène même quelques conditions fâcheuses pour le service.

Malgré d'énormes efforts financiers les hôpitaux de Paris sont loin de pouvoir fournir une place normale aux pauvres malades. Le population pauvre s'est augmentée bien plus que la population riche. Aussi pour ne refuser aucun malade les services s'encombrent de lits supplémentaires. Cela donne à nos salles un aspect particulier. Déjà les lits normaux des malades y sont plus rapprochés que dans la plupart des hôpitaux Anglais. Mais lorsque de brancards ont été mis le lits sont extraordinairement serrés. Dans mon service de l'Hôtel-Dieu, ou j'ai 56 lits reguliers souvent, en hiver surtout il y a plus de cent malades. Il arrive qu'outre les brancards il y ait des matelas à terre lorsque les lits supplémentaires ont manqué. C'est là sans doute quelque chose de très mauvais pour le service. Les accumulations de la population en certaines régions font que certains hôpitaux sont plus particulièrement encombrés : Hôtel-Dieu, Lariboisière, St. Louis, Beaujon. Dans l'hôpital dont les habitants sont ainsi doublés le budget reste le même et le personnel est aussi le même. Il en résulte une surcharge difficile pour les finances et un surmenage effrayant du personnel de service.

L'encombrement dans les services de chirurgie a des conséquences particulièrement graves. On doit le redouter d'une façon spéciale parcequ'il crée des chances d'infection. On a cherché à remedier aux inconvénients de la promiscuité. Quelques chirurgiens ont voulu subdiviser les services en services de suppurants et services de non suppurants. Mais d'une part cette séparation n'est pas facile à réaliser. Elle exige une appropriation spéciale des locaux qui ne se trouve que dans les hôpitaux neufs. Enfin, elle n'est utile que là où la méthode de Lister n'est pas rigoureusement employée. Il suffirait sans doute d'écarter certains sujets des services généraux. Malheureusement ces sujets y sont toujours conservés, les anthrax, les grands phlegmons septiques, les infections puerpérales. Ce n'est que depuis peu que les érysipèles ont été enlevés des services de chirurgie d'une façon systématique. La création de nouveaux hôpitaux est le véritable remède. On le poursuit.

Nos confrères ont pu voir qu'à Paris comme à Londres les maladies contagieuses ont été isolées systématiquement. Il y a des services spéciaux pour la variole, la scarlatine, la diphtérie, la rougéole. Toutefois il y a chez nous deux infériorités marquées. Les meilleurs hôpitaux d'isolement ne sont pas encore [illegible] it d'abord dans des locaux [illegible] is surtout nos mœurs n'ont p [illegible] de la loi sur les maladies contagieuses, le public et souvent les médecins eux-mêmes n'ont pas obéi à la loi; cependant depuis quelques années de grands progrès ont été faits. Pour la variole en particulier l'isolement d'une part, et les mesures de vaccination générale l'ont fait disparaitre dans une large mesure. L'hôpital des contagieux de l'Institut Pasteur représente une forme très particulière de l'isolement des malades séparés en chambres individuelles. Il s'agit là d'une expérience faite à très grands frais.

Les hôpitaux à Paris sont d'aspect très irreguliers. Les uns sont vieux et mal construits pour l'usage. Les autres sont plutôt trop luxueux. C'est le cas des derniers construits comme l'Hôpital Boucicaut. C'est un fait que l'on observe un peu partout. Il est pardonnable pour une administration autonome comme celle de l'Institut Pasteur dont la mission est de faire le mieux possible. Elle n'est pas pardonnable à une administration qui est chargée de ménager le bien des pauvres. Elle n'est pas pardonnable pour les agents de cette administration, les médecins et les chirurgiens qui devraient en toutes circonstances rechercher les moyens les plus économiques en même temps qu'ils sont les plus sûrs pour la guérison des malades.

Un fait a paru frapper nos visiteurs, le temps considérable consacré par chacun de nous à notre service d'hôpital. Ce service est fait chaque matin par le chef de service lui même et ordinairement entre neuf heures et midi toute la matinée est consacrée par lui à son service hospitalier. En chirurgie, dans la journée et la nuit seulement les cas d'urgence sont opérés par les chirurgiens recemment nommés dont la fonction est d'abord de remplacer les chirurgiens titulaires. Ils sont de garde tour à tour et appelés au telephone par les internes constamment en service à l'hôpital. En compensation de ce travail local très intense un médecin ni un chirurgien n'est jamais comme à Londres attaché à plusieurs établissements hospitaliers. Pour ses services le médecin ou le chirurgien ne reçoit pas de paiement à proprement parler. Il lui est alloué une *indemnité* pécuniaire insignifiante. A l'Hôtel-Dieu je touche chaque mois cent francs excepté en cas de congé ou ces cent francs sont remis a mon remplaçant.

A Paris les études scientifiques sont complètement séparées des études médicales proprement dites. La Sorbonne, la Faculté des Sciences, le Collège de France, le Jardin des Plantes forment des services éloignés et distincts. Malgré l'importance du Musée du Jardin des Plantes nous n'avons point de Musée comme le Musée Hunter où soient réunies toutes les pièces concernant toutes les sciences naturelles, y compris la médecine. Sauf l'Hôpital St. Louis qui a un musée composé surtout de pièces moulées consacrées à la description des maladies de la peau et le musée de l'Hôpital Necker consacré aux maladies des voies urinaires il n'y a dans les hôpitaux aucun musée d'anatomie pathologique. C'est un grand malheur pour les hôpitaux où les autopsies sont faites plus souvent qu'en Angleterre et où on aurait amassé des collections importantes en conservant une petite partie des pièces qui ont été étudiées.

Nos confrères ont aussi remarqué la grande différence qui existe entre leurs hôpitaux et les nôtres pour le personnel des aides. Nos aides médecins sont instruits et laborieux et relativement nombreuse mais ne sont pas choisis par nous. Ils coûtent fort peu à l'administration. Les externes ne sont pas payés et les internes le sont très misérablement. Le personnel d'aides non medical est bien loin de celui que nous avons vu dans les hôpitaux de la Grande Bretagne. Il est payé mais d'une façon tout à fait insuffisante. Il se compose d'un très petit nombre de surveillantes et pour deux hôpitaux encore, de religieuses qui dirigent le personnel d'infirmiers ou d'infirmières dont malheureusement la fonction est habituellement mixte et qui s'occupent alternativement des soins de propreté de la salle et des soins medicaux des malades. Depuis quelques années l'Assistance Publique a pris à cœur la modification de cette situation. De très grands efforts sont faits pour avoir un corps d'infirmiers

tout à fait séparé de celui des saniteurs. Mais la question de dépense qui applique à tous les établissements hospitaliers met en présence de frais enormes fait que la solution de cette question sera très lente à obtenir. Nous devons nous résigner pour longtemps à une grande infériorité sur ce point.

Pour prendre une idée des obligations de l'Assistance Publique, il ne faut pas oublier qu'en dehors d'hôpitaux, elle a la charge des bureaux de bienfaisance, c'est à dire des secours directs en ville, des accouchements des pauvres, des enfants abandonnés, des vieillards infirmes, des établissements pour les maladies contagieuses, et qu'elle possede en province nombre d'établissements de convalescence ou de traitement et de vieillards. Sans doute ces charges enormes font que chaque malade ou chaque pauvre secouru n'est pas secouru avec autant de luxe ou autant de confort qu'on le fait à l'étranger. Mais il est probable que le secours atteint un plus grand nombre d'individus. Dans la ville de Paris l'indigent est fort de son droit et vient demander les secours ou l'entrée à l'hôpital non comme une faveur, un fait de charité, mais comme un droit. L'administration de l'Assistance Publique a été l'objet de bien des critiques. Cependant, la diffusion des secours est bien réelle non seulement pour la maladie, mais pour les accouchements qui ont un service d'hôpital et de ville réellement bien organisé.

Il existe à Paris un bon nombre d'établissements privés quoique la loi recente chassant les congrégations ait fait disparaitre les plus importants d'entre eux. L'Institut Pasteur est une rare exception parmi les établissements parcequ'il est absolument œuvre privée. On a vu l'admirable installation de ses services scientifiques et l'établissement de son service hospitalier qui est en voie d'achèvement. L'Assistance Publique n'est là pour rien. Le luxe hospitalier est considèrable mais combiné avec le développement parfait des services scientifiques.

Nous espérons que malgré la brièveté de leur séjour nos confrères Britanniques auront pu prendre une idée nette de nos institutions. Ils auront pu voir surtout combien est facile l'accès de l'hôpital aussi bien que celui de tout centre d'enseignement. Sans doute la différence des langues crée un obstacle sérieux, le nombre des Français parlant couramment l'Anglais n'étant pas très considérable. Cependant ce n'est pas là un obstacle insurmontable. Aussi, nous espérons bien que cette visite trop rapide leur aura donné de sérieuses idées de retour. L'entente parfaite des deux nations devrait s'accompagner d'une entente scientifique très profitable aux deux nations. Le groupement des maitres de la science médicale des deux nations projeté par M. Sillonville qui a eu l'idée première de ce rapprochement parait susceptible d'un très grand développement. Les mœurs et les habitudes scientifiques sont si différentes en France et en Angleterre que ce rapprochement sera riche d'enseigenements pour les deux pays. Les deux visites réciproques nous ont montré que malgré ces divergences, la cordialité de l'acceuil, l'analogie de la liberté de l'esprit philosophique, le désir de la marche vers le progrès pacifique, ont tout préparé pour cette union scientifique dont le début remonte aux siècles passés.

Nos confrères ont pu voir que l'activité scientifique est considérable en particulier dans nos hôpitaux. De tout temps les études cliniques ont été en honneur en France. Elles sont poursuivies chez nous avec une grande liberté qui nous parait très profitable pour tous ceux qui veulent les suivre et en apprécier le progrès.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. A. P. Y. Van den Brock has been recognised as *privat-docent* of Anatomy.—*Berne:* Dr. Otto Heller has been recognised as *privat-docent* of Hygiene.—*Breslau:* Dr. L. Fraenkel has been recognised as *privat-docent* of Gynæcology.—*Cracow:* Dr. Johann Piltz of the Praga Hospital, Warsaw, has been appointed Extraordinary Professor of Psychiatry and Neuropathology.—*Heidelberg:* Dr. R. O. Neumann of Kiel, who has been attached to the Hamburg Institute of Tropical Diseases for the last year, has been recognised as *privat-docent* of Hygiene and Bacteriology.—*Jena:* Dr. Dietrich Gerhardt of Erlangen has been appointed Extraordinary Professor of Internal Medicine.—*Lausanne:* Dr. August Weith has been recognised as *privat-docent* of Gynæcology.—*Marburg:* Dr. Martin Bartels has been recognised as *privat docent* of Ophthalmology.—*Naples:* Dr. Agostino Insinna of Palermo has been recognised as *privat-docent* of Experimental Hygiene.

A Post-Graduate Lecture

ON

LARYNGEAL PARALYSES AND THEIR DIAGNOSTIC VALUE.

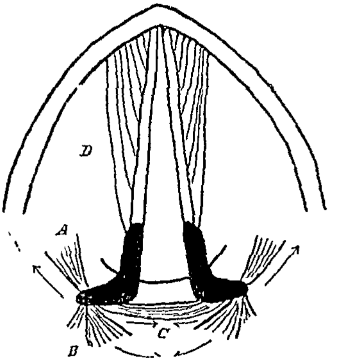
Delivered at Mount Vernon Hospital for Diseases of the Chest on Feb. 9th, 1905,

BY HAROLD BARWELL, M.B. LOND., F.R.C.S. ENG.,

LARYNGOLOGIST TO THE HOSPITAL; ASSISTANT SURGEON TO THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL; CLINICAL ASSISTANT TO THE THROAT DEPARTMENT, ST. GEORGE'S HOSPITAL; CONSULTING SURGEON FOR THROAT AND EAR DISEASES TO THE CRIPPLES' HOME FOR GIRLS.

GENTLEMEN,—The larynx is frequently affected by lesions of organs at a distance through disturbance of its innervation and the appearances thus produced make the laryngoscope of great importance to the physician as an aid to diagnosis; its use may be compared with that of the ophthalmoscope in cases of cerebral tumour. More especially is this the case in that many of these laryngeal palsies give rise to no symptoms whatever, and cannot be diagnosed or even suspected without laryngoscopic examination. I wish to lay stress upon this because there is a general impression that if there is no hoarseness, if the patient can speak and even sing normally, there can be no paralysis. This, however, is not the case, for in the common form—abductor paralysis—there need be no disturbance of vocalisation. As I propose to discuss only motor lesions to-day I will dismiss the superior laryngeal nerves very shortly; these are the sensory nerves of the larynx but supply one pair of muscles, the crico-thyroids. Owing to the short course of these nerves isolated paralysis of the crico-thyroid muscle is very rare but it occurs occasionally from section of the nerve—especially in suicidal wounds, and from pressure on it by tumours and enlarged glands. Lesions of the vagus above the origin of this branch will also paralyse the crico-thyroid, but the palsy, the signs of which are not well-marked, will be obscured by that of the other muscles of the cord. The action of the muscle is to render the cord tense, and when it is paralysed the affected cord remains slack on phonation and flaps up and down with respiration; the voice is not lost but is weak and easily tired. The remaining muscles are supplied by the recurrent laryngeal nerve. The crico arytenoideus posticus is inserted into the muscular

FIG. 1.



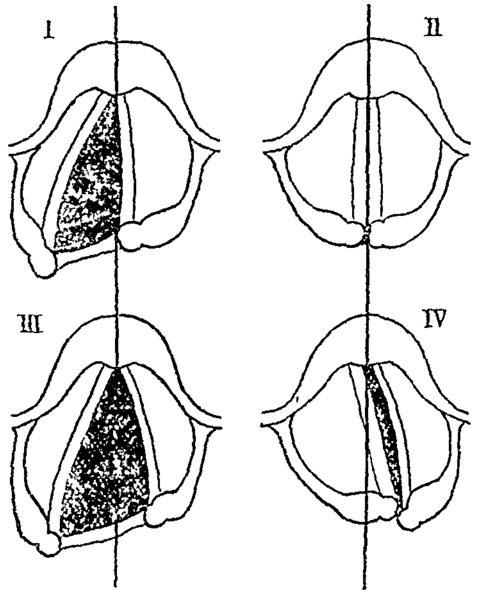
Schema illustrating the action of the intrinsic laryngeal muscles (after Watson Williams). A. Crico arytenoideus lateralis B. Crico arytenoideus posticus. C. Arytenoideus. D. Thyro-arytenoideus.

process of the arytenoid and acts by rotating the cartilage about a vertical axis and so moving the vocal process outwards and abducting the cord; the lower fibres cause a gliding movement, drawing the cartilage outwards and backwards; further, by fixing the cartilage from behind it allows the crico-thyroid to make the cord tense. The crico-arytenoideus lateralis rotates the arytenoid in the opposite direction, adducting the vocal process and cord; it does not adduct the cartilage as a whole. This action, which closes the cartilaginous part of the glottis, is performed by the arytenoideus. The thyro-arytenoideus, or "internal tensor," lies along the outer side of the vocal cord which forms its tendinous margin. Acting alone it would draw the arytenoid forward and relax the cord, but when the cord is tightened by the crico-thyroid its contraction renders the edge of the cord sharp and straight.

During phonation the edges of the cords are straight, parallel, and almost in contact; on deep inspiration they are widely abducted. Most people show hardly any movement of the cords during quiet breathing; the "position of rest" is fairly constant and is maintained by a tonic action of the abductors, for in the "cadaveric position," assumed after death or in complete paralysis, the cords are distinctly nearer the middle line. In any gradually progressive lesion of the nerve path the muscles become affected in a certain definite order, the enunciation of which is known as Semon's law. The abductor (*crico-arytenoideus posticus*) is the first affected and may remain for years the only muscle paralysed; then the internal tensor fails, and finally the lateralis muscle becomes powerless. The arytenoideus is not paralysed in unilateral cases, for its nerve-supply comes from both recurrent laryngeal nerves.

There has been in the past a very lively discussion as to the cause of this peculiar sequence of events. Krause believes that the median position, which the cord at first assumes, is due not to paralysis but to spasm, and that the more powerful adductors overcome the weak abductor muscle; but it has been shown, especially by Semon, that the abductors are less resistant and lose their irritability sooner than the adductors; post mortem the abductor muscle is found to be early and extensively atrophied in these cases, and it is improbable that a spasmodic contraction could hold the cord in the median position for years. There is little doubt that the lesion is a paralytic one and that the most vulnerable muscle succumbs first; the abductors are analogous to the extensors of the limbs, which are also more readily damaged than the flexors.

FIG. 2.



I., Left abductor paralysis; inspiration. II., Left abductor paralysis; phonation. III., Left recurrent paralysis; inspiration. IV., Left recurrent paralysis; phonation.

When abductor paralysis has occurred the affected cord lies in the middle line; during phonation the sound cord adducts to meet it and the larynx appears normal, but on inspiration the affected arytenoid remains in the same position, while the sound one is drawn outwards and backwards behind the level of its fellow, making the paralysed cord appear the shorter; in this position the sound cord also lies at a slightly lower level, because the crico-arytenoid joint is placed obliquely with its outer end lower than the inner. There is no alteration in the voice; as the maximum available aperture is reduced by half there will be some dyspnœa on active exertion, but in adults there is no obstruction to quiet breathing; owing to the much smaller size of the glottis in children unilateral abductor paralysis does cause dyspnœa which occasionally may be so severe as to necessitate tracheotomy.

In the cases of bilateral abductor paralysis both cords lie together near the middle line; when paralysis is complete they do not abduct at all on inspiration but, on the contrary, are drawn closer together; this is due to the shape of the cords, the sharp edges of which look upwards and inwards and act under the downward rush of air somewhat like the cusps of the aortic valves. In consequence, dyspnœa is a marked symptom, it is inspiratory and accompanied by stridor; severe paroxysmal exacerbations are prone to occur not only on the slightest exertion but also during sleep, and these may at any time prove fatal; for this reason it is advisable in all such cases to perform tracheotomy as a precautionary measure; a plug may be worn in the tube but it can be rapidly removed when dyspnœa becomes urgent. Phonation is quite good, but the difficulty in taking a full inspiration gives to the speech a peculiar breathless character.

When the thyro-arytenoid muscle fails the edge of the cord is no longer straight but forms a concave line, but the cartilaginous glottis is still well closed; the cord appears more rounded and narrower, first, because it retracts behind the ventricular band, and later from atrophy of the muscle. The voice now becomes gradually hoarser. Finally, when total recurrent paralysis has occurred the cord assumes a position between the middle line and the normal position of rest; this is called the "cadaveric position." During inspiration the sound arytenoid lies abducted and at a posterior level; on phonation it is drawn across the middle line by the unparalysed interarytenoideus and pushes the paralysed cartilage obliquely aside and usually backwards, probably because the structures of the affected cord are rendered slack by atrophy; the sound cord lies at a slightly higher level than the paralysed one on phonation. As the cords are still able to meet, the voice is not lost but it is hoarse and easily tired; it sometimes has a peculiar "rattling" quality due to the coarse vibrations of the slack cord. In bilateral recurrent paralysis, the severe dyspnœa present in the stage of double abductor paralysis passes off and the voice is lost. Both cords lie in the cadaveric position; sometimes even now a slight inward movement of the arytenoids may be seen on attempted phonation, owing to the action of a partially active arytenoideus muscle; it has been conjectured this muscle may at times receive part of its supply from the superior laryngeal nerve.

The diagnosis of cord paralysis can only be made by inspection but with the laryngoscope it is usually easy; even when the patient is very intolerant and only a fleeting glimpse of the posterior part of the larynx can at first be obtained, the view of one arytenoid lying asymmetrically behind the other is strongly suspicious and should put the observer on the track. Sometimes in nervous patients the cords are imperfectly separated, or even adducted, during inspiration and may thus assume the aspect of double abductor paralysis; if the patient is directed to phonate as long as he can, the cords will abduct naturally during the involuntary inspiration which follows. Fixation of the arytenoid cartilage may occur, sometimes from disease of the crico-arytenoid joint, but more often from adhesions around it; the cause may be syphilis, tubercle, or simple perichondritis occurring after typhoid fever, diphtheria, or other infective fever. The cartilage is usually fixed near the cadaveric position, so that the diagnosis has to be made not so much from abductor palsy as from complete recurrent paralysis. The distinction is seldom difficult, for fixation is nearly always accompanied by scars, swelling, or deformity; when this is not the case the diagnosis can only be made by observing that the immobile cartilage is really absolutely motionless and on phonation is not pushed aside by the sound arytenoid, as it is in cases of unilateral recurrent paralysis. When a cord has been long paralysed some fixation of the joint usually results and the voice becomes stronger in consequence; in such cases of old standing a certain diagnosis between paralysis and fixation may not be possible.

We must now consider the causes of these paralyses, for on our knowledge of them depends the diagnostic value of these lesions The larynx is an organ which has two functions, more or less antagonistic, that of phonation and that of respiration, the adductor muscles subserve the former function and the abductors the latter Of the two, phonation is the more recently acquired and, being directly controlled by the will, has a well-marked cortical centre, situated bilaterally in the lower part of the ascending frontal convolution; stimulation of either "phonatory" centre causes adduction of both vocal cords On the other hand, the respiratory function is older, more vital, and less under conscious control, it can be maintained by the medullary centres after ablation of both cerebral hemispheres in dogs Although a cortical centre for abduction has been found near the phonatory centre it is less well defined In accordance with this functional disturbances always produce paralysis of the phonatory mechanism, while organic lesions paralyse the abductor muscles From these considerations it appears that no unilateral lesion above the bulbar nuclei can paralyse the cords, for they are controlled by both cerebral hemispheres, and that if both tracts from the cortex are destroyed the resulting paralysis must affect both cords and be adductor in type, as in a case reported by Eisenlohr And this is in accordance with clinical experience, in cases of hemiplegia, even with aphasia, the larynx is not paralysed any more than are the muscles of respiration Four cases are recorded (two by Déjerine and two by Garel and Dor) where unilateral cerebral lesions appeared to cause unilateral paralysis of the opposite cord, but as in all four the cord assumed the cadaveric position it may well be argued with *Horsley and Semon that the lower neuron must have been* affected, for the abductor function is controlled by the bulbar nuclei

From the bulbar nucleus the nerve fibres pass in the roots of the bulbar accessory to the vagus and thence to the recurrent laryngeal, the lesion causing paralysis may, therefore, be situated (1) in the medulla, (2) at the base of the brain, (3) in the vagus, or (4) in the recurrent laryngeal nerve. The cause is often hard to find, according to Lermoyez[1] it remains undiscovered in more than a third of cases, recurrent paralysis occurs twice more often in men and twice more often on the left side

In cases of paralysis from bulbar disease and from lesions at the base of the brain neighbouring nuclei are prone to be affected as well, the soft palate, uvula, and pharynx are supplied from the bulbar accessory centre, paralysis of *one cord and of the same side of the palate* is an important symptom complex and points to nuclear disease, a few rare cases have been recorded of paralysis of cord, palate, sterno mastoid, and trapezius from involvement of the bulbar and spinal accessory roots Persistent frequency of the pulse, due to disease of the cardio inhibitory centre, is an important sign of bulbar disease Paralyses of bulbar origin are frequently, but by no means always, bilateral Tabes dorsalis is the commonest cause of cord paralysis of bulbar origin and is so common that it should always be thought of in cases of palsy of uncertain causation, it may affect one or both cords Though usually associated with other better known symptoms, it may be for years the only discoverable lesion, Lermoyez states that 34 out of 100 tabetics had laryngeal troubles Other laryngeal neuroses are found in tabes—anæsthesia, paræsthesia, and the so called "laryngeal crises", these begin with a series of coughs resembling whooping cough, the glottis being closed by a spasm which is occasionally so severe and prolonged as to prove fatal In general paralysis abductor palsy is not uncommon, Permewan observed it seven times in 34 cases Syphilitic nuclear disease, gummata at the base of the brain, and syphilitic pachymeningitis are fruitful causes of laryngeal palsy, the ocular muscles, especially the external rectus, are often affected as well In bulbar paralysis laryngeal palsy is the rule and is nearly always bilateral, but it rarely appears until late in the disease, when the tongue is atrophied and the palate and pharynx are paretic Syringomyelia and amyotrophic lateral sclerosis are rarer causes, disseminated sclerosis seldom produces paralysis, but the intention tremors may be well seen in the larynx

Of peripheral causes, neuritis is probably a more frequent factor than was until lately supposed. Several forms may be distinguished, toxic, due by far the most often to lead, rarely to alcohol and arsenic, and infective, due chiefly to diphtheria, less often to typhoid, influenza, and other fevers, in such cases other typical lesions of neuritis will usually coexist. Some cases of paralysis occurring in the course of tubercle or syphilis may be explained by a neuritis In addition there are cases of so called primary neuritis similar to cases of Bell's facial palsy where the paralysis is transient and the only cause appears to be "cold" Here one may mention those cases where the posticus muscle seems to have been directly injured by the passage of a large or hard body down the œsophagus

In lesions of the vagus above the origin of the superior laryngeal nerve the sensory fibres from the larynx are involved, producing at times anæsthesia or reflex bilateral spasm of the glottis Peripheral lesions, however, more often affect the vagus below this level or the recurrent laryngeal nerve, they are rarely bilateral Traumatism is a rare cause, perhaps it most often results from a surgical operation, especially excision of the thyroid gland or œsophagotomy, the cord, of course, assumes at once the cadaveric position Paralysis is usually due to compression of the nerve and the most frequent causes of this compression are, in order, (1) aneurysm, (2) enlarged glands, usually tuberculous, sometimes syphilitic or malignant, and (3) cancer of the œsophagus Rarer causes are mediastinal growths, pulmonary tubercle, goitre, cancer of the lung, pleurisy, and massive pericardial effusion

Of all causes of laryngeal palsy aneurysm is the most frequent, though tabes comes not far behind The left cord is the most often affected owing to the course of the left recurrent nerve but an aneurysm of the innominate may compress the right cord and bilateral paralysis has resulted from a very large aortic aneurysm and from the simultaneous presence of two aneurysms. In addition to paralysis the pressure of an aneurysm may cause glottic spasm, not by *compressing the recurrent nerve which contains no afferent* fibres except some of muscular sense but by irritation of the vagus or trachea, the same irritation causes the cough of aneurysm which has as a rule a peculiar "brassy" quality, though if there is complete paralysis of a cord it loses this character and becomes "wheezy" like the cough of a cow Finally, in cases of aneurysm dyspnœa may result from pressure on the trachea or a main bronchus, if the trachea is compressed the narrowing may be visible with the laryngoscope or a pulsating area may be seen, according to Moritz Schmidt[2] a slight pulsation of the tracheal wall where it is crossed by the aorta may sometimes be seen in healthy persons In a doubtful case of thoracic tumour I believe that paralysis of the left cord is somewhat in favour of aneurysm rather than of a mediastinal new growth This paralysis of the left vocal cord is often the earliest, and for *some* time the only, sign of thoracic aneurysm, a small aneurysm in the concavity of the aortic arch may early cause laryngeal palsy but for a long time elude all attempts at diagnosis For this reason the prognosis should always be guarded in cases of cord paralysis, on the other hand, though few cases recover their mobility, unilateral palsy is not dangerous in itself and may be due to some harmless cause, such as an enlarged bronchial gland, so that the outlook is not necessarily grave

Tuberculosis is a fairly frequent cause of recurrent paralysis, either by pressure of bronchial or tracheal glands, when the left cord is generally attacked, or by involvement of the nerve in a tuberculous infiltration at the apex of the lung, the right recurrent nerve lies close to the pleura and is the most often affected in this way—so much so that unilateral paralysis of the right cord should always suggest the possibility of phthisis In addition the laryngeal muscles may be damaged by infiltration or degeneration in tuberculous laryngitis or by functional failure from general weakness Of peripheral causes of bilateral paralysis cancer of the œsophagus and goitre are the most frequent The association of laryngeal palsy with a thyroid tumour, though suspicious, is no conclusive proof of malignancy An innocent goitre may affect the recurrent nerve, especially if growing rapidly or becoming inflamed or if hæmorrhage occur into a cyst Compression of the trachea by a goitre can be well seen with the laryngoscope In bilateral cases the side-to-side compression produces a characteristic "scabbard-shaped" contraction.

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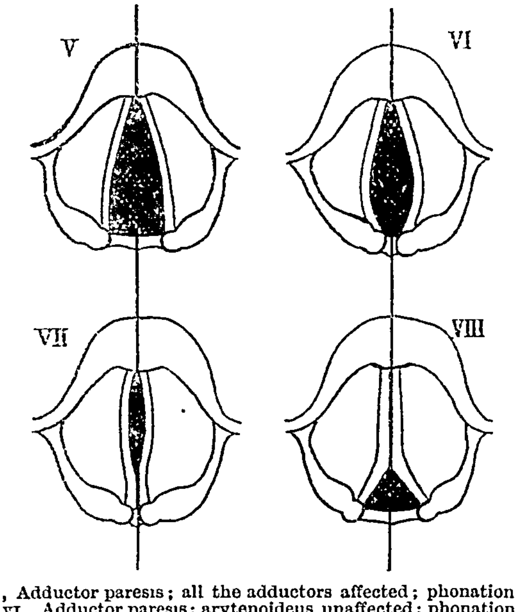
[1] Semaine Médicale, 1897, p 167

[2] Krankheiten der Oberen Luftwege, 1903

A totally different class of laryngeal palsies is that which affects the phonatory function—*adductor paralysis*. This is nearly always bilateral and is not due to organic disease of the nerve path but either to a neurosis—the so-called "functional aphonia"—or to local disease, such as laryngitis, directly interfering with the action of the muscles. Functional aphonia is a common manifestation of hysteria but it should be clearly borne in mind that many cases, probably even the majority, are not purely hysterical. Anything which makes the effort of phonation greater than usual—constitutional debility, thickening of the cords, or laryngeal catarrh—predisposes strongly to this affection, which is characteristic rather of debility than of hysteria. It occurs in men as well as in women, though much less frequently, and I see a large number of such cases among consumptives at the Mount Vernon Hospital. In purely hysterical cases the cough is usually not aphonic; the onset is sudden, as also is the recovery, for many cases regain the use of the voice, as it were miraculously, on the application of the faradic current or a strong astringent.

Paralysis is very seldom complete, usually amounting only to an imperfect apposition of the cords; unilateral adductor paralysis is extremely rare; it is due to local interference with the muscles and in a few cases to toxic causes. The three sets of adductors may be all affected, or the arytenoideus may escape, or the thyro-arytenoidei may be affected alone. The arytenoideus may, though rarely, be paralysed alone from hysteria or catarrh; this gives rise to a very peculiar appearance, a triangular chink being left at the posterior part of the glottis. Adductor paralysis may be mistaken for complete bilateral recurrent paralysis, as the cords do not come to the middle line on attempted phonation; attention must be directed to the action on deep inspiration, for in recurrent paralysis the cords will not move, but in incomplete adductor paralysis they will now move further outwards; in complete adductor paralysis there is no difficulty, for the cords are extremely abducted well away from the cadaveric position of recurrent paralysis. These adductor paralyses thus form a marked contrast to the group of abductor palsies; they produce a prominent symptom, aphonia, which attracts early attention, they are not due to serious organic disease and they are not in themselves dangerous to life.

FIG. 3.



V., Adductor paresis; all the adductors affected; phonation. VI., Adductor paresis; arytenoideus unaffected; phonation. VII., Paralysis of the thyro-arytenoidei, phonation. VIII., Paralysis of the arytenoideus; phonation.

In conclusion, I would again remark that in a knowledge of the appearance and of the causes of laryngeal paralyses we have an important aid to diagnosis in many obscure cases, an aid which the practitioner can by no means afford to neglect.

THE CONDITIONS AFFECTING THE DEVELOPMENT OF FLAGELLATED ORGANISMS FROM LEISHMAN BODIES AND THEIR BEARING ON THE PROBABLE MODE OF INFECTION.

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IN THE LANCET of July 23rd, 1904, p. 215, I first described the development of flagellated organisms from Leishman bodies, and in the November number of the *Quarterly Journal of Microscopical Science* I described and illustrated the changes more fully, tracing the development day by day, flagellated forms being only found, as a rule, after three or four days. In one case, however, fully developed forms were found in 24 hours and these appeared to be more like trypanosomes than those which appeared on later dates in the other cultures. This suggested that in the case of the more rapid growth the conditions must in some way have been unusually favourable and led me to carry out a very long series of experiments to determine the optimum conditions for the development in the hope that if found they would throw light on the probable mode of infection of the diseases caused by this parasite. For many months no progress other than that of a negative nature resulted, but recently an important advance has been made which appears to me to indicate strongly the direction in which the solution will be found of the difficult question of the manner in which the infection of the disease is conveyed from one person to another. I propose in the present paper briefly to record the general results of my attempts to cultivate the parasite under different conditions and then to discuss the bearing of these on the probable mode of infection of the disease.

My observations on the development of the flagellated forms have been already confirmed by my assistant, Dr. G. C. Chatterjee, Lieutenant S. R. Christophers, I.M.S., and by Major W. B. Leishman, R.A.M.C., and Captain C. J. B. Statham, R.A.M.C., and I have very little to add to the descriptions I have already published except some minor details. In the first place I should have mentioned the very marked vacuolation which is present from the first enlargement of the organisms up to the flagellated stage in varying degrees, being most marked in large and broad forms, and least in the longest, thin, and most completely developed ones. Another interesting point which I noted early in the inquiry, but the full significance of which was only gradually worked out, is a well-marked eosin-staining body of a round or oval shape, which usually appears on the second day, and is commonly situated between the macro- and micro-nucleus. When the stage of elongation is reached it travels up to what will become the anterior or flagellated end of the now pyriform double body and carries with it the micronucleus. When the flagella first appear they are seen as short processes projecting from these eosin bodies, and at this stage they cannot as a rule be traced to the position of the micronuclei. In the later stages, especially in the separate completely developed long flagellate forms, this body is absent, while in nearly complete stages I have frequently seen it either partly or completely extruded from the organism, and then the flagella can be traced close up to the micronucleus. It is possible that this extrusion may have been due to pressure in preparing the film, but I am inclined to think that it is a part of the developmental process, although I am unable to explain its significance. This eosin-staining body has been independently described by Major Lenehan, whose term "flagella body" appears to be a good one. A more marked feature of my long experience is the uncertainty of the development of fully flagellated forms being obtained in the cultures in citrated blood, although the earlier stages are nearly always seen. Success depends very largely on the number of parasites found in the spleen blood preparations used, only those in which they are numerous, which form a small proportion of the whole, as a rule giving good results. This is especially the case when the parasites are large and fat, the small shrunken ones, commonly met with in very chronic cases of the disease with very large hard spleen, seldom developing at all well. Again, if any micro-organisms are present and multiply rapidly the protozoal parasites degenerate and disappear. This applies especially to the presence of cocci, which are commonly found in the spleen and rarely even in the peripheral blood during the latter stages of the disease, and especially when cancrum oris is present, owing to an invasion of the system due to diminished phagocytic power of the blood, as I have several times demonstrated. On account of these various reasons I have only obtained fully developed flagellate forms in ten out of 60 attempts at culture in citrated bloods. Another marked feature is that in most of the successful cases the number of flagellated forms has been very small in proportion to the total number of the original and partly developed parasites present, multiplication of the smaller forms being a more marked feature than the pairing and elongation into flagellated forms, so that it is often necessary to examine several films carefully to find any of the latter. It is evident from this that the citrated blood is more suitable to the simple multiplication of the organisms than to their ultimate development into flagellated organisms.

The facts just recorded led me to believe that citrated blood was not the optimum condition for the flagellation of the parasites, so repeated endeavours were made to discover a more favourable medium in the hope that it would furnish a clue to the natural conditions under which the organism exists outside the human body. The results obtained so far may be briefly summarised under the following heads.

Citrated spleen blood added to sterile distilled water.—Several experiments have been made by this method but no development has ever been obtained, although in controls of the same spleen bloods in citrated normal salt solution development has been traced. As a rule the organisms disappear in three or four days in sterile water, but in one case small undeveloped forms were found as late as the ninth day, a very large number having been originally added. If, however, the water is not sterile and bacilli or cocci develop the protozoal parasites rapidly die out. As they are not likely to find their way into sterile water in nature it does not appear at all probable that water is the medium in which they live outside the human body, although they might survive long enough in it to be swallowed by some form of animal life.

Different strengths of salt solution.—The fact that flagellation of malarial parasites was found by Ross to be brought about by concentration of the blood in the mosquito's stomach naturally suggested the trial of different strengths of salt solution as a culture medium for Leishman bodies. 5 per cent. citrate of soda dissolved in NaCl solutions of strengths varying from 0·5 to 1·4 per cent. were used. The greatest strength appeared to be unfavourable to the development, but variations of from 0·5 to 1·1 did not seem to make any difference, possibly owing to the presence of such a large percentage of citrate of soda.

Anaerobic conditions.—Of greater interest and importance is the effect of excluding oxygen from the cultures, which was done either by placing the tubes in an atmosphere of hydrogen gas or by placing them in Buchner's tubes and absorbing the oxygen by caustic soda and pyrogallic acid. In either case the result was the same, for no development was ever found to take place under anaerobic conditions, although in controls of the same citrated blood in ordinary atmosphere good development occurred. On the other hand, the absence of oxygen did not appear to have any deleterious effect on the organisms, for they could be found in good staining condition up to the fourteenth day in one instance, although in the control development and subsequent degeneration had occurred before that time. Moreover, in another experiment under anaerobic conditions no development had taken place at the end [illegible] well marked in the control, but [illegible] tube under ordinary atmosphe[illegible] commenced and [illegible] I. another case in a[illegible] took place in three [illegible] atmospheric oxygen very rapid and complete development in two days occurred, unusually long flagellated forms being obtained. It is clear from these experiments that anaerobic conditions while hostile to the development do not destroy the vitality of the organism.

In oxygen.—If the natural habitat of the organism outside the human body is in the circulating blood of some other form of animal life, then it would appear to be probable that the bottom of a test-tube containing citrated blood and covered with half an inch or more of fluid would not contain sufficient oxygen for the full development of the organism. In order to test this the supernatant fluid has been removed after the spleen blood has settled down and the tubes placed nearly horizontally to allow as much aeration as possible but no improved development was obtained in this way. Further, a number of cultures have been made by placing the citrated blood tubes in a bell jar and passing a current of oxygen through until the emergent current lit a glowing piece of wood. The results again have been negative, no difference in the rate or degree of development having been noted in these tubes as compared with the controls. It would appear from this that the abundant supply of oxygen, such as is present in circulating blood, is not specially favourable to the development of the flagellated form of the organism.

In acidified citrated blood.—The above attempts to find the optimum conditions of development having all proved unsuccessful I next turned my attention to the conditions obtaining in the stomachs of biting insects, and especially of bugs, the latter in particular appearing to me to be specially likely carriers of the disease, for the reasons to be given presently. On adding fresh blood to the stomach contents of bugs which had fed on blood within a day or two I found that no immediate crenation or dissolution occurred, so that the amount of salts present did not appear to differ widely from that of human blood. The contents of their stomachs, however, consisted of a grumous material, staining of a reddish-brown colour with Romanosky's method, and in most of the insects examined the red corpuscles had lost their shape and been broken up. The reaction was markedly acid, and this observation led me to try neutralising and acidifying my citrated salt solutions either before or after adding the spleen blood containing the parasites to the culture tubes. On adding weak hydrochloric acid to render the citrate solution slightly acid and resterilising by heat I found the solution had again become alkaline owing to some chemical decomposition. The use of citric acid got over this difficulty. On using such an acidified medium controlled by another culture of the same blood in the ordinary alkaline citrate solution (which I found has a somewhat greater degree of alkalinity than that of the human blood) very different results were obtained. Thus in the first attempt as much development took place in the acidified solution in 12 hours as is usually found in a successful culture in the alkaline medium after two days. At the end of 24 hours, however, I was disappointed to find that the development had not continued at the same rate which was discovered to be due to the solution having again become alkaline. On acidifying once more with citric acid development proceeded well and on the third day flagellated organisms were obtained and on the following day were numerous. In a control in alkaline solution only a very slight degree of development occurred—namely, slight enlargement—but no double elongated or flagellated forms appeared. In a third tube of the same spleen blood which was just neutralised the earlier stages of development only took place, while in a fourth tube which was acidified and placed in oxygen good development with the formation of flagellated bodies took place, although they were less numerous than in the acid tube in ordinary air, no advantage having been obtained from the excess of oxygen. In a third experiment portions of the same spleen blood were placed in three tubes of citrated normal salt solution. The first was allowed to remain alkaline, as in all the former cultures, and no development at all occurred, the number of parasites originally present [illegible] s just faintly acidified [illegible] occurred in this either. The third was [illegible] adding twice as many [illegible] ormal citric acid as was required to just neutralise [illegible] tube and the tube was placed under anaerobic [illegible] No development whatever took place by the end of the third day. On now placing the tube in the air very marked development of elongated pairs, some with commencing flagella, was noted on the following day and one day later very numerous fully elongated narrow flagellated forms were seen, some in pairs and some already separated. In fact, these forms very closely resembled the exceptionally long and complete forms which developed in my first successful cultures in 24 hours and which I had been striving to obtain again for the last nine months. It now appeared to be clear that the acid medium was far more favourable for the development than the alkaline one, for in three successive cases it had given very good results while the control alkaline cultures showed little or no development under otherwise similar conditions. That the acid medium is very favourable to the development of the flagellated forms as opposed to simple division and multiplication of the small oval spleen form of the parasites is confirmed by another very marked feature of these acid cultures. It has already been mentioned that in the alkaline medium rapid multiplication of the small forms is a more marked feature than the development of flagellated organisms and that when the latter are found in small numbers very much more numerous undeveloped and partly developed forms will be present, including many of the smallest size. On the other hand, in the acid medium when the elongated pairs and flagellate forms have appeared the small oval forms are either very few in numbers or even absent altogether. This striking fact strongly indicates the acid medium to be the optimum for the flagellation of the parasite and also points to the acid-containing contents of the stomachs of some blood-sucking insect as the place in which the parasite undergoes the extra-corporeal stage of its existence. Such an acid medium is also unfavourable to the growth of bacteria, which I have shown are very inimical to the protozoal parasites under consideration. As a matter of fact, I have found the stomach contents of bugs to be, as a rule, sterile and free from bacteria, although they may be occasionally present in large numbers. Further, on two occasions I have mixed the contents of the stomach of bugs, which had recently fed, with spleen blood containing the parasites, a portion of the former having been microscopically examined to exclude the previous presence of the parasites. No development has yet been obtained in this way but it has been found that the parasites remained in good staining condition for several days under these conditions, while as the controls did not develop in alkaline citrated blood and in one case but very few parasites were present the absence of development is not surprising. The experiments at least show that the conditions are not inimical to the continued life of the parasites, but that is all that can be said at the present time.

The above facts taken as a whole strongly indicate that the stomach of some blood-sucking insect is the most likely place in which to find the natural development of the extra-corporeal stage of the parasite and that some such insect is the most likely carrier of the infection.

The nature of the parasite.—The exact nature of the flagellated organisms which I have obtained from Leishman bodies is still uncertain. On the one hand, in favour of their being stages of a trypanosoma are the facts that they so closely resemble the various forms of trypanosoma Brucei described by Rose Bradford and Plimmer, to which may be added the fact that most of the forms obtained by Dr. Thiroux in cultures of the trypanosoma Paddæ, which are figured in the Annales of the Pasteur Institute of February, 1905, resemble very closely in appearance forms which I have obtained in my cultures. On the other hand, the failure of all observers to find any trace of an undulating membrane as yet is against this view and points rather to the organism being of the nature of a hepatomonas, but I observe in the figures in S. Prowazek's paper on the Hepatomonas in the *Arbeiten aus dem Kaisrerlichen Gesundheitsamte* that he repeatedly figures a double flagellum arising from a single micronucleus, a condition which I have never seen in any of my numerous specimens. It can only be said at present that there is nothing known incompatible with the organisms being stages of a trypanosome but proof that it is so is still incomplete and it may possibly prove to be some other form of flagellate when the forms naturally developed outside its human host are discovered.

The probable mode of infection in kala-azar and cachexial fever.—In 1897 in my report on the Assam epidemic fever kala-azar I recorded a large amount of evidence to show that the mode of communication of the disease was essentially a house infection. Thus, when tracing the spread from village to village it was nearly invariably found that someone with the fever had gone to reside in a previously uninfected village and that the next cases occurred in the household in which he lived. Further, in the rare cases among Europeans some native employé in the house had suffered from the fever before the residents were attacked. Since that time I have obtained from various sources several most instructive histories bearing on this point, which it is very necessary to record in order that the danger of infection may be avoided in the future. It is not essential to give in detail all the histories of which I have notes as they are only too similar to each other. It will suffice to say that in three cases in which there was much kala-azar in the coolie lines the infected Europeans either frequently had coolie women brought to their bungalows at night or visited them in their own lines. In three more cases the Europeans each cohabited with a native woman, each of whom was actually suffering from kala-azar and in two of these cases the women were known to have eventually died from the disease. What is still more conclusive is the fact that in two of these latter cases there was no other source of infection within several miles, as the coolie lines at these places were quite free from kala-azar at the time. The importance of recognising and avoiding such a source of infection is my reason for recording these undoubted facts. One other point must be referred to in this connexion—namely, that the moving of all the healthy people out of infected lines during the cold season, when I found new cases to be at a minimum, has proved a complete preventive of the disease as long as no infected people are admitted to the healthy lines. The line first moved at my suggestion over eight years ago has remained quite free from the disease to the present day and that, too, in spite of the fact that it is situated only half a mile away from the old infected one which has now been almost depopulated by kala-azar. It will be noted that this distance is not absolutely beyond the range of mosquito flight.

The above data refer to the Assam epidemic form of the disease but I have also some facts pointing to a similar house infection applying to the endemic form of the disease in Bengal which I have named "cachexial fever." During the last year I have been able to examine all cases of this disease admitted to the European General Hospital of Calcutta and have been much struck with the frequency with which more than one member of the same family have been admitted for cachexial fever at or about the same time. Thus within this period examples of father and child, mother and child, and several instances of two children of the same family being simultaneously affected have been met with among Europeans. All these facts bear out my original contention that the disease is a communicable one and that it is usually necessary to live for a time at least in the same house with an infected person in order to contract the disease. Further it appears probable in the light of the above facts that sleeping in the same bed is especially likely to lead to contraction of the disease, for this would account for its spread among children of the poorer European and Eurasian classes as well as in the Assam cases referred to above.

When we consider the above facts in view of my experiments proving that an acid medium is best suited to the development of the flagellated forms of the parasite and remember that such an acid medium is supplied in the stomachs of many blood-sucking insects, then we are forced to the conclusion that the most likely mode of infection is through the means of some such biting insect. But as to the most likely kind of insects to carry the infection we are on more uncertain ground, for experiment alone can determine this. Nevertheless, it is worth while to discuss which are the most probable kinds in order that precautions may be taken against them without waiting for absolute proof to be obtained. The choice will obviously depend on what we believe to be the most frequent avenue of escape from the body for the parasites. Major C. Donovan, I.M.S., describes forms with a single chromatin body as occurring in the peripheral blood, but in his coloured plate published in THE LANCET,[1] and from his descriptions I have been unable to see how he distinguishes these from ring-shaped malarial parasites which they so closely resemble. No other observer appears to have been able to find any such form in the peripheral blood. I have repeatedly taken several cubic centimetres of blood from a vein during high fever, both by day and at night, in cases in which the parasites had been found in large numbers in the spleen by puncture and after separating the bulk of the red corpuscles rapidly with the centrifuge have again centrifuged the fluid part of the blood. In this way very numerous blood plates can be found in the second sediment and any Leishman bodies would be found with them, but even by this method I have failed to find any parasites in the peripheral blood so they clearly cannot exist there in any numbers *unless*, indeed, they are present

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[1] THE LANCET, Sept. 10th, 1904, p. 744.

[illegible] Lieu- [illegible] re fre- [illegible] on the [illegible] s from [illegible] of the [illegible] of the latter are well adapted for the development of the parasites I have indicated above, and although so far I have failed to find the parasites in bugs from the beds of patients suffering from cachexial fever in Calcutta and from kala-azar in Assam (the latter having been kindly supplied me by my friend Mr. J. Dodds Price, although they could not be examined until after a four days' journey), still I am of the opinion that bugs are the most likely carriers of the disease. That they abound in the wooden beds of natives, especially in Bengal and Assam, is quite certain while they are also a pest in the poorer native and E [illegible] native hospitals. Further work [illegible] very necessary, but I venture to [illegible] the bug or flea being the usual carriers of the disease is sufficiently great to render it advisable to take steps to [illegible] his way. [illegible] bility of [illegible] any in- [illegible] bed or [illegible] common [illegible] rable in the case of children who are very susceptible to the disease and in whom it is also exceptionally fatal, children under ten years in particular but seldom recovering from it.

In conclusion, I desire to express my thanks to Lieutenant-Colonel Harris and Lieutenant-Colonel Drury, I.M.S., for their very kind permission to make use of their cases and to Captain D. McCay, I.M.S., and Captain J. W. D. Megaw, I.M.S., for much help in examining cultures and for many valuable suggestions.

Calcutta.

A CASE OF WIDESPREAD ULCERATION OF SKIN AND CONNECTIVE TISSUE.

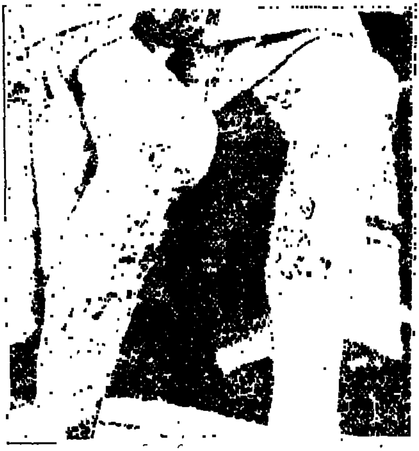
BY W. BERTRAM WATSON, M.D. LOND.,

HONORARY PHYSICIAN TO THE YORKSHIRE HOME FOR INCURABLE AND CHRONIC DISEASES, HARROGATE.

IN this paper it is proposed to give some short notice of a case of ulceration of skin and connective tissue which has recently come under my observation. The patient was a man, aged 61 years, employed in business, and came under my care in August, 1904. But for a somewhat severe attack of influenza 16 years and of pleurisy six years previously, he described himself as having been a healthy man up to the onset of the skin affection shortly to be described. He had never had syphilis and there was no family history of tubercle.

With regard to the skin affection, the patient gave the following history. In 1900 he noticed a small lump in the left buttock which slowly and painlessly increased in size and was followed in March, 1901, by a second lump which developed a little higher and nearer to the spine. Both of these ultimately burst. Shortly afterwards lumps began to form in the left groin and in August, 1901, recourse was had to surgical treatment, the lumps in the back and a number of enlarged glands from the groin being removed and the parts scraped by the late Mr. T. R. Jessop of Leeds. The result of this treatment was not satisfactory and ten weeks later the scraping was repeated. After a few months these places healed, but coincident with the improvement in these situations the disease showed itself in other localities. The course from now onwards was a progressively downward one. The skin gave way in a number of places at the back of the right chest and in the loins; early in 1902 he had considerable pain in the right shoulder and arm which was followed by inflammation of skin which broke down in numerous places and formed running sores. The same process commenced in the skin of the right leg in April, 1903, and the left leg became involved in July of the same year. From 1902 he had been compelled to lead a life of invalidism, could walk only with difficulty, and had considerable pain. His general health suffered in consequence and the body weight fell from 11 stones 7 pounds in 1900 to 9 stones in August, 1904.

The accompanying illustration will give some idea as to the character and extent of the skin lesions in August of last year. The patient could move only with considerable pain. The complexion was sallow and the blood, as evidenced by the colour of the lips and conjunctivæ, was deficient in hæmoglobin. Contrary to what one would have anticipated there was no evidence of lardaceous disease and the lungs, kidneys, and [illegible] no situation were th [illegible] It is not necessary to [illegible] tion of the skin. Many of the ulcers were deep and their bases where visible were seen to be irregular, yellow, and unhealthy. They were in varying degrees of inflammatory activity, with thin, ragged, undermined edges, and exuding thin, dirty-white pus. Some, which had entered into a quiescent state, were filled with yellowish-white grumous material. Between the skin and the bone over the shin of the right leg were several soft, semi-fluctuant tumours. On the back were scars indicating that in these situations the process of repair had been successful. With the presence of sinuses and numerous bunches of flabby, unhealthy granulations the character of the lesions, which was the same in all the localities affected, presented a complete clinical picture of tuberculous ulceration of the skin and connective tissues.



When the question of treatment came to be considered it appeared that the only possible chance of success was by means of radical surgical measures. Abscesses should be opened, fungating granulations and ulcers scraped, undermined skin cut away, and sinuses freely laid open. This would have required a series of operations under anæsthesia, which would have proved no light matter in a subject 61 years of age, exhausted by prolonged illness. This line of treatment, which was advised, was not, however, adopted as the patient was not willing to submit himself to further surgical interference. Accordingly he was kept at rest in bed and his constitution was strengthened by an abundance of good food, combined with cod-liver oil, syrup of iodide of iron in full doses, and other tonics. The ulceration of the skin was treated on ordinary antiseptic lines by means of [illegible] turn p[illegible] in a s[illegible] and b[illegible] chinosol, perchloride and biniodide of mercury being the antiseptics used. I found that Fairchild's enzymol was of special service in clearing away dead material in deep ulcers. Salicylic cream (acidi salicylici, two parts; acidi carbolici, one part; glycerine, ten parts) also proved useful. For dusting powder I made use of equal parts of iodoform and dermatol. On one occasion with the aid of local anæsthesia I incised one of the semi-fluctuant tumours over the shin, to which reference has already been made, and found it to contain curdy material. The effect of this treatment was remarkable. In a few days the ulcers cleaned and the purulent discharge diminished in quantity. The process of repair in the ulcerated surfaces was very rapid and after two months' persistent local disinfection the back, and after four months the whole of the areas involved (back, arm, legs) had completely healed. It is not necessary to give illustrations of the present condition as all they would show is extensive cicatrisation.

At the time of writing the patient is in excellent health. He is able to attend to business and his weight has increased to 11 stones. I thought that owing to contraction of cicatricial tissue walking would prove a difficulty and that it would be necessary to do something in order to free the action of the knee-joints. However, no further treatment of this kind has been required as their movement is quite free.

In conclusion, it may be mentioned that it was the opinion of the late Mr. Jessop, when he operated, that the case was tuberculous in origin.

Harrogate.

THE OPERATION OF JEJUNOSTOMY,

WITH A DESCRIPTION OF A NEW METHOD.[1]

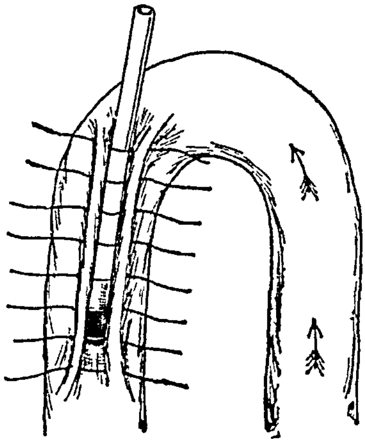
BY A. W. MAYO ROBSON, D.SC. LEEDS, F.R.C.S. ENG.,
SENIOR VICE-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

JEJUNOSTOMY is an operation occasionally called for as a means of giving relief and prolonging life in patients suffering from advanced disease of the stomach, where on exploration it is discovered to be impracticable to perform gastrectomy, gastrostomy, or gastro-enterostomy. The indications for the operation are (1) extensive cancer of the stomach too advanced for gastrectomy and in which no healthy spot of sufficient size on the stomach wall can be found for the purpose of gastrostomy or gastro-enterostomy; and (2) general cicatricial contraction of the stomach, simple in character and due to the swallowing of caustic fluid, in which the stomach has been so far damaged that it no longer performs its functions or even allows of the proper passage onwards of food. It has also been suggested in pronounced hyperchlorhydria in preference to gastro-enterostomy in order to avoid peptic ulcer of the jejunum, but as the latter is extremely rare and practically only associated with anterior gastro-enterostomy, a method that is being replaced by the posterior operation, I do not think surgeons generally will be likely to endorse Neumann's suggestions; nor do I think that it is probable that jejunostomy will be likely to replace other methods of securing rest in the treatment of gastric ulcer or of hæmatemesis, as Cackovie has suggested, and as has been adopted on one occasion with success by Mr. Willoughby Furner.

Modes of operation.—For any operation to be a success the bowel must be so placed that it will serve the two purposes: (1) to permit the passage onward of the bile and pancreatic fluid poured into the intestine above the artificial fistula; and (2) to allow of food being introduced through the fistula without fear of regurgitation, either of the food or of the intestinal contents. In my first operation, performed in 1891, I used a method which, though successful in prolonging life, was inconvenient and cumbersome and I need not mention it further.

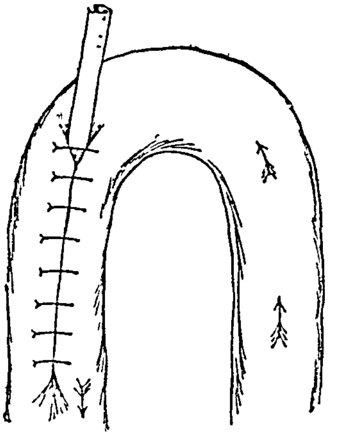
The operations now used are the following:—1. A modification of Witzel's method of gastrostomy in which a No. 12 rubber catheter is stitched into an opening in the jejunum and afterwards the catheter is buried in a groove in the bowel for a distance of about two inches, the line of suture being fixed to the abdominal wall (see Figs. 1 and 2). 2. Maydl's method of dividing the jejunum, implanting the proximal cut end into the distal portion a few inches from the original line of section, the open end of this section being fixed to the skin (see Fig. 3). 3. The operation which I have performed and which I believe is new. It consists in taking a loop of the beginning of the jejunum just sufficiently long to reach the surface without tension; the two arms of the loop are short-circuited about three or four inches from the surface, the short-circuiting being done either by means of sutures around a decalcified bone bobbin or by sutures alone; personally I prefer the former. A small incision is then made into the top of the loop just large enough to admit a No. 12 Jaques catheter, which is inserted and passed for three inches down the distal arm of the loop; this is fixed to the margin of the incision in the gut by a silk or Pagenstecher's suture and the entrance of the tube into the bowel is further guarded

FIG. 1.



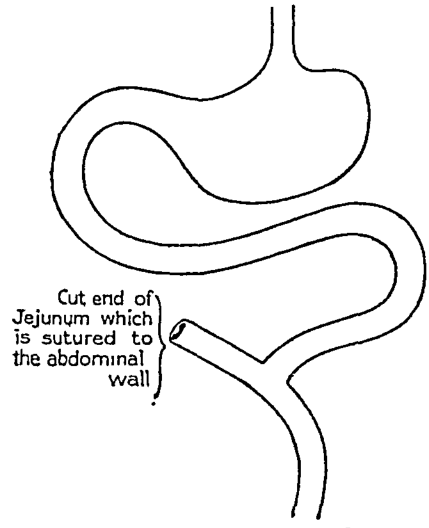
A method of performing jejunostomy by a modification of Witzel's operation for gastrostomy. First stage.

FIG. 2.



Second stage of Fig. 1.

FIG. 3.



Jejunostomy by Maydl's method.

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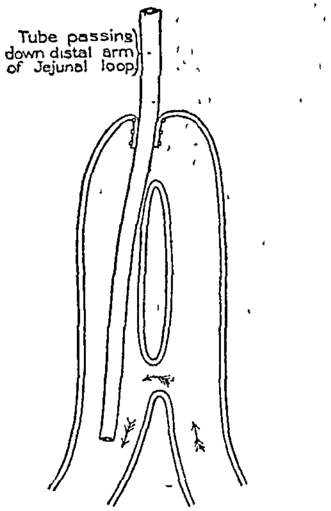
[1] A paper read before the Royal Medical and Chirurgical Society on April 11th, 1905.

by two purse-string sutures, one over the other. The top of the loop is fixed to the skin by one or two stitches and the wound is closed. The patient can then be fed at once with some peptonised milk and brandy. The whole operation can be done in from 15 to 20 minutes and with very little visceral exposure (see Fig. 4). Should the patient be too ill to bear the little extra time occupied by the short-circuiting the tube may be inserted as directed and surrounded by two or three purse-string sutures, a proceeding which can be accomplished in a few minutes. In this case the loop of bowel must not be brought to the skin but had better be fixed by sutures to the peritoneal margin and the aponeurosis in order to leave part of the lumen of the attached loop within the abdomen for the direct passage onwards of the intestinal fluid with the bile and pancreatic secretion. The following case affords an example of the relief that may follow this operation.

FIG. 4.



Jejunostomy by the author's method, now described.

The patient, a woman, aged 46 years, was sent to see me on April 8th, 1904, when she was suffering great pain, which came on at frequent intervals, and she was vomiting five or six times a day; in fact, whenever she took food it was shortly afterwards vomited, the vomit being at times coffee-ground in character. A tumour in the epigastrium of about the size of a large flat orange could be readily felt and at short intervals the whole stomach became hard and rigid. No enlarged glands could be felt in the groin or above the clavicle. There was no tenderness on pressure and the hard nodular tumour was suggestive of cancer. Though she gave a history of indigestion and loss of health for eight years or even longer the acute symptoms had only existed for six months.

On April 13th the abdomen was opened by a vertical incision through the inner margin of the right rectus, when the stomach was found to be involved in cancer from end to end, and as the glands along the lesser curvature were involved and others could be felt passing up through the opening in the diaphragm and a number also in the great omentum, it was *clearly impossible* to perform gastrectomy and impracticable to do a gastro-enterostomy. A loop of jejunum was therefore brought up and short-circuited by suture over a decalcified bone bobbin and a No. 12 Jaques catheter was inserted as just described. The wound was rapidly closed and the patient was put to bed in good condition, the whole operation only having occupied half an hour or less. A meal of peptonised milk was given at once and repeated every two hours. From the time of operation up to now the vomiting has never been repeated and she has completely lost her pain. *On April 28th, 15 days after* operation, I wrote to Dr. ——: "Mrs. —— has made a good recovery and is now able to take a little food by the mouth, though the feeding is chiefly by the tube. She is free from pain and the tumour is less." The patient returned home on the nineteenth day, having gained flesh and strength. After the patient's return home, on May 17th, I received a reply from Dr. ——: "Mrs. —— is doing wonderfully well. No pain or sickness, and taking as much food as she requires. She is very content and is, I think, gaining flesh and strength, so that the result is even better than you had hoped for and much better than I ever expected. She is very grateful." On Oct. 10th I had a letter *from another practitioner to say that Mrs. —— had come* under his care in North Devon and that she had expressed herself as much improved, though there was a tumour *manifest. The patient survived for a year; ascites and* secondary growths developed.

The case is of interest, not only from the relief afforded by jejunostomy but also as showing the sequence of cancer on ulcer—a not uncommon incidence—and one which might be prevented by timely intervention in the pre-cancerous stage. It is now clearly proved that ulcer of the stomach is a much more serious disease than was once thought and that many cases fail to yield to medical treatment, but I do not think that it is fully recognised how frequently cancer follows on ulcer. In no less than 59·3 per cent. of the cases of cancer of the stomach on which I have operated the history, as in this case, clearly points to antecedent ulcer, the cancer being a later manifestation.

The operation of jejunostomy, which has a mortality of from 10 to 20 per cent., should be very seldom called for and would *not be if the early diagnosis and treatment of* gastric cancer were insisted on; but it must be distinctly recognised that if we intend to do the best for these cases we must make the diagnosis before tumour or coffee-ground vomiting leaves no doubt as to the nature of the ailment. Whenever a patient at or after middle age complains somewhat suddenly of indefinite gastric uneasiness, pain, and vomiting, followed by progressive loss of weight and energy, associated with anæmia, the possibility of cancer of the stomach should be recognised and if no improvement takes place in two or three weeks an exploratory operation is more than justified. Our diagnosis can only be rendered certain by a digital examination, which may be effected through a small incision that can if needful be made under cocaine anæsthesia with little risk. Let us not forget that the early recognition of cancer of the stomach means not only *the probability of relief* but the possibility of cure in a certain proportion of cases.

Park-crescent, W.

THE SECOND DENTITION: ITS MEDICAL ASPECTS.[1]

BY HUBERT ARMSTRONG, M.D., CH.B. VICT., M.D. LIVERP.,

ASSISTANT PHYSICIAN, LIVERPOOL INFIRMARY FOR CHILDREN.

WHEN it is remembered that calcification begins in the case of the first permanent molar during the twenty-fifth week of embryonic life, and that the final eruption of the "wisdom tooth," the last of the permanent set to appear, does not take place till early adulthood, and when in connexion with the lengthy intervening period the importance of a sound dentition to the general health is considered, and *vice versâ* the necessity of good health in the insurance of a sound dentition, it is obvious that the interest in the second dentition is not confined to the dental surgeon but concerns very largely the medical profession generally. It is not necessary here to enter into a description of the normal permanent teeth nor of the dates and the manner of their eruption, matters which are familiar to all of us. A passing reference, however, may be made to the first molar appearing at the sixth to seventh year. A friend informs me that the *extraction of this tooth* for caries and alveolar abscess was the most frequent operation which he was called upon to perform among some hundreds of youths in a naval training school to which he was formerly surgeon-dentist. This emphasises the need of a periodic examination for any early disease of the six-year-old molar and its prompt treatment when discovered. Treatment is unfortunately often postposed until too late through the parents' mistaken idea that since the tooth has not displaced any of the temporary series it consequently belongs to that set. Fortunately, if the tooth has to be extracted its loss is not very greatly felt and the later molars moving forward into its place cause none of the irregularity which attends the too early removal of a milk molar. The subject lends itself naturally to division under three headings.

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[1] A paper read before the Liverpool Medical Institution on April 27th, 1905.

1. *General or local disease as a cause of faulty dentition.*—(*a*) *General.*—The influence of rickets in retarding the eruption of the milk teeth is a matter of every-day observation and the second dentition may be similarly affected. Doubtless the majority of rickety children have outgrown their complaint and with it the inhibitory influence by the time the permanent teeth are due, but I have seen patients as old as five years who had not yet cut even a single milk tooth, and it is obvious that they would have to compress a good deal into a short period if they were to be up-to-date with their permanent successors. Rickets, too, causes overgrowth of the jaw, with consequent crowding or malposition of the teeth, and occasionally total absence of one or two has the same origin, but these are both of rarer occurrence. The teeth themselves are often tapering and occasionally notched, and the enamel, though smooth, being translucent and thin they are readily prone to decay.

Cretinism exercises in an even more marked degree a similar retarding influence. An excellent example of this is mentioned incidentally in the recently recorded case[2] of a girl nine years old who before treatment had no signs of her second dentition.

Hereditary syphilis is said to have an opposite effect—accelerating the advent of the teeth, but while it is undoubtedly the case with the first dentition I have not been able to satisfy myself that this is not one of those statements passed on from one to another and yet devoid of a reasonable foundation. I do not see enough cases of hereditary syphilis at the right age to justify a complete denial but I may add that several dentists whom I have consulted on the point have likewise refused to commit themselves to a definite opinion. In something under 50 per cent. the teeth are affected in the manner described by Hutchinson and now familiar to us as corroborative evidence of the disease under the name of "Hutchinson's teeth." Shaped like the end of a screwdriver, the upper central incisors, which are the only ones having any diagnostic significance, slope towards (sometimes away from) each other, are dwarfed laterally and vertically, and along their biting edge are hollowed out crescentically through the rapid wearing out and chipping away of the deficient enamel. While ascribed by some to syphilitic alveolar periostitis, by others to the use of mercury, it must not be forgotten that similar deformity may be produced by other disease in infancy and so great an authority as Henoch considered[3] the result one of rickets rather than that of syphilis at all.

Acute disease such as the exanthematous fevers (according to Smale and Colyer[4] particularly measles), severe attacks of bronchitis or pneumonia, and the more chronic disturbances of nutrition due to improper feeding occurring during the first two years of life when calcification is proceeding in the tips of the incisors and canines and the crowns of the first molars leave permanent results in the enamel with a disastrous sequel in the after-history of these teeth. The bicuspids and other molars, in which calcification does not begin till the third year and after, only suffer, and that less frequently, when the illness occurs after that date and then the incisors, &c., escape. The effect is a thinning or even a total disappearance of the enamel, leaving pits and grooves in these "honeycombed" teeth which invariably become the seat of early caries. Here we have an argument, if any now be needed, against the practice of exposing young children to the infection of the exanthemata "in order to get it over" and in favour of maternal or, at any rate, a rational mode of infant feeding. In the earlier attacks the germs of the later teeth may suffer such nutritional changes as to lead to their destruction and consequent absence of the corresponding tooth. Serious disease in infancy is said to cause sometimes crowding and irregularity of the teeth by arresting the growth and development of the jaw, a selective phenomenon of which I have no personal experience. At a later period acute, or even chronic, illness with the exceptions mentioned does not appear to exercise any inhibition on the eruption of the teeth.

Mercury is not often given now to the point of salivation or worse and I agree with those who ascribe defects in the teeth to the constitutional complaint for which the drug may have been exhibited rather than to its use.

(*b*) *Local.*—If retro-nasal adenoids may be considered a local disease and not a manifestation of a diathesis they fall into this category. It is held by many that the consequent mouth breathing, or rather the obstruction to nasal respiration—there are various theories—produces a partial vacuum in the nares which draws upon the palate, causing a vaulted and saddle-shaped arch with crowding of the teeth in the bicuspid region or vaulted and V-shaped arch with protrusion of the incisors. If it be true here is one more indictment in the already overflowing charge-sheet of this disease, but this condition is not found in every case of adenoids and the arched palate is often present without that complication. I know I am on debateable ground but personally I am inclined to lay both the adenoids and the malformation when they are coincident to the account of the lymphatic diathesis. It appears to me that it is chiefly in children of that type that the two conditions are found together and I should term the adenoids a manifestation of the diathesis and the arched palate and crowded teeth a result of general want of "tone" in development and growth. More indisputable and quite preventable local causes of deformity are thumb- and lip-sucking which force outward the upper alveolus with subsequent protrusion of its incisors, and finger-sucking, which acts similarly on the lower jaw, and if for no other reason these habits, together with the use of the "comforter," should be discouraged in young children. Alveolar abscesses in connexion with the milk teeth and too early extraction of the latter lead to irregularities of their permanent successors, the one by interfering with the follicle or growing tooth, the other from the travelling forward of the first molar which ensues leaving no room for the second bicuspid, pointing the lesson that the deciduous teeth need watchful attention as much in the interests of the second dentition as their own. Abscesses also cause hypoplastic defects in the teeth developing in their immediate [illegible]. [illegible] those determined more generally by the exanthemata.

It is beyond the range of my subject to discuss the many congenital abnormalities, such as gemination, enamel nodules, supernumerary teeth, and variations in the number of cusps and roots and their positions, or others due to causes beyond medical control. I pass now to the converse of the first section.

2. *Faulty dentition as a cause of general or local disease.*—The eruption of the permanent teeth is a physiological process and as such ought to be accompanied by few, if any, symptoms beyond the loosening and dropping out of the milk teeth which are displaced. There is no doubt, however, that a little discomfort and restlessness at night, together with a trivial rise in temperature and some [illegible] in the morning the child's pillow is found [illegible] from the mouth or even blood-stained [illegible] the gums, are symptoms which at times accompany [illegible] otherwise normal dentition, and if they are not caused by it I have often been unable to find any other more satisfactory explanation of their presence. Pain, due to stretching of nerve filaments or to small cracks and fissures in the gums, is not uncommon, though never so severe as that of an exposed nerve in a carious tooth. A very frequent source of trouble, and at times quite serious ill-health, is found, particularly in hospital patients, in the incomplete detachment of the remnants of the first dentition. It may be due to simple want of courage in the child or perhaps to some consequence of our latter-day civilisation—for instance, a diminished use of hard food which would assist in dislodging the fragments—but, whatever the cause, it seems to be increasingly frequent to find the milk teeth, and especially the molars, retaining their adhesion to portions of the alveolar mucosa long after the supplanting bicuspid has arrived. Food accumulates and decomposes around these fragments and their short but sharp fangs cut into the cheek, causing ulcers which naturally become septic, while the odour of the breath is extremely offensive. The dread of having a tooth drawn is one of the most firmly implanted characteristics of the human being (of any age!) and I can only ascribe it to this factor, rather than to neglect or indifference, that I am constantly seeing cases of ulcerative

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[2] Kendal: Case of Precocious Puberty in a Female Cretin, Brit. Med. Jour., Feb. 4th, 1905.

[3] Henoch: Lectures on Children's Diseases, vol. i, p. 123, New Sydenham Society.

[4] Smale and Colyer: Diseases and Injuries of the Teeth, p. 111.

stomatitis with this origin of weeks' and even months' duration. Needless to say, from the constant swallowing and inhalation of such poisonous stuff as the mouth is harbouring the patients are often seriously ill. The neighbouring glands are swollen and painful but, curiously, rarely suppurate, and further complications may ensue, such as necrosis of the jaw, while in weakly children cancrum oris is said to follow, but in my experience this has never occurred. Fortunately, as a rule, rational treatment results in a very speedy cure. Short of infective stomatitis the same cause in other children sets up the dyspepsia, with anæmia and general debility in its train, which is the common sequel of inefficient mastication whether due to any dental pain or, as in later life, to the absence of the means essential to its performance.

I must recur here to the question of adenoids, because there is another theory of their causation in which the growths are compared with those of weeds in a stagnant ditch. On this assumption, which is the exact reverse of the one previously mentioned, the vaulted palate is the primary mischief and the adenoids secondary. The etiology of adenoids is a wide subject; it will suffice here to have mentioned the two theories which have a bearing on dentition, with the comment that neither carries conviction to my mind.

Dentigerous cysts and odontomes, the latter a very rare form of tumour occurring only in the lower jaw, are the result of perverted development and need merely be glanced at, while an occasional gumboil is not of much moment.

The diseases actually due to the second dentition we find then are not many. The importance, however, of a sound dentition in after-life has already been mentioned. The moral for us is that, whatever the dentist may accomplish, *nature only provides us with one set of teeth for that period*, and that it behoves us therefore to do all in our power during its development and eruption to remove any obstructions in the way of nature's satisfactory performance of her task.

3. *The influence of dentition upon concurrent general disease.*—This, which is not very great, is manifested chiefly in the neuroses, where occasionally one comes across cases upon which dentition has an accelerating or aggravating effect. The most obvious example is in epilepsy, in which one finds that the eruption of the teeth at times initiates the onset and at others increases the frequency of the fits. It must be added, however, that in children with unstable nervous systems very slight irritations may upset the balance and convulsions are never produced in healthy children [illegible] ea may [illegible] pecially [illegible] dicated [illegible] I have [illegible]

Many of the remarks under the last two headings are equally, or even more, applicable to the first dentition and to diseases of the teeth (e.g., caries) when independent of dentition, but I have excluded reference to these as irrelevant to the present discussion.

Liverpool.

TYPHOID FEVER AND PREGNANCY, WITH SPECIAL REFERENCE TO FŒTAL INFECTION.

By H. T. HICKS, F.R.C.S. Eng.,
GYNÆCOLOGICAL REGISTRAR TO GUY'S HOSPITAL;
AND
HERBERT FRENCH, M.D. Oxon., M.R.C.P. Lond.,
MEDICAL REGISTRAR TO GUY'S HOSPITAL.

THE number of published cases in which investigation has been made upon the typhoid reaction in the fœtus is small. The following case is therefore recorded by the kind permission of Dr. W. Hale White, under whose care in Guy's Hospital the patient was.

The patient, aged 24 years, had had three children and two miscarriages. She was seven and a half months pregnant when she became feverish and complained of headache. The fever increased and at the end of a week she was drowsy, with flushed face and furred tongue. The pulse-rate was 110 per minute and two typhoid spots were seen on the abdomen. On the eighth day she was delivered of a live fœtus. There was no difficulty during the labour and there was no excess of hæmorrhage. The infant weighed four pounds and died three quarters of an hour after delivery. The mother seemed much relieved after her labour; her pulse became slower and her fever ran the ordinary course for nearly a fortnight longer. Her temperature ranged between 103° and 104° F. She was frequently sponged. On the twenty-first day of the fever she was worse, her pulse became weak, and she died on the twenty-fourth day of the disease. At the necropsy there were found typical typhoid ulcers throughout the ileum, cæcum, and ascending colon. Involution of the uterus had taken place normally. The placental site looked natural. The necropsy [illegible] after death, revealed [illegible] es were inoculated with [illegible] kidneys, and remained sterile after 48 hours' incubation at 37° C. Unfortunately no bacteriological examination was made of the maternal blood. Widal's test was carried out on the mother and on the child. Blood taken from the mother at the time of labour gave a positive reaction in 5 per cent. solution, a partial in 0·5 per cent. The fœtal serum reaction was negative even at 50 per cent.

Table I. is a summary of the cases of a similar nature that we have found recorded in the literature.

Among the problems which present themselves are the following:—

1. *Are typhoid bacilli transmitted from the mother to the fœtus?*—In ten cases (Nos. 5, 10, 11, 14, 22, 23, 24, 26, 27, and 30 in Table I.) typhoid bacilli were found in the fœtal organs or blood. In Case 26 it is just possible that the fœtus may have been infected after birth. In Bolton's and in Fordyce's cases (Nos. 14 and 5) the fœtuses were born dead. The bacilli must therefore have entered the fœtuses before birth. In 11 cases (Nos. 1, 12, 13, 15, 16, 18, 19, 25, 28, 29, and our own) the typhoid bacilli were looked for in the fœtus and not found. Thus in about half of the published cases of typhoid fever in pregnant women typhoid bacilli have passed into the fœtal blood. In such cases they were probably freely circulating in the mother's blood but we have no proof of this. In future cases particular attention should be paid to the bacteriology of the maternal, as well as of the fœtal, blood.

It is interesting to note that when bacilli have been found in the fœtus delivery has been late in the fever. The times are: Third week, third week, twenty-fourth day, sixth week, fourth week, twenty-ninth day, and twenty-fifth day of a relapse; whereas in those cases in which no bacilli were found the times were comparatively early—viz., tenth day, tenth day, third week, third week, and eighth day from the onset of the mother's fever. It would seem, therefore, that the *duration* of the typhoid fever is an important factor in determining infection of the fœtus. This raises the question whether, in cases where the fœtus is viable, labour should not be induced as early as possible in order to save the child from infection.

2. *Does the typhoid agglutinin occur in the serum of a fœtus born of a mother suffering from typhoid fever?*—That agglutinins do sometimes so occur in the fœtal serum is well established. Positive reactions have been found in seven cases (Nos. 1, 5, 6, 8, 9, 14, and 20 in Table I.).

3. *Can the typhoid serum reaction occur in the fœtus in which no bacilli have been found?*—The evidence that this can be so is slender. Out of the seven cases in which a positive serum reaction was obtained in the fœtus three only were examined for bacteria. In two (Nos. 5 and 14) typhoid bacilli were found. In [illegible] ooked for but not found. This is [illegible] It is so important that we give [illegible] his own words:—

> [illegible] collapsus et elle succombe a [illegible] s sont [illegible] ment. [illegible] ment [illegible] sang [illegible] ganes [illegible] uvoir [illegible] d'une [illegible] épart [illegible] de 200. Le liquide amniotique a également un pouvoir de 200.

TABLE I.—TABLE OF RECORDED CASES OF EXAMINATION FOR TYPHOID BACILLI OR FOR WIDAL'S TEST IN FŒTUSES BORN OF MOTHERS SUFFERING FROM TYPHOID FEVER.

Number of case.	Name of observer.	Month of pregnancy.	Fate of mother.	Fate of fœtus.	Widal's reaction in the mother.	In the fœtus.	
						Bacilli in tissues.	Widal's reaction.
1	Etienne, G.[14]	5	Died.	Taken out at necropsy on fifteenth day of fever.	Positive 1 in 150.	Looked for and not found.	Positive 1 in 200.
2	Dogliotti.[8]	—	—	—	Positive.	Not examined.	Negative
3	Planchu and Gallavardin.[25]	8½	Lived.	Born on ninth day of fever; lived.	,,	,,	,,
4	,, [26]	6	,,	Born alive on thirteenth day of fever; died.	,,	,,	,,
5	Fordyce [15]	5	Died.	Born dead in sixth week.	,,	Present.	Positive.
6	Chambrelent.[6]	8	Lived.	Lived. No record of day of fever when born.	,,	Not examined.	,,
7	,, [7]	8	,,	Born on fourth day of fever; lived.	,,	,,	Negative.
8	Griffiths.[20]	9	,,	Born after three weeks' fever; lived.	,,	,,	Positive.
9	Mosso and Danic.[24]	—	,,	—	,,	,,	(?) ,,
10	Freund and Levi.[18]	5	,,	Born alive in fourth week of fever; died.	Not examined.	Present.	Not examined.
11	Etienne, G.[13]	5	—	Born dead on twenty-ninth day of fever.	—	,,	,,
12	Bolton.[5]	3	Died.	Born dead during third week of fever.	Positive.	Looked for and not found.	Negative.
13	,, [5]	8	Lived.	Born alive during third week; died in 12 hours.	,,	,,	,,
14	,, [5]	5	,,	Born dead on twenty-fifth day of relapse.	,,	Present.	Positive.
15	Rous and Lacroix.[29]	8	,,	Twins, born alive on tenth day of fever; died in four days.	,,	Looked for and not found.	Negative.
16	,, [29]	8	,,	Born alive on tenth day of fever; died in three days.	,,	,,	,,
17	Batty Shaw.[4]	9	,,	The mother had typhoid fever at fourth to fifth month of pregnancy; the pregnancy continued and the child was born alive at term, and was fed upon the breast.	Positive at time of fever; positive at time child was born.	Not examined.	Negative, even after five weeks' feeding on mother's milk.
18	Kirton.[23]	6	—	Dead; no details.	Positive.	Looked for and not found.	Negative.
19	,, [23]	9	—	Dead; no details.	,,	,,	,,
20	,, [23]	9	—	—	—	Not examined.	Positive.
21	Stengel.[30]	—	—	—	—	,,	Negative.
	Earlier cases in which the details are incomplete; investigated before the days of Widal's serum test.						
22	Eberth.[11]	—	—	Born dead, third week of fever.	Not examined.	Present.	Not examined
23	Hildebrandt.[21]	6½	—	Born dead on twenty-second day of fever.	,,	,,	,,
24	Giglio.[19]	—	—	—	,,	,,	,,
25	Frascani.[17]	—	—	—	,,	Looked for and not found.	,,
26	Janiszeski.[22]	—	—	Infant, premature; lived 15 days.	,,	Present after death.	,,
27	Durk.[9]	—	—	—	,,	Present.	,,
28	Resinelli.[28]	—	—	—	,,	Looked for and not found.	,,
29	Fraenkel and Kiderlein.[16]	5	Died.	Dead; born seventeenth day.	,,	,,	,,
30	Érnst.[12]	9	Lived.	Date of delivery uncertain. The child developed a spotty rash suggestive of typhoid fever; died on the fourth day after birth. No intestinal lesions.	,,	Present.	,,

The figures after the observers' names indicate the numbers of the references at the end of the paper.

The occurrence of agglutinins without bacteria in the fœtus appears to us contrary to expectation. It is a point requiring careful and repeated confirmation. If true, the deduction must be that a positive Widal's reaction in the fœtus is no proof that the fœtus has, or has had, typhoid fever. It further raises the question:—

4. *How does the fœtus acquire agglutinin?*—Since it is well established that typhoid bacilli are sometimes found in the fœtus it would be reasonable to expect that the fœtal tissues, reacting to the bacillary invasion, would produce their own agglutinins, the fœtus behaving as though it were an independent individual. If bacilli were always found in the fœtal tissues when the fœtal serum gave a positive reaction, as in Fordyce's and in Bolton's cases (Nos. 5 and 14), there would be ground for presuming that the fœtus always produced its own agglutinins in this way. Etienne's case, if true, seems to support the opposite view—namely, that the serum reaction can occur in the fœtus without bacilli being present. It is a most important case but it needs confirmation. If confirmed it would show that agglutinin may occur in the fœtus without bacillary infection. If this be the case there are two possibilities: either the fœtus receives the agglutinin directly from the mother across the placenta; or, the fœtus reacts to the maternal bacillary infection, by producing its own agglutinins in response to stimulation by maternal toxins.

The passive transmission of the agglutinin from the mother to the fœtus would seem possible, since we know that the virus of measles,[1] of variola,[2] and of syphilis can pass, and also soluble drugs[3] such as mercury, potassium iodide, alcohol, and chloroform. If, however, this be the usual method by which the fœtus obtains its agglutinins it is difficult to explain (1) why the fœtal serum reactions should be absent in so many cases (viz., Nos. 2, 3, 4, 7, 12, 13, 15, 16, 17, 18, 19, and our own), in all of which the maternal reactions were positive; (2) why, in a case such

as that given by Batty Shaw (No. 1
remained in utero for four months after
of typhoid fever, should give a negati
mother's serum gave a strong reactior
the fever and also at the time of the ch

We would further draw attention t
negative fœtal results have nearly all occurred in the cases in which early delivery had taken place. In the negative cases the times were: ninth day, fourth day, thirteenth day, tenth day, tenth day, eighth day, third week, and third week of the fever; whilst positive results were obtained at the *sixth week, third week, third month, and twenty-fifth day.* The times were appreciably the longer when a positive result was obtained. It is difficult to see why there should be this delay in the passage of agglutinins if the fœtus receives them from the mother; unless the placenta can be supposed to exert a *temporary* "barrier-action"[27] *against the passage* across it of agglutinins but ultimately allows them to pass. It seems equally reasonable to suppose that the fœtus produces its own agglutinins. It is a matter of regret that all the cases of positive serum reaction in the fœtus have not been bacteriologically examined.

The effect of pregnancy upon the mother who has typhoid fever.—Typhoid fever occurring during pregnancy does not affect the prognosis or alter the course of the disease. The results in the seven cases that have occurred in Guy's Hospital over a period of 28 years are given in Table II.

TABLE II.

Age of mother.	Month of pregnancy.	Fate of mother.	Fate of fœtus.
24	8	Died.	Born alive at *eighth day of fever.* Died in three-quarters of an hour.
26	5	Recovered.	Went to term. Born alive and lived.
21	2½	"	Abortion on seventeenth day of fever.
24	3½	"	" twenty-sixth " "
24	4	"	" fourteenth " "
20	8½	"	Labour on fourth day of fever. Child lived.
31	4	"	Abortion during fourth week of fever.

The death-rate was 14 per cent. Vinay[31] gives the mortality at 17 per cent. Duynot[10] gives six deaths in 36 cases, a mortality of 16 per cent. These figures do not differ widely from those given by the Metropolitan Asylums Board for all cases.

The effect of typhoid fever in the mother on the pregnancy.—The effect of enteric fever on the pregnancy is bad. In the majority of the cases abortion or premature labour takes place. This was so in six of the seven cases in Guy's Hospital—i.e., 85 per cent. Vinay gives two-thirds of abortions. Martinet's figures are 66 abortions in 109 cases. Penot[25] gives 65 per cent. of abortions. The delivery is most often easy and the patient experiences considerable relief. The uterus involutes just as if there were no maternal illness. The fœtus, even if viable, is often born dead or dies soon after birth. As we have suggested, it is possible that this heavy mortality amongst viable fœtuses might be reduced by the induction of premature labour in the earliest stage of the fever. Such induction would seem to be justifiable in the interests of the child when the prognosis for the mother is apparently so little influenced by labour.

Our best thanks are due to Dr. Hale White both for leave to publish the case and for his helpful criticism of our paper; we also thank Dr. J. W. H. Eyre heartily for his careful bacteriological examinations.

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THE ACTION OF YEAST IN TUBERCULOSIS AND ITS INFLUENCE ON THE OPSONIC INDEX.

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FOR the last ten or twelve years yeast and nuclein, which is sometimes held—though without sufficient warrant—to be *its active therapeutic constituent*, have been employed by many observers in the treatment of various bacterial diseases. The idea at the bottom of this mode of treatment is twofold. Nuclein *is a chief constituent of* the *white* blood *cells* and the administration of nuclein is commonly supposed to be followed, after a preliminary drop, by an increase in the number of these *cells*. In *addition to this, nuclein has a* bactericidal action. From these facts the inference was at hand that nuclein would reinforce the leucocytes in number and in activity and so help them in their struggle with invaders and that at the same time it would render the country *less suitable for the support of the intruders.*

In spite of the seeming soundness of the theory, and in spite of much favourable clinical observation, neither yeast nor nuclein has ever come into general use. Neither yeast nor nuclein is even mentioned in Hale White's admirable "Text-book of Pharmacology and Therapeutics" (1901); and Sir William Whitla,[1] speaking of nuclein, says: "Glowing reports were *published of the improvements* and even cures of tubercular disease of the lung. Notwithstanding these glowing accounts this drug, which was hailed as an 'essence of life,' is rapidly falling into disuse." In the exaggerated language quoted by Whitla we have doubtless one *great reason* for the neglect of the drug. Where the expectations are too high disappointment is bound to follow. Pure cultures *of yeast administered* hypodermically were strongly advocated a few years ago by de Backer of Paris; and his views, more concisely expounded, were put before the profession in England by Dr. H. Manders in his extremely interesting book on "The Ferment Treatment of Cancer and Tuberculosis" (1898).

One of us became acquainted with some of the virtues of yeast nearly 25 years ago. He had been suffering for about a year from successive crops of boils, against which various remedies had been tried *in vain*, when he was advised by Dr. (now Sir) Stephen Mackenzie to take yeast. He took yeast; a tablespoonful in milk daily. The boils in progress at the time became less severe and were not followed by a fresh crop. From that time on he has used yeast in furunculosis and always with good results. Some of the patients also were suffering from tuberculosis and not uncommonly while *taking yeast* they *appeared* to improve generally. From this point of view systematic observations have been made for the *last* two *years* on the influence, if any, of yeast taken internally on tuberculosis. The cases at first selected were chronic cases in which the patient had either "stuck in the mud" or was losing ground. Three or four advanced cases which were going downhill were also included in the observations. The results in some cases were striking, in some cases encouraging, in others almost *nil*. In *no* case was there any bad effect but some patients left off the drug because they disliked the taste of it or thought that it disagreed with them. All the cases, even those whose downward course was not arrested, appeared to derive some benefit from the remedy. In most cases the downward course either became less rapid or was arrested and the stationary cases improved. On the whole the results were good enough to lead to a more extended trial. 36 patients were under this treatment for periods varying from a fortnight to about 12 months. Besides these there were about half a dozen who took the remedy for less than a fortnight but who discontinued it for one reason or another, such as flatulence, dislike of the taste, or disgust at the smell of the yeast. The clinical outcome of all the observations is that some improvement was noted in almost every case where the remedy was taken steadily for at least a month, though in many cases improvement appeared much earlier. In all but one case tubercle bacilli were present when the yeast treatment was begun. For the purposes of the present paper the cases may be arranged as follows. (*a*) One case without tubercle bacilli in the sputum. (*b*) Five cases in which tubercle bacilli disappeared and the disease became seemingly arrested while under yeast treatment. (*c*) Seven cases in which the disease is tending towards arrest but in which tubercle bacilli have not yet disappeared. In all the foregoing cases recovery would be almost certain in the absence of any treatment not absolutely harmful, but yeast appeared to quicken the rate of improvement. (*d*) 11 cases of medium severity and of doubtful prognosis, the patients either losing ground or barely holding their own when the yeast was begun. All but one improved more or less; seven improved both locally and generally; two improved generally but not locally; one remained practically unchanged both generally and locally, though the opsonic index rose; in one (detailed more fully below) renal tuberculosis and albuminuria were found. In six of the cases there was a diminution of tubercle bacilli; in three of the cases an increase; and in two cases the numbers were unchanged. In two cases renal as well as pulmonary tuberculosis was present. In one of these cases the patient took urotropin for a considerable time before the yeast, but without noticeable effect on the tubercle bacilli. The urotropin was continued with the yeast. Tubercle bacilli have now almost disappeared. In the other of these two cases there was laryngeal as well as pulmonary tuberculosis and during the yeast treatment renal tuberculosis and albuminuria were discovered after the appearance of gouty pains (pains with tenderness in the joints of the hands and feet). The urine was normal in quantity and in specific gravity but contained a large quantity of albumin and a few granular casts. The patient felt well and seemed in better health than previously. The state of the lungs and of the larynx improved at the same time. (*e*) 12 advanced cases of bad prognosis, nine with more or less pyrexia. All appeared to benefit in general health to some extent, at least for a time. Seven improved considerably in local as well as in general condition and show some promise of reaching a stage of tolerance or quiescence. In two there was no material change in the local condition. In one case excavation which had already been extensive seemed to go on even more rapidly, in spite of some improvement in the general health. Two of the patients died subsequently.

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[1] Sir William Whitla: Elements of Pharmacy, Materia Medica, and Therapeutics. Eighth edition, 1903, p. 547.

The masterly researches of Wright and his fellow-workers have recently placed in the hands of physicians a new test as to the course that a case of tuberculosis is taking. This test is the opsonic index. It shows the degree to which the serum of a person's blood prepares tubercle bacilli for being taken up and digested by normal white blood corpuscles; and, apart from disturbing influences, appears to be fairly constant. Two of Wright's papers especially will repay study by all who are interested in the subject: "A Lecture on the Inoculation Treatment of Tuberculosis"[2] and "On the Action Exerted upon the Tubercle Bacillus by Human Blood Fluids and on the Elaboration of Protective Elements in the Human Organism in Response to Inoculations of a Tubercle Vaccine"[3] (by A. E. Wright and S. R. Douglas). One important point brought out by Wright is that tuberculin treatment, unless under the guidance of this test, is not unlikely to be attended by evil results. The effect of a tuberculin injection is first a fall and then a rise in the protective elements of the blood, but if the injection is renewed before the rise has taken place the patient's resistance becomes progressively lower. Wright's researches suggested the desirability of testing the influence of the yeast treatment on the blood and observations to this effect were begun about the middle of January last. An interval of a fortnight or more was generally left between two examinations. Out of 25 cases available for comparison four had been under the yeast treatment for at least two or three months before the first examination was made. In three of these four cases the opsonic index was extremely high—over unity, that is, higher than in the case of a perfectly healthy person. . . .7— that is, rather above tl . Of the whole 25 cases, in ie it remained unchanged. nch the opsonic index fell, in three there had been an intercurrent ailment—influenza in two cases and febrile disturbance in the third. In one of these three cases there was a subsequent rise to about . . In the other case in which the opsonic in . explanation suggests itself. There was . . the patient's general condition, but the l ined practically unchanged, though there was some diminution in the amount of sputum. The following table shows the opsonic index at successive examinations in these 25 patients, the number of days from the first to the last observation, the rise or fall of the index, and the decrease or increase of tubercle bacilli in the sputum:—

Table of Opsonic Index in 25 Unselected Cases of Tuberculosis during Administration of Yeast.

Serial number.	Opsonic index. (Decimal point omitted for convenience.)	Number of days between first and last observation.	Rise (+) or fall (−) of index.	Decrease (−)* or increase (+) of tuberculous bacilli.
1	88, 74, 78, 82, 85	87	− 03	—
2	51, 68, 67, 80	55	+ 29	− 6
3	79, 77, 80, 77, 77, 77, 66, 92, 92	94	+ 13	—
4	72, 118, 139	59	+ 62	− 3
5	53, 57, 55, 51, 55, 56	62	+ 03	− 1
6	117, 107, 118	38	+ 01	+ 2
7	66, 73, 71	35	+ 05	− 1
8	62, 83, 79	57	+ 17	—
9	53, 60, 106	41	+ 53	− 2
10	63, 76	29	+ 13	− 2
11	34, 65	28	+ 31	—
12	77, 71	57	− 06	− 6
13	78, 82, 66, 92	53	+ 14	+ 2
14	39, 44, 48, 59, 57	53	+ 18	—
15	90, 72, 81, 70	50	− 20	—
16	43, 43	40	—	− 1
17	113, 100	25	− 13	+ 1
18	108, 128	16	+ 20	− 1
19	86, 125	41	+ 39	—
20	82, 103	16	+ 21	− 1
21	70, 72, 63, 87, 86, 59, 93	20	+ 23	—
22	75, 81	24	+ 06	+ 2
23	60, 75	20	+ 15	+ 1
24	98, 101, 116	13	+ 18	− 2
25	103, 113	9	+ 10	—
—	Mean index: First observation—0·74. Last observation—0·89.	Mean: 41 days	Mean rise of index: 0·15	—

* The last column gives the decrease or inc
scale of tubercle bacilli in the sputum during
thus, an increase from No. 1 to 3 or from No. 5 to
a corresponding decrease by −2.

Observations on the foregoing table.—No. 1 had slight febrile disturbance between the first and the second examination. No. 6 had been taking yeast off and on for about a year. No. 12 had recurrent attacks of influenza between the two examinations. No. 17 had been taking yeast before the first examination; had taken it also last winter; and had an attack of influenza between the two blood examinations. No. 18 had been taking yeast before the first examination. The opsonic index was examined in many other persons, some well and some suffering from tuberculosis but not taking yeast, and some interesting facts came out. Persons recovering from tuberculosis showed, in four or five instances,

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[2] Clinical Journal, Nov. 9th, 1904.

[3] Proceedings of the Royal Society, Sept. 28th, 1904, and The Lancet, Oct. 22nd, 1904, p. 1138.

an opsonic index al
that some of the l
smokers In two
yeast were observed
index was found when the blood was examined two days after the dose This drop was followed after four or five days by a rise above the previous level In one of these cases a second dose was given a week after the first dose and with the same results but in an exaggerated degree—that is, both the drop and the subsequent rise in opsonic index were

FIG 1

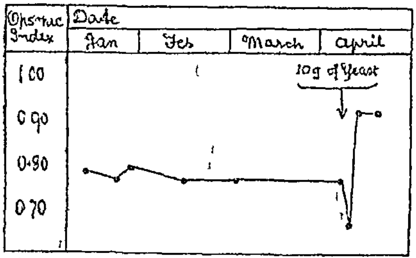

Chart showing the effect of a single dose of yeast on the opsonic index (No 3 in table) which had previously remained constant for three months

FIG 2

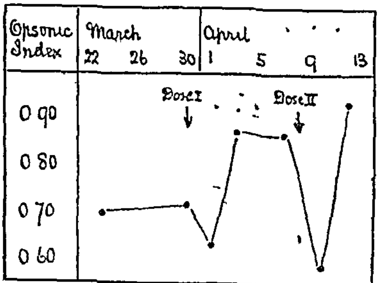

Chart showing the effect of two successive doses of yeast (at an interval of nine days) on the opsonic index (No 21 in table)

greater than after the first dose The accompanying charts show the response of the opsonic index to yeast

ncern the influence
iscles in the blood
taking yeast and of
are shown in the
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FIG 3

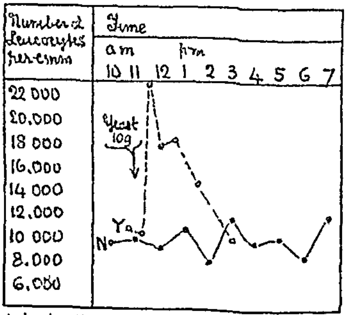

Chart showing the normal daily variation in the leucocyte count (N) and that following the administration of a single dose of yeast (Y)

were made at first every half hour The diagram shows that in the first half hour the number of leucocytes was more than doubled In the second half hour a fall equal to nearly half the rise took place Then with a slight fluctuation the fall continued until in about three and a half hours the number of leucocytes was rather below the level when the dose was taken A noteworthy circumstance is that the blood of persons (suffering from tuberculosis) who had taken yeast for some time yielded on the average lower leucocyte counts than did the blood of persons not taking yeast as is shown in the following little table

Average Leucocyte Count

28 counts of persons not taking yeast	10 800 leucocytes per c mm
60 „ „ taking yeast	7 800 leucocytes per c mm

Some patients were taking benzosol, quinine terpin hydrate, calcium glycerophosphate, or phenacetin, alone or in combination, before beginning the yeast treatment, and then in order to make as little change as possible, these were continued with the yeast—at any rate, for a time

As regards the general effects of the yeast some patients did not notice any influence whatever Some felt a sense of well being, two or three had a feeling of exhilaration Several patients said that their appetite and digestion were better on taking yeast A few complained of flatulence, less noticeable or absent when the yeast was taken on an empty stomach Two or three patients said that under its use the bowels acted more regularly Two or three patients found that owing to the taste or smell it caused a feeling of nausea or disgust and in these cases it was of course dropped at once In two or three cases gouty or rheumatic pains were complained of after yeast had been taken for some little time The discove
in one person who
all the other case
evidence of renal n
time before beginning the yeast treatment had had albuminuria with granular casts and another also had well marked renal tuberculosis before the treatment was begun Yeast did not appear to have any influence on the temperature of patients suffering from a febrile tendency Influenza in a mild form occurred in two or three patients while they were taking yeast which therefore can hardly be looked on as a preventive

The yeast employed has been of three or four different kinds Common German yeast or *presshefe* was most generally used Ordinary
or four patients while in
Swiss proprietary yeast wa
'Ferment de Raisin a Fr
used by three patients In the earlier observations the dose of yeast was generally a piece of the size of a filbert—about two or three grammes—once daily In most of the later observations a larger dose was employed, a piece of the size of a walnut was taken twice a day The dose was usually taken in cold or tepid milk or in water In view of the drop
c index the question occurs
be minimised and the sub
sequent ent dosage or by a different interval between the doses The plan of giving one dose of ten grammes—a piece of the size of a walnut—every five days is at present on trial

A few words must be said about the composition of yeast[4] In fresh yeast the proportion of water varies from 75 to 83 per cent According to
yeast, dried consists of
parts, proteid bodies—
stable phosphorised bodie
by subacetate of lead two parts, fatty matter, five parts, extractive matters (leucine, tyrosine guanin, xanthin), four parts and ash seven parts The various substances contained in the ash vary according to different analysts and specimens within the following limits potash 23 3 to 39 5 per cent, soda, 0 5 to 2 5 per cent, magnesia, 4 1 to 6 5 per cent, lime, 1 0 to 7 6 per cent, phosphoric acid, 44 8 to 59 4 per cent, sulphuric acid 0 3 to 6 4 per cent, silicic acid 0 9 to 1 9 per cent, and chlorine, 0 03 to 0 1 per cent Of the proteid bodies in yeast the nucleins only have been carefully studied. In an analysis of beer yeast by Stutzer nitrogen amounted to 8 65 per cent. and of this rather more

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[4] The account of i taken chiefly from J Konig's Chemi in d Genussmittel Zweiter Band Viert

[5] Cited in Morat et Doyon Fonctions Elémentaires, 1904, vol. I. p 85.

than one fourth (2·65 per cent.) came from the nucleins. The cellulose and gum of yeast appear to consist largely of glycogen. König cites Clautrian and Laurent as estimating the glycogen in dried yeast at 31 per cent. and at 32·6 per cent. respectively. The amount appears, however, to vary a good deal according to the life period of the yeast; and Harden and Young are cited in Richet's Dictionary[6] as having found the average amount of glycogen in yeast only about 2 per cent.

A great number of different enzymes are contained in yeast. They are classified by König into four groups, according as they are hydrolytic or oxidising, reducing, or fermentative. The hydrolytic enzymes are subdivided according as they are sugar-splitting, proteolytic, or coagulating. Besides the constituents of yeast itself the products to which it gives rise have to be borne in mind. These products are twofold; the products of fermentation and the products of the metabolism of the living cells. The products of fermentation include carbonic acid and various alcohols; amongst which amyl-, propyl-, isobutyl-alcohols, aldehyde, and furfural have been found. Amongst the products of metabolism glycerine and succinic acid appear to be the most important. The products of fermentation and probably also the products of metabolism are considerably influenced by various circumstances besides the particular variety of saccharomyces. Thus temperature, the nature and composition of the fluid, its degree of concentration, the presence of certain nitrogenous substances, such as asparagin, pepton, or ammonium salts—all may influence the result.

Many interesting problems for future investigation are suggested by the facts already brought out. Is the action of yeast on the opsonic index due to nuclein, to an enzyme, to the products of metabolism or of fermentation after ingestion, or to the joint action of all? The rise in the number of leucocytes appears to be coincident with a fall in the opsonic index; and a final lower level in the number of leucocytes under the prolonged administration of yeast appears to correspond with a rise in the opsonic index. What is the explanation? Is the activity of the leucocytes themselves in any way modified by yeast or by its products? How long does the opsonic index remain up after yeast has been stopped? The clinical material for this paper was furnished by one of us (W. R. H.) and the bacteriological material by the other (E. C. M.).

Davos-Platz, Switzerland.

A NOTE ON THE TREATMENT OF THE TOXÆMIC SYMPTOMS IN SCARLET FEVER.

BY A. KNYVETT GORDON, M.B. CANTAB.,
LECTURER ON INFECTIOUS DISEASES IN THE UNIVERSITY OF MANCHESTER; MEDICAL SUPERINTENDENT OF MONSALL HOSPITAL.

THE cases of scarlet fever which occur most commonly in practice may, roughly speaking, be divided into three classes or types and this distinction is not invalidated by the fact that mixtures of these are occasionally met with. There is the simple variety, where the attack presents no special distinguishing features and is not at any time severe; the pyrexia subsides, as the faucial inflammation resolves, at the end of the first week or thereabouts, and, with the exception perhaps of a transient otorrhœa, there is no complication or sequel of note. In this type little treatment, except the preservation of asepsis in the surroundings, and accessible organs, of the patient, is needed for the disease itself, though symptoms may occasionally require relief. But a patient may be severely ill with scarlet fever in one of two ways: he may have an intense faucial inflammation which, instead of subsiding in due course, progresses. The ulceration of the tonsils or palate becomes deeper, sloughing occurs, the mouth, the nose, and the naso-pharynx are excoriated and filled with foul secretion, and from these cavities absorption takes place with the production of a general septicæmia which usually corresponds in intensity to the extent of the faucial affection. Otorrhœa, after often running a protracted course, almost certainly follows, and late nephritis is not uncommon. To this type, which is more common in isolation hospital practice by virtue of its being more frequently found in ill-nourished or uncleanly children, the convenient, though possibly somewhat inaccurate, name of "septic scarlet fever" has been given. It is, at all events, a better term than its predecessor "scarlatina anginosa." Of this type I do not propose here to speak.

In the third class the symptoms are very different. Here the patient receives a large dose of the scarlatinal poison, whatever this may be, at the onset. In some cases death occurs before the rash has appeared and a fatal termination within 24 hours of the first sign of the eruption is not uncommon. The patient is semi-comatose, cyanosed, and is evidently intoxicated; the pulse is rapid and feeble, and the respiratory-rate is so quickened as to suggest the presence of a pneumonia; the pupils are dilated, and there is low muttering delirium. To this type the appropriate name of "toxic scarlet fever" has been given, and this, again, is an improvement on the term "malignant" which usually denoted a case of this sort, but which was also loosely applied to any that appeared to be moribund or intensely ill. The frequency of this type certainly varies within wide limits. It appears to be more common in certain districts than in others—apart, that is, from epidemic prevalence. It is certainly, within my own experience, more common, for instance, in Manchester than in London. It also seems to occur more frequently in certain epidemics than in others; now and again it will crop up in a small country village or in a single spot in a town. It is difficult, therefore, to state its frequency with any accuracy. At Monsall Hospital I have met with 55 cases which I should describe as toxic out of 3403 consecutive admissions. Clinically it is a very fatal type of the disease. My own belief is that in the absence of adequate specific treatment about 80 per cent. die either in the acute stage or from subsequent prolonged septicæmia or pyæmia, for if the acute stage is passed these cases become "septic" like the preceding type.

In the absence of any accurate knowledge of the scarlatinal toxin, or toxins, all treatment must be empirical. Perhaps the more common plan is to give large doses of alcohol, digitalis, carbonate of ammonia, strychnine, &c., to which might be added, more recently, the cold bath, but I cannot say that I have ever seen any, or all, of these do the slightest good, though I have had the opportunity of trying them fairly thoroughly. It was, of course, obvious from the first that the only successful treatment of these cases could be by the administration of an antitoxin, if such could be found, and in 1897 I described a case of this type that had recovered after a small dose of some antistreptococcic serum obtained from the Pasteur Institute: this was a monovalent serum. Consequently I gave this serum in other toxic and in some septic cases but I never obtained any further good results with it. In one case under the care of a colleague it certainly seemed to do harm. At all events, it seemed to me that the chance of hitting off, so to speak, the particular streptococcal toxin with a monovalent serum was a small one.

Two years ago, however, I commenced to work with a polyvalent antistreptococcic serum prepared by Dr. W. Dowson, the director of the Wellcome Research Laboratories, and which then had its origin from the following streptococci: streptococcus erysipelatos, No. 1; streptococcus erysipelatos, No. 2; streptococcus pyogenes (empyema); streptococcus pyogenes (puerperal fever); streptococcus pyogenes (wound infection); streptococcus from a case of septic tonsillitis; and streptococcus "aus chorea." To what extent it was a bactericidal, and to what an antitoxic, serum is uncertain and it will be seen that it did not at that time contain any scarlatinal elements at all. Various other streptococci were, I understand, added from time to time, but until 1904 none of these had been isolated from cases that could have been scarlatinal in origin. At that time a streptococcus was introduced from a patient who may possibly have had scarlet fever but in whom the diagnosis was doubtful. Dr. Dowson, in order to enable me to test this point, very kindly sent me some serum prepared from this last streptococcus only and I found that its injection had no ascertainable effect whatever, though it was given early in the course of the disease and in large doses. In all probability, therefore, we can exclude this streptococcus from any participation in the results which followed the use of the combined serum.

As regards the bacteriology of these cases it is a significant fact that in the laboratory here, where a large number of cultures from scarlatinal patients are examined—and I may say, in passing, that a culture from the throat, the nose, and the ears of every scarlatinal patient is taken at least once during the patient's stay in hospital—it is exceedingly uncommon for a pure culture of any organism to be met with, though in the case of diphtheria this occurs quite frequently. I am informed by Professor S. Delépine also that he has had a similar experience in the Public Health Laboratory. In all the cases to be described streptococci of one kind or another were present in mixed culture. So far as this goes it is significant, as pointing to the improbability that the phenomena of scarlet fever are due to a pure infection with any organism. Whatever scarlet fever be in theory, it is in practice a mixed infection.

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[6] Richet's Dictionnaire de Physiologie, vol. vii., 1905, p. 308.

This serum, then, was given to 50 out of the 55 toxic cases previously mentioned, and it was, in fact, only withheld in five who were *in articulo mortis* on admission. It was, in addition, administered to five others that were really examples of the mixed (septic and toxic) type. The dose varied considerably. At first 20 or 40 cubic centimetres only were injected but later doses of 50 or 100 cubic centimetres were employed. In the majority of instances the whole amount was given in one injection immediately upon the admission of the patient, which was as a rule on the second or third day of the illness. Of these 55 injected cases 13 died—a mortality of about 23½ per cent. A reduction was also apparent in the general scarlatinal mortality of the hospital, which was in 1902 6·1 per cent. and in 1903 (the first year in which the serum was employed) 4·7 per cent. and in 1904, with increasing use of the serum, 3·1 per cent. I do not wish to press this statistical argument unduly, as so many factors have to be taken into consideration which cannot be recorded statistically but which are capable of influencing the result, but there can be no doubt that life has been saved by the use of the serum in these toxic cases.

The whole subject of serum therapy in scarlet fever is empirical. We do not know what the organism of scarlet fever is or even if the disease is due to one germ or to many; we cannot reproduce the disease in an animal and we have not, in theory, an antitoxin for it. To record a dose in terms of so many cubic centimetres is valueless, for no antistreptococcic serum can be standardised. Many attempts have been made to obtain a serum from scarlatinal cases only. Moser's is perhaps the best known of these but it is unfortunately not obtainable commercially and its use is therefore restricted. I hope myself to publish later, in conjunction with Dr. Dowson, some further work on this point, but in the meantime I have communicated this preliminary note in order that a remedy which appears to have a decided clinical value, and which can be easily obtained, should have from others the further trial which I believe it merits.

I have never observed any ill-effects from the serum except a transient erythema, which is not, as far as my experience goes, so irksome to the patient as that met with after antidiphtheritic serum. The larger dose of 100 cubic centimetres is, in my opinion, more useful than the smaller ones and it is advisable to give all that is going to be administered in one injection. I have never seen any effect follow a repeated dose. Obviously, the serum should be given as early as possible in the course of the attack.

Manchester.

INNOMINATE ANEURYSM; SIMULTANEOUS LIGATURE OF RIGHT CAROTID AND SUBCLAVIAN ARTERIES; RECOVERY.

BY H. NASON DUNN, M.B., B.CH. DUB.,
MAJOR, R.A.M.C.

THE patient, an ex-soldier, aged 40 years, single, contracted syphilis in 1886, when he was under treatment for some weeks. Early in July, 1904, he suffered from severe neuralgic pains radiating from the right side of the chest to the back of the head and extending into the right shoulder. He attended the out-patient department of the Royal Arsenal Hospital, Woolwich, but no physical signs were apparently present at the time. On Sept. 27th, the pains being more severe, he again presented himself at the hospital and when seen by me a well-marked pulsatile swelling occupied the episternal notch and extended from the sternal origin of the left sterno-mastoid muscle to the junction of the inner and middle thirds of the right clavicle. The tumour measured three and a half inches laterally and projected upwards above the clavicle for one and a quarter inches, the lower margin being ill-defined, well-marked expansile pulsation with a systolic murmur being [illegible] displaced to the left; dysphagia [illegible] dyspnœa on exertion or assuming [illegible] complained of. He also suffered from severe pains along the right side of the head and neck and the right shoulder and arm, the radial pulse on the right being also smaller than that on the left side and its rhythm somewhat delayed. His voice was reduced to a whisper and his cough was "brassy" in character, the right vocal cord being fixed and motionless, due to direct pressure on the recurrent laryngeal nerve, but "tracheal tugging" was not observed.

As the man was exceedingly ill and the tumour was enlarging rapidly Mr. L. A. Bidwell of the West London Hospital kindly saw him and confirmed the diagnosis of innominate aneurysm. The patient was admitted to the hospital and was put on a modified Tufnell's diet and large doses of potassium iodide (30 to 50 grains) were administered three times a day. An attempt to get an x ray photograph of the tumour was unsuccessful. For the first few weeks after admission marked improvement, due to the rest and dieting, took place; but as the tumour subsequently increased in size operation was decided upon. With Mr. Bidwell's assistance the right common carotid was ligatured above the omohyoid muscle and the subclavian was tied in its third stage. The patient being a man with a long spare neck there was no difficulty about the operation, the subclavian being easily reached below the clavicle, as suggested by Mr. Bidwell, by elevating the shoulder. Both arteries were apparently healthy at the site of ligature; double strands of silk were the material used. Both wounds, with the exception of one small stitch point, healed without suppuration. The patient's temperature rose to 99·6° F. on the day following the operation and fluctuated between that and normal until the fourteenth day, when it finally settled down. He complained of severe pain along the right arm but no œdema took place nor did any head symptoms occur. Immediately after ligature of the arteries a decided diminution of the sac took place and that portion in the episternal notch became firmer and less expansile, but subsequently the remainder of the tumour enlarged slightly upwards and outwards and pulsated somewhat more freely than before ligature.

The following was the patient's condition on March 29th, 51 days after operation. That portion of the sac in the episternal notch had consolidated and felt firm to the touch although faint pulsation was still felt and the sac itself was tender on pressure. His voice had much improved but the cough was still "brassy" and paralysis of the right cord still persisted. Some difficulty in swallowing solids continued but pain had disappeared. He was discharged from hospital on April 7th at his own request.

On May 1st, 85 days after the operation, the patient was recommended for light employment. He now walks about one and a half miles to and from his work daily without dyspnœa and can follow his occupation of cleaning tools at the bench without pain or inconvenience of any sort except slight fatigue of the right arm and shoulder. The tumour has shrunk considerably and is firmer and less expansile, measuring two and three quarter inches laterally and extending for three quarters of an inch above the clavicle. Paralysis of his right vocal cord is still present and on inspection there is a slight fulness immediately above the sternal end of the right clavicle and the external jugular vein is more prominent than that on the opposite side. No temporal pulse is to be felt although a faint radial pulse is present and coldness and slight weakness of the right arm remain.

The following statistics taken from records available at the Medical Graduates' College, London, may be of interest. Mr. Bennett May in THE LANCET[1] reported the results of 35 cases of distal ligature of the carotid and subclavian for innominate aneurysm—of these, in 29 both arteries were ligatured simultaneously and six consecutively. 23 died, death being hastened by the operation; in six the disease was not checked and six were practically cured. He also reported 29 cases in which the common carotid alone was tied and of these 19 died from the operation or soon after; in six the disease was not arrested and four were practically cured or showed marked improvement. I have also been able to find accounts of ten other cases of simultaneous distal ligature of both arteries reported in the medical journals; in five the sac became firmer and smaller and the patients were able to do light work; in four death occurred in periods varying from ten days to one year (two from lung trouble and one as the result of hemiplegia); in one the condition was relieved but not cured; in no case, however, was there complete consolidation of the sac, although in one it was reported to have shrunk to the size of a walnut.

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[1] THE LANCET, June 14th, 1884, p. 1066.

Royal Arsenal, Woolwich.

COEXISTENCE OF CYSTIC MESOMETRIUM AND TUBAL PREGNANCY.[1]

BY F. J. STRONG HEANEY, M.A., M.D. DUB., F.R.C.S. IREL.,
HONORARY SURGEON TO THE VICTORIA HOSPITAL, BLACKPOOL.

THE patient, a woman, aged 26 years, came to the out-patient department complaining of pain in the left iliac region of about two weeks' duration. She had been married seven years and had one child, aged five years. Following this pregnancy and up to the time of my seeing her menstruation had been regular with the exception of one short period ten months previously when about a week after menstruating she was seized with acute abdominal pain which lasted for three days. During this time she lost a certain amount of blood from the uterus and a substance supposed to have been a "mole" was passed per vaginam. She was confined to bed for four days and menstruation which had been regular up to the occurrence reappeared five weeks later.

On examination the uterus was found to be displaced to the right by a mass which bimanually gave fluctuation. The tumour was inseparable from the uterus and with the latter completely filled the pelvis. There were no signs of pregnancy and the sound passed into the uterus demonstrated that the cavity of the latter was of normal size. Provisionally I diagnosed cystic tumour and advised operation.

The abdomen was opened by separating the fibres of the left rectus muscle. The uterus was found occupying the pelvis on the right and a translucent cystic mass filling the remainder of the pelvic opening. This mass consisted of one large cyst and three smaller ones. On insinuating my hand behind the uterus I broke through some delicate membranous structures into a friable mass lying in the pouch of Douglas. This mass was separated and on bringing it into the light of day it was at once identified as dead placental tissue. A little further search was rewarded by finding a partially macerated fœtus. The mass had lain in Douglas's pouch, retained mechanically in position by the uterus and cyst filling the brim of the pelvis. The cystic tumour still remained. It was, as I have said, continuous with the uterus, the peritoneum passing from one to the other without leaving any space to tie off the tumour in the usual way. It was, however, possible, working through an opening in the peritoneum behind, to bring the finger into contact with the actual wall of the principal cyst and partially to enucleate it from the uterus and from the peritoneum of the broad ligament without interfering very much with the latter. The portions of the surrounding tissues which could not be separated in this manner were treated as pedicle and ligatured with silk. The removal of the principal cyst left the other cystic portions of the broad ligament and the remnant of the Fallopian tube easy to manipulate and tie off. The Fallopian tube could be traced from the uterus into an attenuated membrane which had obviously formed the fœtal cavity and which lay on the postero-inferior surface of the cyst mass. There was at first rather alarming oozing of blood into the ragged cavity from which the placenta and fœtus had been removed. In these circumstances a short time ago one would have felt inclined to insert a drain but of late the peritoneal cavity has been shown to possess such powers of absorption and recuperation if only it is completely closed that I determined to dispense with drainage. To stay hæmorrhage a swab secured on a long Spencer Wells forceps and soaked with adrenalin was held in the bleeding space while the peritoneal layer of the abdominal wall was being sutured. There was no further trouble from either hæmorrhage or absorption, the temperature remaining normal and the pulse-rate never exceeding 80.

The fœtus, in so far as its macerated condition allowed one to judge, appeared to have developed to about the fifth month. It is also of considerable interest to note the absence of amenorrhœa from conception to the date of rupture and the comparatively slight inconvenience caused by the latter event and by the presence of a dead fœtus and placenta in the abdominal cavity for nearly a year. The symptoms which eventually brought the patient under treatment were, I take it, produced by the enlarging cysts. Bland-Sutton, among others, mentions the coexistence of parovarian cyst and tubal pregnancy and it is easy to see how a causal relationship might exist between the two conditions.

Blackpool.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

A Case of Milky Ascites in which the Opalescence was not due to Fat.—Rhinoplastic Operation [illegible] of the Nose.—Primary Adrenal [illegible] A Case of Diabetes Mellitus with Xanthoma and Lipæmia. Annual Meeting.

A MEETING of this society was held on May 26th, Dr. FREDERICK TAYLOR, the President, being in the chair.

The PRESIDENT and Dr. J. FAWCETT communicated a case of Milky Ascites in which the Opalescence was not due to Fat. The patient, a man, aged 31 years, was admitted into Guy's Hospital on Oct. 6th, 1904, and died a month later. His illness commenced in May, 1904, with œdema of the legs and face, followed by ascites, for the relief of which paracentesis was performed in all nine times. The fluid removed was always milky and this appearance was at first thought to be due to fat but under the microscope no fat globules, but only granules, were visible. On admission the urine was found to contain about 14 parts per 1000 of albumin and casts were present. No other signs of disease, with the exception of the ascites and nephritis, were found. At the necropsy there was milky fluid in both pleuræ and a large amount in the peritoneal cavity. The kidneys exhibited the typical aspect of a tubal nephritis. The other viscera appeared healthy. The pancreas weighed only 60 grammes but microscopically its structure was normal. Clinical examination of the ascitic fluid by Mr. J. H. Ryffel gave the following result: fat, 0·045 per cent.; proteid, 0·396 per cent.; iodine, 0·0966 per cent. (probably as potassium iodide); and chlorine, 0·264 per cent. as chloride. Mr. R. W. Allen reported that no fat globules could be detected under the microscope or extracted with ether; on precipitation with ammonium sulphate the fluid became quite clear. The analysis and microscopic examination showed that the milky appearance was not due to fat but probably to proteid in some form. The amount of fat present was only 0·045 per cent. Lactescent serous effusions in which the opacity was thought to be due to a proteid had been ascribed to (1) lecithin, (2) mucoid substances, and (3) to a proteid resembling casein. Lecithin seemed to be an important element in these effusions. Joachim and von Beinert in some recent researches pointed out that albuminous bodies of the globulin group might have had their solubility lessened by chemical combination with lecithin or by molecular arrangement, their conclusion being that the milkiness was probably due to a combination of lecithin and a proteid. Attention was also drawn to the association of lactescent serum and the presence of nephritis, as previously noted by Bright, Castaigne, and others.

Mr. JAMES BERRY read a paper on Rhinoplastic Operation for Syphilitic Destruction of the Nose. The patient, a man, aged 33 years, had acquired syphilis nine months before coming under observation and the whole of the left

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[1] One of a series of cases read before the Fylde Medical Society on April 18th, 1905.

ala had sloughed away. Under iodide of potassium the ulceration of the nose had quickly healed, but a large hole was left exposing freely the interior of the nostril. The patient was at first fitted with an artificial aluminium ala which he wore for three months. At the operation a flap was made and doubled on itself so as to present a free edge of skin at the edge of the nostril. Deep and superficial sutures were used. The doubled-up flap ultimately formed a prominent new ala which completely covered up the gap in the side of the nose. The triangular raw surface left between the eyelid and the nose was then closed by transverse suturing aided by undercutting and by a deep tension stitch of stout fishing gut passed from the centre of the cheek to the middle of the nose, left in place for seven days. The patient was left with a prominent and fairly shapely ala with which he was much pleased and a nostril through which he could breathe freely. The resulting scar was a linear one placed in the furrow between the nose and
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ey [illegible] f place
by [illegible] photo-
graphs of the patient's face before and after operation. The patient had previously been exhibited before the society. Iodide of potassium was freely administered throughout.—
[illegible] congratulated Mr. Berry on the
[illegible] Such operations did better, Mr.
[illegible] s recently infected with syphilis
than in [illegible] to carry on
the anti [illegible] several years
and iodi [illegible] n associated
with me [illegible] tulated Mr.
Berry on [illegible] ne flap which
he had adopted.—In reply to Mr. H. L. BARNARD as to whether anyone had ever tried to close syphilitic apertures in the palate by similar operations, Mr. SPENCER referred to certain successful cases which had been reported.—Mr. BERRY replied.

Dr. SIDNEY P. PHILLIPS and Mr. B. H. SPILSBURY communicated a case of Primary Adrenal Carcinoma. The patient, a married woman, aged 40 years, suffered from loss of appetite, nausea, and occasional vomiting for about ten months before she noticed that the abdomen was enlarging. She then took to bed and a month later, on Dec. 15th, 1904, she went into St. Mary's Hospital, under Dr. Phillips's care, on account of ascites, loss of flesh, and debility. After removal by a trocar of 386 ounces of clear yellow fluid from the abdomen the liver was found to be greatly
enlarged and with nodules of [illegible]
it. There were no pain, no [illegible]
Many small nodules could also b [illegible]
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on Dec. 27th. The necropsy showed the left lobe of the liver to be almost replaced by firm white new growth. Nodules of the same neoplasm were found in the right lobe of the liver, the commencement of the transverse colon, and
[illegible] ere quite healthy.
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ing [illegible] cells were for the
most part arranged in single or in double rows around a central lumen. There was only a small amount of fibrous tissue between the rows of cells and in places the cells rested directly upon the endothelium of the capillary blood-vessels. The occasional existence of accessory suprarenal bodies in the viscera had been described by various observers. Schmorl in 1891 had been the first to record the discovery of such aberrant "rests" in the liver in four cases in which the adrenal glands were themselves quite normal. Obendorfer had described two other cases. Pepere, who
[illegible] the subject with great minuteness had

[illegible]
its clinical and pathological characters; both cases occurred in women, aged 40 years; in both there were great enlargement and nodulation of the liver with copious ascites but without jaundice, pain, or pyrexia; and both ran a very rapid and malignant course to a fatal issue. Clinically it was impossible to distinguish these cases from other forms of cancer of the liver, though in the latter ascites rarely occurred without jaundice.—Dr. F. PARKES WEBER asked whether there was any obvious alteration in the blood pressure in this case because the cells of the tumour resembled, and were probably derived from, cells of the cortex of the adrenal tissue.

Sir DYCE DUCKWORTH reported a case of Diabetes Mellitus complicated by Xanthoma, Lipæmia, and Fatty Necrosis of the Pancreas.

The annual meeting of the society was afterwards held to receive the annual reports of the council and treasurer and to elect the officers and members of council for the ensuing session. As the result of the scrutiny of the ballot the following gentlemen were declared duly elected:—*President:* Mr. H. H. Clutton. *Vice-Presidents:* Dr. F. de Havilland Hall, Dr. J. Kingston Fowler, Dr. William Ewart, Mr. H. T. Butlin, Mr. Clinton T. Dent, and Mr. John R. Lunn. *Treasurer:* Mr. G. H. Makins. *Council:* Dr. F. E. Batten, Dr. Harry Campbell, Dr. J. Walter Carr, Dr. W. S. Colman, Dr. Norman Dalton, Dr. E. W. Goodall, Dr. W. Pasteur, Dr. F. J. Smith, Dr. H. H. Tooth, Dr. Claude Wilson, Mr. F. W. Strugnell, Mr. Anthony A. Bowlby, Mr. Albert Carless, Sir Alfred Fripp, Mr. J. Ernest Lane, Mr. T. H. Kellock, Mr. B. G. A. Moynihan, Mr. T. H. Openshaw, Mr. A. H. Tubby, and Mr. H. F. Waterhouse. *Honorary secretaries:* Mr. W. G. Spencer and Dr. Archibald E. Garrod.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on May 5th, Professor E. H. BENNETT being in the chair.

Professor BENNETT presented a note on Fracture of the Cartilage of the First Rib, illustrated by the exhibition of some six specimens of the injury. In a majority of the cases the individuals were females not likely to have been during life engaged in very heavy labour, such as might be assumed to cause new or false joints in the cartilage, and the recent fractures corresponded in all pathological details with fractures of the cartilages lower down in the chest.

Dr. T. G. MOORHEAD exhibited a case of Anomaly of the Mitral Valve. On the ventricular aspect of the large anterior cusp a small foramen with smooth edges was present which led into a sac about one-third of an inch in diameter.

Dr. R. ATKINSON STONEY showed a specimen of Tuberculous Disease of the Cæcum, Appendix, and Ileum, removed by operation from a female 23 years of age. At the operation a thickened band was found round the ileum one and a half inches from the cæcum. The cæcum itself was large, nodular, and thickened. The diseased parts were removed and a lateral anastomosis was performed. On opening the specimen a stricture with a diameter of half an inch was found in the ileum, the cavity of the cæcum was almost obliterated, and a second stricture was found in the commencement of the colon, with a diameter of a third of an inch.

Dr. W. J. THOMPSON showed a specimen of Recrudescent Ulceration of the Stomach. It was taken post mortem from a man, aged 29 years, who was admitted to Jervis-street Hospital, Dublin, on Feb. 21st. He had contracted syphilis five years ago and for the last two or three years had been drinking heavily. Physical examination showed the heart to be enlarged and organically diseased; there were also enlarged liver, dilated stomach, peripheral neuritis, and albuminuria. At the post-mortem examination the stomach was found to be enlarged, with a well-marked contraction near the pylorus.
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form of malignant [illegible] parent. At birth it was of the size of a split pea, situated in the centre of the left upper eyelid. It was darkish in colour and somewhat

resembled a hæmatoma. It changed little for a week and then grew rapidly. It was lobulated, very elastic in feel, and had entirely lost its dark look and more resembled a cyst in feel and appearance. Three weeks afterwards recurrence took place in the neighbourhood of the wound; also over the malar bone and in the orbit. A second operation failed to eradicate it and a sub-maxillary gland became enlarged as well as one in the axilla. The orbital tumour was, after three months, of the size of a small potato and similar in character to the original growth removed. As far as could be ascertained this case was the only one of congenital sarcoma of the eyelid which had been recorded.

SECTION OF SURGERY.

Cleft Palate.—Volvulus of the Cæcum.—Exhibition of Cases and Specimens.

A MEETING of this section was held on May 12th, Mr. THOMAS E. GORDON being in the chair.

Sir THORNLEY STOKER read a paper on the Operation for Closure of the Hard Palate during the three months following birth, practised by Mr. Brophy of Chicago. He (Sir Thornley Stoker) said that he had performed it in three cases and found it very successful. This operation could only be practised during the period mentioned, as the bones were afterwards too fully ossified to permit the necessary change in their position. It consisted essentially in drawing the maxillæ and palate bones of opposite sides together so as to close the cleft. This was done by two wire sutures passed across from one side to the other above the alveolar processes. They lay above the floor of the nasal fossæ. One was inserted behind the malar ridge, the other in front of it. The bones were forced together by pressure so as to close the cleft, the edges of which had been pared. If the bones could not be approximated by pressure alone the malar process was divided on each side. The anterior and posterior ends of the wires on each side were twisted together over a lead suture-plate fitted to the outer surface of the alveolus. The hard palate, the premaxillæ, and generally the soft palate were operated on at once. The hare-lip was closed subsequently when free access to the mouth for operative purposes was not required. The wire sutures were withdrawn after about four weeks.—Mr. GORDON said that in his opinion the risks of Brophy's operation were somewhat serious, especially in those cases where it was found at first impossible to bring the edges of the palate together.—Mr. W. S. HAUGHTON said that he had performed an operation very similar to Brophy's on a child nine days old. The parts were easily brought together and there was an entire absence of shock.

Mr. J. F. L. KEEGAN read notes on a case of Volvulus of the Cæcum and exhibited the specimen.—Mr. Kennedy and Mr. E. H. Taylor discussed the communication.

Mr. KEEGAN also exhibited a patient after a wiring operation for Fractured Patella.

Major M. P. HOLT, R.A.M.C., exhibited an Aneurysm of the Innominate Artery which had been successfully treated by ligature, the patient dying from tuberculosis 15 months later. He also exhibited an aneurysm of the innominate artery in which an unsuccessful result followed distal ligature and wiring by Power and Colt's apparatus.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Leeds on May 26th, Dr. J. Lloyd Roberts, the President, being in the chair.—Dr. E. O. Croft (Leeds) showed a Myoma of the Vaginal Wall nearly two inches in diameter, which occupied a lateral position and extended to within half an inch of the urethra. It produced no symptoms beyond slight bleeding from an excoriation on its most prominent portion. The nature of the growth was demonstrated by microscopic sections. Amongst 54 vaginal growths there were only three of this nature. They were always single, generally occupied the middle line, and were usually sessile. They were derived from the muscular tissue of the vaginal wall itself.—Dr. C. Oldfield (Leeds) described the case of a female, aged 22 years, from whom he removed a Hydatid Mole, discovering at the same time the presence of Bilateral Ovarian Cysts. Five weeks after the removal of the mole the abdomen was opened and the two multilocular ovarian cysts were removed. The uterus was three times the normal size and was very soft in texture. It was therefore removed by supravaginal hysterectomy. The cysts were found to contain in their walls a large amount of lutein tissue and examination of the uterus revealed the presence of a chorio-epitheliomatous growth in the posterior wall. The presence of malignant disease being thus established the cervix was removed a week later. Dr. Oldfield explained the observed relationship between the presence of excessive lutein tissue in the ovaries (with or without definite cyst formation) and the occurrence of vesicular degeneration of the chorion. Fraenkel had concluded that one of the functions of the corpus luteum was to preside over the embedding of the ovum in the uterus. The presence of excess of lutein tissue appeared to determine excessive growth of the trophoblast—the essential feature of vesicular mole formation. From this it was only a short step to the production of chorio-epithelioma. If the association between excess of lutein tissue and trophoblastic overgrowth could be proved by further investigation an important contribution would have been made to the pathology of malignant disease.—Dr. A. Stookes (Liverpool) and Dr. S. Buckley (Manchester) described cases of Pseudo-hermaphroditism and Dr. G. W. FitzGerald (Manchester) read a paper on Ruptures of the Vagina in Connexion with Parturition.

Reviews and Notices of Books.

The Principles of Heredity with some Applications. By G. ARCHDALL REID, M.B. Edin., F.R.S. Edin. London: Chapman and Hall. 1905. Pp. 359. Price 12*s.* 6*d.* net.

IN this work the author does not, as the title might imply, confine himself to the subject of heredity pure and simple but sets himself the ambitious task of unfolding a complete scheme of biological evolution. It is now considered by most biologists that in the case of all the higher animal organisms the reproductive cells are merely housed within the soma and that no acquisitions made by the latter—no somatic *modifications* as they are termed—are capable of so influencing the reproductive cells as to be transmissible to the offspring. New characters, however, which arise from peculiarities in the constitution of the reproductive cells, or, as they are termed, natural *variations*, are transmissible, and it is on such that natural selection operates. Dr. Reid advances from the field of pathology convincing arguments against the inheritability of somatic acquisitions. Were these transmissible every impress made on the soma, whether by trauma or disease, would tend to appear in the offspring whose tissues would in the course of a few generations become so disorganised that the species would necessarily become extinct. Not only does this not occur but species which are subjected to injurious agencies, such as the parasites of malaria and tuberculosis, far from degenerating, tend actually to undergo evolution against them. Again, if somatic acquirements be transmissible, why, asks Dr. Reid, is acquired immunity not inherited? and how comes it that the European has not by this time attained to racial immunity against such diseases as measles and whooping-cough?

One of the most important problems presented to the biologist is the origin of natural variations. That biparental reproduction gives rise to them is admitted by all and Weismann has long contended that the essential purpose of this mode of reproduction is to provide variations on which natural selection may operate. However this may be, it is now known that such variations may also arise in parthenogenetic organisms, and Dr. Reid further insists that the variations which result from biparental reproduction are not progressive but regressive—reversions, in fact, towards an ancestral type in which no *additional* characters capable of being accumulated by natural selection appear. It is well known that when two varieties of a species are crossed the most recently evolved characters tend to be eliminated from the offspring; and Dr. Reid contends that the essential object of biparental reproduction is to bring about this very regression and in this way to rid the species of useless or injurious characters. When it became known that somatic variations were incapable of inheritance it was obviously impossible to account for the disappearance of useless parts through the *inheritance of disuse acquirements; while it* seemed impossible to account for their disappearance by the action of "reverse selection" alone. Dr. Reid admits that the latter may, to some extent, hasten the elimination of burdensome and injurious characters and cause the atrophy *of an organ in the later stages of development,* such as the eyes of cave-dwelling animals (in which case, however, there is a prolongation rather than an abbreviation of ontogeny), but he insists that it is altogether incompetent to get rid of the numerous useless and injurious characters which during the long phylogeny of species are continually demanding elimination. For this purpose biparental reproduction is required: all that is needful is for natural selection to cease to operate in regard to any character and that character is automatically "planed away." "When natural selection is stringent it overcomes the tendency to regression and progressive evolution ensues. When it is less stringent it merely maintains the structure. When it is still less stringent, and even more when it is has been completely abolished, the tendency to reversion comes into play and causes regressive evolution." Nothing in nature is more certain "than that the function of biparental reproduction is to produce regressive variation; and nothing in science is more remarkable than that in spite of plain, abundant, and conclusive evidence it should so long have been regarded as the cause of progressive variations. .. ... This, then, is the unknown factor in evolution. Not one but two forces are continually at work in nature—Natural Selection and Reversion. The former causes progressive evolution; the latter regressive evolution. They are opposed but one would be quite inadequate without the other." Dr. Reid holds that cross-breeding benefits by causing an elimination of the useless and injurious characters which are apt to result from too close in-breeding.

So much for biparental reproduction as a cause of variations. How far may they result from the direct action of the environment on the reproductive cells? While granting that these cells, like all others, are capable of being profoundly affected by their environment, the author contends that their hereditary tendencies are little, if at all, influenced in this way. Natural selection, he believes, has brought about *an all but absolute insusceptibility of the germ plasm—so far* as its developmental tendencies are concerned—to the influence of the environment. How, on any other supposition, would it be possible for a species long to maintain its identity? and, how would it be possible, considering how frequently the reproductive cells are bathed in unhealthy plasma, for the offspring not always to be affected injuriously? It is true that unicellular organisms may be made to undergo considerable modification by cultivating them in special media, thus suggesting that their hereditary powers may in this way be changed, but the author reminds us that their enormous rate of increase allows rapid modification by means of natural selection. Again, the action of the environment on the germ cells cannot account for the great variety of progressive variations which may be observed among the individuals of the same litter, seeing that in such cases the germs and sperms respectively have from their first coming into being been subjected to practically the same environment.

Dr. Reid, thus finding neither biparental reproduction no the direct action of the environment on the germ plasm *competent to account for progressive variations,* concludes that they must arise spontaneously; that natural selection has endowed the germ plasm with a highly advantageous tendency to vary within certain narrow limits with the object of producing natural variations on which natural selection may operate, just as, on the other hand, it has rendered the germ plasm highly resistant to environmental influences.

Ontogeny takes place by recapitulation; the individual *tends to recapitulate the ontogeny of the parents,* these, again, that of their parents, and so on to the beginning of life. Hence ontogeny is to some extent an epitome of phylogeny, or the life-history of the race. But it is never an exact recapitulation. Man, for example, does not in his ontogeny *exactly recapitulate that of his piscian prototype.* The ontogeny unfolds the life-history of the species from its unicellular ancestor but "it is a history with great inaccuracies; with vast omissions and some additions, both omissions and additions being greatest in the earlier stages"; and some biologists by this "unlikeness of the embryo during the different stages of its development to the lower animals which were its prototypes in the life-history have declared that the development of the individual is not a recapitulation of the life-history of the race." But as Dr. Reid pointedly observes, *natural selection is at work during every phase of ontogeny,* on variations which manifest themselves not only in the adult but also in the embryo and fœtus, and is therefore capable of influencing each and every phase of ontogeny in correspondence with the requirements of the environment. "Step by step the race in all its developmental stages follows the change in the environment. To-day, for example, mammals retain their young within their bodies for prolonged periods. The whole structure of the embryo has altered in consequence. Thus the gills have almost entirely disappeared and a placenta has undertaken their function."

The author applies the principle of natural selection in explaining the evolution of species against disease. Evolution, he insists, takes place only under adverse conditions. "Every species undergoes progressive evolution under adverse conditions ... .. every species undergoes regressive evolution—i.e., degeneration—under beneficial conditions." Thus if a community is exposed to injurious agencies, such as the parasites of malaria or tubercle; or poisons, such as alcohol and opium, natural selection comes into operation and tends to start an *evolution against them.* In this way certain sections of mankind are evolving against tuberculosis and malaria, so that we find the West African far more resistant to malaria than the European and the latter more resistant to tuberculosis than the former. Thus, again, the Jews, from their long acquaintance with alcohol, have evolved into a sober race, while the Chinese have become temperate in regard to opium. Similarly town-bred communities tend to undergo evolution against the injurious conditions of town life, Dr. Reid stoutly contesting the prevalent view that, unless fresh blood be continually imported from the country, slum life leads in two or three generations to extinction. The resistance of the germ plasm to environmental conditions and the noninheritability of somatic acquirements negative such a supposition.

The marvellous power possessed by man of making acquirements—both mental and physical—is dwelt upon at considerable length. The purely instinct-led organism is held to a stereotyped environment by a stereotyped instinct, but as the complexity and instability of the environment increase instinct becomes *less and less adequate to adapt the* organism to it, and the ability to make adaptive acquirements becomes increasingly necessary, until (as in the case of man) it reaches well-nigh limitless proportions. It is pointed out that, with the exception of a few organic instincts, such as *hunger and thirst* and the sexual instinct, man's entire mental equipment is acquired and that many of his physical characters which we are wont to regard as inborn—the result of unaided developmental force—are essentially acquired. Not until this truth is recognised is it [illegible] greatly man can be influenced for good or ill by environmental agencies and how much may be done by education to rear a race of capable citizens. It is even contended that the mental differences of races depend more upon mental environment than inborn peculiarity. The influence of religion in moulding national character is cited in this connexion and it is argued that the followers of any great religious creed, such as Mahomedanism, show all the world over a remarkable mental likeness, no matter to which race they belong or what clime they inhabit. The author further maintains that the rise and fall of nations is not a mere matter of economic conditions, but is largely, nay chiefly, the outcome of national character as determined by mental environment. A great responsibility therefore rests upon us to train up our youth in the right way. Why, asks Dr. Reid, burden the young mind with things non-essential and ephemeral while allowing it to remain ignorant of the eternal realities of nature? Why fuddle it with the words and the relations between the words of a dead language—mere symbols—and allow it to learn nothing of the great scheme of evolution, of the inexorable laws of heredity, and the merciful mercilessness of natural selection? "The time has arrived when the subject of heredity must engage the attention of thinking people, especially medical men. A knowledge of it should be part of the ordinary professional equipment of the physician. ...... A great field of knowledge remains untilled. It is the task and duty of medical men to gather its harvests and apply them to the betterment of mankind. ...... Owing to the improvements in medical science and the consequent survival of the hitherto unfit, tremendous problems have arisen, the solution of which cannot long be delayed without disaster to the species."

In these words the author ends a work distinguished alike for incisiveness of diction, originality of thought, and cogency of argument. It is difficult to controvert any of the main conclusions and there is but little from which we can actively dissent. We are not convinced that the evolution of intelligence has reached its term, as Dr. Reid suggests. The most important of his deductions is that concerning the part which biparental reproduction is assumed to play in evolution. Should it stand the test of time Dr. Reid will have discovered a great biological law, one second only in importance to that of natural selection itself.

The subject of heredity is now exciting great interest not only in the medical profession but among the lay public who look to the profession for instruction in regard to it. Dr. Reid's work, therefore, appears at an opportune time and every medical man should study it carefully.

The Cambridge Natural History. Edited by S. F. HARMER, F.R.S., and A. E. SHIPLEY, F.R.S. Vol. VII., Ascidians, Fishes, &c. By Dr. HARMER, Professor HERDMAN, Professor BRIDGE, and M. BOULENGER. Royal 8vo, pp. xvii.-760. London: Macmillan. 1905. Price 17*s.* net.

THE bulk of this volume deals with fishes, but the earlier chapter devoted to those groups—the Ascidians, Balanoglossus, Amphioxus, and some other types lying at varying distances from the borderland of the vertebrate sub-kingdom —is by no means to be neglected. The fact is, however, that the last-mentioned creatures do not lend themselves altogether to "popular" exposition. Important though they are and really mysterious of their kind—for the exact relationship of tunicate and hemichordate generally to the undoubted vertebrate may be that of the ancestor or the degraded descendant—the importance is for the anatomist and embryologist, and those who seek for tit-bits of natural history will not find much refreshment in the accurate and rightly solid pages of the earlier portion of this volume. It appears to us, however, that the authors of the part relating to fishes might have relaxed a little and dropped into anecdote more freely. Particularly can this be said of M. Boulenger who is stern and uncompromising in his mode of dealing with the classification of the teleostean fishes and will have nothing to do with any matters of non-technical interest. The reader seeking, for example, information as to the flat fishes of our coasts is confronted with a long list of generic names in italics, which are for the most part names and nothing more. This section is, in fact, as we think, either too technical or not technical enough. It has the disadvantages of the catalogue without the advantages of a scientific treatise. There is some mystery, too, as to the scheme of classification of the teleostean fishes adopted by M. Boulenger. The author distinctly, though not immodestly, congratulates himself upon the far-seeing character of the scheme adopted by him. On the other hand, the editors remark that it is but common fairness to M. Boulenger to call the attention of the reader to the fact that his (M. Boulenger's) MS. was handed in in the year 1902. What does this mean? Has the lapse of time failed to justify M. Boulenger's anticipations or was he so extremely far-seeing that up to the present panting research has toiled after him in vain?

That Professor Bridge's account of fishes in general is largely technical was to be expected and is emphatically to be justified. He has provided us with precisely what is wanted—a good general account of the structure of this group. There is not, so far as we are aware, any so complete and luminous an account of fishes in existence. The sections which impressed themselves upon us as the best are those dealing with the brain and the respiratory system, especially the account of the accessory respiratory organs found in those fishes which are truly to be termed fishes out of water, which leave for variable periods their native flood. The Anabas scandens of the East and the toad-faced Periophthalmus, which hops along marine mud flats in search of wandering molluscs, are examples, which, with many others, are fully treated of by Professor Bridge. As a matter of patriotism it is gratifying to observe how frequently he has to quote the names of Englishmen who have contributed to, and advanced our knowledge of, this group of animals; and among them the name of Mr. Cunningham, the late superintendent of the Marine Biological Laboratory at Plymouth, naturally prevails on account of the vast amount both of technical and economic ichthyology which has been forwarded by his investigations. Nor is Professor Bridge himself backward as a student of the group which is dealt with by him in this work. And it is precisely for that reason that this as well as other volumes of the Cambridge Natural History are likely to have a large public: so much natural history is written by those only acquainted with books or who are of no authority in the subjects of which they treat.

Report on the Origin and Spread of Typhoid Fever in United States Military Camps during the Spanish War of 1898. By WALTER REED, Major and Surgeon United States Army; VICTOR C. VAUGHAN, Major and Division Surgeon United States Volunteers; and EDWARD O. SHAKESPEARE, Major and Brigade Surgeon, United States Volunteers. Vol. I., Prepared in accordance with the Act of Congress, under the direction of Surgeon-General ROBERT M. O'REILLY, United States Army. Washington: Government Printing Office. 1904. Pp. xviii. + 721. Vol. II., 96 Charts and Maps.

THE publication of the complete report of the board on the origin and spread of typhoid fever in the United States military camps during the Spanish War of 1898, by which this vast and valuable collection of data is made available for the profession at large, is greatly due to the interest and appreciation of Mr. Root, late Secretary of War, supplemented by the action of Congress. The letter of transmittal is signed by Major Vaughan, the only member of the board who lived to see the work finished. In this letter he pays a tribute to the work of his colleagues and acknowledges the valuable help rendered at great personal sacrifice by Dr. Christopher Childs of University College, London. The following are the most important statements and conclusions derived from the report.

During the war every regiment constituting the first, second, third, fourth, fifth, and seventh army corps developed typhoid fever. More than 90 per cent. of the volunteer regiments developed typhoid fever within eight weeks after going into camp. Typhoid fever developed also in certain of the regular regiments within from three to five weeks after going into camp. Typhoid fever became epidemic both in the small encampments of not more than one regiment and in the larger ones, consisting of one or more corps, and in camps located in the northern as well as in the southern states. Typhoid fever is so widely distributed in America that one or more cases are likely to appear in any regiment within eight weeks after assembly.

The miasmatic and pythogenic theories of the origin of typhoid fever are not supported by these investigations, which confirm the doctrine of the specific origin of typhoid fever. With typhoid fever as widely disseminated as it is in America the chances are that if a regiment of 1300 men should be assembled in any section and kept in a camp, the sanitary conditions of which were perfect, one or more cases of typhoid fever would develop. Typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canals of others. It is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body. A man infected with typhoid fever may scatter the infection in every latrine in a regiment before the disease is recognised in himself.

Camp pollution was the greatest sin committed by the troops in 1898. In some instances the space allotted to the regiments was inadequate. Many commands were allowed to remain on one site too long. Requests for change in location made by the medical officers were not always granted. Greater authority should be given to medical officers in questions relating to the hygiene of camps. It may be stated in a general way that the number of cases of typhoid fever in the different camps varied with the methods of disposing of the excretions. The tub system of disposal of fæcal matter is to be condemned. The regulation pit system is not a satisfactory method of disposing of fæcal matter in permanent camps. In permanent camps where water carriage cannot be secured all fæcal matter should be disinfected and then carted away from the camp. Infected water was not an important factor in the spread of typhoid fever in the national encampments in 1898. To guard against the contamination of the water-supply troops in the field should be provided with means for the sterilisation of water. Flies undoubtedly served as carriers of the infection. It is more than likely that men transported infected material on their persons or in their clothing and thus disseminated the disease.

Typhoid fever as it developed in the regimental organisations was characterised by a series of company epidemics, each one having more or less perfectly its own individual characteristics. It is probable that the infection was disseminated to some extent through the air in the form of dust. When a command badly infected with typhoid changes its location it carries the specific agent of the disease in the bodies of the men, in their clothing, bedding, and tentage. After a command becomes badly infected change of location, together with thorough disinfection of all clothing, bedding, and tentage, is necessary. Except in the case of the most urgent military necessity one command should not be located upon the site recently vacated by another. The fact that a command expects to change its location does not justify neglect of proper policing of the ground occupied. It is desirable that the soldier's bed should be raised from the ground. In some of the encampments the tents were too crowded. Medical officers should insist upon soldiers removing their outer clothing at night when the exigencies of the situation permit.

In addition to the recognised cases of typhoid fever there were many short or abortive attacks of this disease which were generally diagnosed as some form of malarial fever. About one-fifth of the soldiers in the national encampments in the United States in 1898 developed typhoid fever Army surgeons correctly diagnosed about half the cases of typhoid fever. The percentage of death among cases of typhoid fever was 7·61. When a command is thoroughly saturated with typhoid fever it is probable that from one-fourth to one-third of the men will be found susceptible to this disease. In military practice typhoid fever is often apparently an intermittent disease. The belief that errors in diet with consequent gastric and intestinal catarrh induce typhoid fever is not supported by the investigations. More than 90 per cent. of the men who developed typhoid fever had no preceding intestinal disorder. The deaths from typhoid fever were 86·24 per cent. of the total deaths. The morbidity from typhoid fever per 1000 of mean strength was a little less than one-fifth. The mortality from typhoid fever per 1000 of mean strength was 14·63. The average period of incubation in typhoid fever is probably about ten and a half days.

The maps and charts in the second volume show graphically what has been stated in words in Vol. I. The object of displaying by charts the diseases prevalent in the different regiments is to show to the eye the distribution of diarrhœa, typhoid fever, so-called malarial fever lasting ten days and upwards, and so-called malarial fever lasting less than nine days, but especially of typhoid fever, not only in point of time, but also with reference to company outbreaks. A glance at the charts emphasises the fact that typhoid fever generally appeared as separate company outbreaks. This appears to the authors to be most convincing proof that the agent of infection, as a rule at least, was not present in either the food or the drink supplied to the regiment. Typhoid fever must have been spread largely by personal contact and by the contamination of tents, blankets, clothing, and the persons of individuals. This is also emphasised in the smaller maps introduced into the text of Vol. I., in which the tent distribution of the disease was demonstrated. The relation between typhoid fever, diarrhœal diseases, and the so-called malarias, both short and long, is graphically illustrated in many of the charts. The report is a most interesting one.

LIBRARY TABLE.

Notes on the Sorbonne.—We have received a small pamphlet, written by Mr. J. A. Randolph and published by Mr. Dennis Lane, of the Strand, London, W.C., entitled "The Sorbonne and its Secret Chapels." It gives an interesting account of the vicissitudes through which this famous establishment has passed during its lifetime of over 700 years, for it was founded in 1201. The founder was a pious villager from the diocese of Rheims, by name Robert de Sorbon, and he it was who, with the aid of St. Louis and the then Archbishop of Paris, founded a theological college for 16 poor students. By the fourteenth century this number had been increased to 36 and during the middle ages the doctors of the Sorbonne were acknowledged masters of theology. In the seventeenth century Richelieu offered to rebuild the college buildings and to provide a church if they would make him Provisor. This was in 1607 and 20 years later the building was begun. Certain of the funds were provided by money borrowed by

Richelieu from the doctors of the Sorbonne, so that his generosity is somewhat on a par with that of Henry VIII. in his dealing with St. Bartholomew's Hospital. The church was completed in 1653 and is remarkable for containing four small chapels in the thickness of the piers supporting the dome. After the Revolution, when the Sorbonne shared in the general *débâcle*, Napoleon reconstituted it and it is now a school for theology, science, and literature. New buildings have been erected but Richelieu's church still stands. So many British medical men have recently been enjoying the hospitality of their French brethren and have no doubt visited the new Sorbonne that we think it may be interesting to those of our readers who have not been to Paris to read this account of an ancient yet living French educational establishment.

In Confidence to Boys. By H. BISSEKER, M.A., formerly a Public School House-Master. Revised by the Council of the Medical Officers of Schools Association. London: Adlard and Son. 1904. Pp. 32. Price 1*s.* net.—It is the conviction of most of those who have thought a good deal about the truest interests of boys that after a certain age every boy should have important physical facts placed before him as delicately as possible. This book, originally written for private circulation, was so warmly received that it is now issued for a wider circle of readers. It has been revised by the council of the Medical Officers of Schools Association, a circumstance which adds greatly to its value and gives it authority. We have read the little book carefully and we feel that if it be read by boys with care and thoughtfulness it must be both a messenger of good and a means of help and encouragement. The book may safely be placed in a boy's hands and we wish it a very extensive circulation.

Thomas Carlyle: The Man and his Influence. By PERCY WARNER. London: Chapman and Hall. 1904. Pp. 66. Price 1*s.* net.—This essay was written for a local literary society. The author's excuse for publishing it is the hope that it may induce those who would know and judge Carlyle, "to do so by the light of all that is essentially great and good in his life and character, and to seek him—where only he can be truly found—in his works." It is a pleasant little book but it contains, of course, no new information, if we except a letter to Fraser, his publisher, on the occasion of the calamity of the destruction of the first volume of his great work on the "French Revolution." This letter shows how Carlyle, querulous and irritable as he too often was in the smaller affairs of life, could meet a great misfortune. The author avoids controversy. He shows us Carlyle in many moods and places, "ofttimes disturbed on the surface by trifling troubles, but never diverted from what he believed to be right and true." The book is written with discrimination and judgment and may be widely read with advantage.

The Effects of Tropical Light on White Men. By Major CHAS. E. WOODRUFF, A.M., M.D., Surgeon, United States Army. London and New York: Rebman, Limited. 1905. Pp. 358. Price 10*s.* 6*d.* net.—This is an interesting volume and will well repay the reader for the time spent in its perusal. The basis for all the arguments is that living forms are distributed in zones the boundaries of which are isothermals. A species is sharply limited in the northern and southern extensions and though it may be found over longer distances east and west it is never found out of its zone. Migration is followed by extinction sooner or later, for acclimatisation is not possible. The work had its origin in an attempt to prove or to disprove the theory, announced by von Schmaedel in a paper read before the Anthropological Society of Munich in 1895, that pigmentation of the skin in man was evolved for the purpose of excluding the dangerous actinic rays of light which destroy living protoplasm. It gave at once the reasons for the evolution of nigrescence and blondness, the reasons why Europeans have always failed to colonise in the tropics, and the reasons why blonds disappear when they migrate from their northern home. Man, evolved from one or more anthropoid types by the law of selection, gradually spread to new environments to which he became adjusted by the same law of the survival of the fittest variations. Hence arose a separate type in each zoological zone, and each type is unfitted for residence in any other zone markedly different from the ancestral one. In the section on the Disappearance of Blond Aryan Immigrants the author says: "Scarcely a work on the subject has clearly and definitely grasped the main reason—namely, that a civilisation dies because the people who built it up die out from climatic unfitness. All the ancient subtropical civilisations were built up by men who had migrated south of their zones, and the men perished chiefly because they possessed too little pigment for the tropical light to which they were subjected." It is latitude, modified by afforestation and cloudiness, which determines fitness as to pigmentation, though it is slightly modified by elevation. The author writes that the "evolution of blondness required a cold, dark, northern country—probably a cloudy, rainy, misty, forest country—the exact conditions needed for the evolution of the brain by natural selection and the exact conditions of the countries where we have placed the origin of the Aryan or Teuton." He dwells on the superiority of the blond over the brunette in many ways and on many questions and points out that the submissiveness to authority so characteristic of the dark races, the Mediterranean type and the Alpine or Asiatic type, is one reason for the evolution of that type of Christianity found in the Roman and Greek churches. This submissiveness is repugnant to the "free and contentious" blond Aryan; consequently the Baltic type of a man is a Protestant, as we see in Scandinavia, around the Baltic, in North Germany, Holland, Scotland, and Northern Ireland. The final chapter (XIII.), headed Practical Rules for White Men in the Tropics, is a valuable one and the contentions and recommendations are, on the whole, wise. Major Woodruff is opposed to any calisthenics and out-door sports which are indulged in for the sole purpose of increasing the musculature and recommends that athletic contests should be abolished in the tropics. The book is one specially for anthropologists but it will interest all those who are living in the tropics where it will be welcomed.

JOURNALS AND MAGAZINES.

Caledonian Medical Journal.—In the April number Dr. James Mackenzie of Burnley makes some suggestions for the observations of new paths in the spinal cord. He considers that the manner in which pain spreads often shows unmistakably that there must be paths in the spinal cord which are independent of segmentation. Dr. S. R. Macphail of Derby writes on the relations which formerly existed between the surgeons and the barbers in each of the three divisions of the United Kingdom. In London the barber surgeons and the surgeons proper were incorporated by Act of Parliament in 1540 and separated in 1745, when the Surgeons' Company was formed. In Dublin the barber surgeons and the surgeons were amalgamated in 1576 and separated in 1784, the Irish College of Surgeons being founded immediately. In Scotland the procedure was different. In 1505 the incorporation of barber surgeons of Edinburgh obtained from King James IV. of Scotland the foundation charter of the College of Surgeons of Edinburgh, which will in the month of July this year celebrate its quatercentenary. The separation between the Scottish surgeons and barbers was not abrupt or formal but came about gradually by the barber surgeons recognising that practising as barbers was unsuitable to the position as surgeons It is announced that the annual meeting of the Caledonian Medical Society will be held in Manchester on June 23rd

New Inventions.

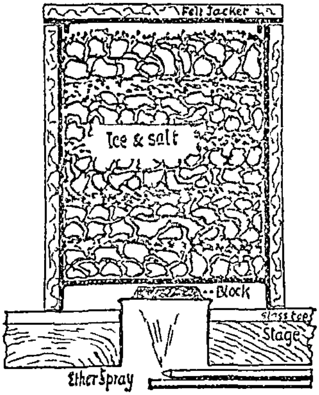
THE TYPHOID AGGLUTOMETER

WE have received from Messrs Parke, Davis and Co a handy little apparatus for the performance of the Gruber-Widal test for typhoid fever without the use of a microscope It consists of four small tubes each containing a suspension of dead typhoid bacilli arranged side by side in a stand, three of these tubes are for inoculation with the serum to be investigated, the fourth being left as a control Apparatus is also supplied for collecting the blood, diluting the serum obtained from it, and for inoculating the tubes The method of procedure is as follows a few drops of blood are received into a short wide tube labeled "blood tube" and allowed to coagulate, the serum, which separates, is drawn up into a glass tube with a rubber bulb and two drops are then dropped into a tube containing fluid, labeled "serum diluting fluid" and well mixed Varying quantities of the serum thus diluted are dropped into the three typhoid suspensions so as to give dilutions of 1 in 30, 1 in 50, and 1 in 100 respectively These tubes are then corked and shaken to insure admixture and then placed in a warm room, an incubator not being necessary If a positive reaction results flocculi appear in one or more of the tubes, which must be carefully compared with the control In the course of a few hours these flocculi sink to form a distinct layer at the bottom of the tube We have tested the apparatus with the blood of a case of typhoid fever, which gave a well marked reaction with the 1 in 30 and 1 in 50 tubes within three hours and a slight precipitate in the 1 in 100 tube, a deposit being very distinct in all three 12 hours afterwards The apparatus was kept in an ordinary warm room and not in an incubator A control performed with the serum of the same case by means of the ordinary Widal test with the microscope gave a good agglutination with a dilution of 1 in 40 in about half an hour

The apparatus is supplied in a convenient form and is easy to use, the directions given with each apparatus being clear and explicit Each agglutometer serves for one test only It should be of use in general practice, especially where laboratory assistance is difficult to obtain, since the information afforded by the test appears to be as trustworthy as that afforded by the usual laboratory method It will be remembered that the original reaction as described by Gruber was a macroscopic method and that for some time past dead cultures have been used, especially in Germany where recently a considerable amount of work has been carried out with cultures treated with formaline and by means of Ficker's method, also presumably a method with dead cultures, although details of the preparation of his reagent are withheld by the author Some German authors[1] maintain that more uniformly trustworthy results are obtained by these means than by the ordinary method of employing living cultures and the microscopic study of the clumping process

AN ACCESSORY FOR FREEZING MICROTOMES

DURING the hot weather it is not easy to cut sections on the microtome by the freezing method whether with the ice well or ether spray microtome During the past few months I have used a simple device which makes one practically independent of the atmospheric temperature The illustration shows the device standing on the stage of an ether freezing microtome It is a box of thin metal, the walls of which are prolonged below the bottom of the box for the distance of a centimetre, the box is clothed in a jacket of felt When sections are to be cut a lump of ice of the size of the fist is slung in a towel, well beaten against the floor and the pounded ice is put into the box in alternate layers with common salt to fill the box By standing the ice chamber above the die on which the gum soaked block of tissue is placed the specimen is inclosed in an atmosphere below freezing point so that the cooling agent below the die rapidly freezes the block The saving in time is surprising whilst the diminished quantity of ether used in spraying is no small gain, not to mention the reduction of the wearisome labour of bellows blowing, also when using the ice chamber blocks of tissue of larger area and thickness can be frozen than is possible without its aid During the intervals of use the water should be poured out of the box occasionally, the ice rammed down to the bottom, and if the chamber be stood on a non conducting surface as a glass plate the freezing mixture will remain useful for an hour or more The ice chamber is made by Messrs J Swift and Sons of Tottenham Court road, W, its cost is small



Queen Anne street W N BISHOP HARMAN

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 2, 1827.

DISSECTION

To the Editor of THE LANCET

SIR,—Should any measure be brought before Parliament for the general improvement of our medical legislation, I would suggest that a clause be introduced to legalise the transfer of our corporeal frame by post obit, in the same way as any other property, and rendering it obligatory upon the executors, as survivors, to fulfil the bond

For myself, I have a great antipathy to being dissected by worms and would much rather my body was submitted to the scalpel of some elegant and scientific anatomist It is really astonishing to me Sir, that such prejudice should exist against dissection, and that people should be so anxious to be immured in a cold dark hole, there to become the prey of a set of loathsome zoophytes, how much more congenial it appears to have one's bones scraped beautifully clean, arranged after the order of Nature, and hung up in some chimney corner, or perchance honoured with a glass case! There would then be some pleasure in returning from the world of spirits to revisit our earthly tabernacle, and perhaps see some old friend again shake our bunch of phalanges and, like Hamlet, soliloquize over the sad remnants of mortality

Another advantage attending this method is, that when the trumpet sounds one will know where to find one's self, and instead of grubbing and squabbling for bones* in a church yard, be able to pack up and be off at a moment's notice!

I am, Sir, yours, &c
NON MEDICUS

Loughton Essex

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[1] Lion Munchener Medicinische Wochenschrift, 1904, No 21

* Old Spanish apologue.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 24TH.

THE Council resumed, Dr. MACALISTER, the President, being in the chair.

The Case of Mr. P. H. Watson.

The Council considered the case of Percival Humble Watson, registered as of the Grand Hotel, Trafalgar-square, London, W.C., Mem. R. Coll. Surg. Eng. 1873, Lic. R. Coll. Phys. Lond. 1876, who had been summoned to appear before the Council to answer the following charge as formulated by the Council's solicitor:—

> That you abused your position as a medical man by committing adultery with a patient—namely, Mrs. Manford, a married woman, whom you had been and were attending professionally, of which adultery you were found guilty by decree of the Probate, Divorce, and Admiralty Division (Divorce) of the High Court of Justice.

Mr. D. Macmillan, solicitor, appeared for the complainant, Dr. Manford, and Mr. F. Marshall, solicitor, for the defendant.

Mr. G. L. Lushington acted as legal assessor to the Council.

Mr. MACMILLAN, in presenting the case, said that Dr. Manford did not wish to act in any vindictive manner against Mr. Watson, but he thought that the facts of the case ought to be brought before the Council.

Dr. MANFORD went into the witness-box and, after swearing to the truth of his declaration, stated that Mr. Watson was his wife's regular adviser and that the decree of divorce was made absolute on Jan. 27th, 1905.

Cross-examined by Mr. MARSHALL: He had understood counsel to say during the divorce proceedings that they put in no defence.

Mr. MARSHALL declared that there was a defence, that counsel appeared, and that the defence was not withdrawn. Though the defence was not persisted in at the hearing it was not withdrawn.

Addressing the Council on behalf of his client,

Mr. MARSHALL said that Mr. Watson denied having abused his professional position or committed adultery with Mrs. Manford. No specific act of adultery was proved in the Divorce Court. Mr. Watson was now a ship's surgeon and had been compelled to leave on a voyage in April, that being the reason why he was not present. He contended that more required to be proved than the mere fact that a medical man had committed adultery with a lady who had been a patient. The decree was not evidence that adultery had been committed during professional relations. There was no evidence that adultery took place during the visits of the medical man. He added for the consideration of the Council that Mr. Watson was a man of 53 with a wife and daughter depending on him.

The Council having sat *in camerâ*,

The PRESIDENT intimated that the Council had determined that the facts alleged against Percival Humble Watson in the inquiry had been proved to the satisfaction of the Council and that they had judged him to be guilty of infamous conduct in a professional sense and had directed the Registrar to erase the name of Percival Humble Watson.

The Case of Mr. W. P. Kirwan.

The Council then proceeded with the consideration of the case of William Patrick Kirwan, registered as of 21, Danbury-street, Islington, N., Lic. R. Coll. Phys. Edin. 1882, Lic. R. Coll. Surg. Edin. 1882, who had been summoned to appear before the Council to answer the following charges as formulated by the Council's solicitor:—

> 1. That you have associated yourself with a medical aid association—namely, a firm of chemists trading at various addresses as the Acme Medical Hall and Pharmacy—which association has systematically, by means o [illegible] ds, labels, and notices, printed and painted, [illegible], name, and qualifications, and thereby canvassed [illegible] persons in the employ of the Acme [illegible] ctise medicine and to treat patients [illegible]

Dr. A. G. Bateman, secretary, and Mr. Hempson, solicitor of the Medical Defence Union, appeared as complainants.

The defendant appeared on his own behalf.

Dr. BATEMAN, in presenting the case, said that in October last attention was called by several medical men living in Islington and one of His Majesty's coroners to the fact that certain circulars advertising Mr. Kirwan had been issued. Information was also laid before the Medical Defence Union that visiting cards with Mr. Kirwan's address and hours of consultation had been placed in the doorway of a great many houses. Dr. Bateman directed particular attention to a circular from Messrs. H. Forewell and Co. stating that they had entered into an agreement with Mr. Kirwan and giving the hours of consultation. He also alluded to the signs over the defendant's premises and the serving of medicine by unqualified employés and contended that there had been advertising.

A clerk, named T. W. TYRRELL, who procured medicine from the defendant's assistants, gave evidence, in which he said his impression was that the three establishments which he visited at Danbury-street, Islington, Silver-street, Notting-hill-gate, and Fulham Palace-road were run by a company. They were ordinary chemists' shops. Not until he came near them did he see Mr. Kirwan's name.

The DEFENDANT, in stating his defence, said that after practising for a long time in the West of Ireland he came to London in October with a small capital and purchased the lease of the place in Danbury-street. That place had been carried on as an open surgery for 40 years. After 23 years' residence in the West of Ireland he had no idea that he could not keep an open surgery. Having to go to Ireland to bring over his family he received a letter while there from the Medical Defence Union and he immediately wrote to Mr. Forewell, who was a chemist, to destroy at once the circulars that had his name on them. Mr. Forewell had *carte blanche*, and he had put up a placard which had since been removed. He had also sent out circulars, but the moment he (the defendant) heard that that was objectionable they were destroyed. No cards or anything else of that description had been sent out for months, and he would be only too happy to carry out any instructions of the General Medical Council. He had never authorised his dispensers to practise medicine in any shape or form and they had not done so.

In their evidence the two dispensers, Mr. G. R. CARPENTER and Mr. E. PEARCE, denied that they had attempted to act as medical men.

The DEFENDANT then went into the witness box and stated that he had given strict instructions to his men not to sell poisons. The circulars relating to Forewell and Company, chemists, had been done away with; they were issued while he was in Ireland and he had them stopped when he was there. He never saw the circulars till he returned from Ireland.

The Council considered their judgment *in camerâ*.

The PRESIDENT announced that the Council had resolved that the facts alleged against William Patrick Kirwan had been proved to the satisfaction of the Council. The Council had also resolved that the further consideration of the charge against him should be adjourned to the next session in November. He would then have to appear before the Council and its judgment on the case would depend on the information it could have with regard to the conduct of his practice during the interval. He would have observed from the facts alleged against him what were the matters to which his attention must be most carefully given, relating to advertising, canvassing, and unqualified persons acting for him. The Council would have to be assured on those points in November.

The Council then adjourned till the following day.

THURSDAY, MAY 25TH.

The Council resumed, Dr. MacAlister, the President, being in the chair.

The Case of Dr. A. C. M'Arthur.

The Council considered *in camerâ* the case of Alexander Christie M'Arthur, registered as of Grafton, Clarence River, New South Wales, M.B., Mast. Surg., 1892, Univ. Glasg.

After consideration the PRESIDENT announced that the defendant had been summoned to appear before the Council to answer the charge that he abused his position as a medical man by eloping with a patient, a married woman, whom he had been, and was at the time, attending professionally. With regard to the charge the Council had resolved that the facts alleged against Alexander Christie M'Arthur had been proved to the satisfaction of the Council. The Council had also decided to judge Alexander Christie M'Arthur to be guilty of infamous conduct in a professional respect and had directed the Registrar to erase from the Register the name of Alexander Christie M'Arthur.

The Case of Mr. William Jones.

The Council then considered the case of William Jones, in regard to whom the Dental Committee had found that the following facts were established by the evidence;—

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Mr. HUGO YOUNG, K.C., appeared before the Council for the defendant and Mr. R. W. TURNER for the complainants, the British Dental Association.

The PRESIDENT intimated that as the case had been heard by the Dental Committee the question before the Council was the judgment on the facts.

Mr. HUGO YOUNG pointed out that the facts as found by the committee were a very short summary of the evidence brought before that committee.

The PRESIDENT remarked that it was out of order to go into the facts again.

Mr. HUGO YOUNG said he wished to observe that Mr. Jones had undertaken not to do any of those things which the committee referred to. The extreme measure of striking Mr. Jones off the list of registered dentists would be a somewhat unnecessary and hard punishment of what he had done. He had inadvertently published advertisements which had been found to be of an objectionable character. He had done nothing maliciously and did not desire to set himself up in defiance to the wishes of the Council. Although the committee had found those advertisements to be objectionable they might be characterised chiefly as advertisements objectionable because wanting in good taste as distinguished from advertisements that were, within the meaning of the Act of Parliament, disgraceful or infamous. For a mere error of judgment or taste, he submitted, some correction less than actual striking off the register would meet the justice of the case.

Mr. TURNER said they had here on the Register a person who desired to be at the same time a tradesman and a professional man. If the Council adjourned the case for six months it must be done in such a way as to show Mr. Jones and others that the Council did not recognise in any shape or form what some people called the right to advertise.

After the Council had considered its judgment *in camerâ*,

The PRESIDENT said the decision was that, on the facts found in the report of the Dental Committee, it had been proved that William Jones had been guilty of conduct which
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Visitation and Inspection of Qualifying Examinations.

On the resumption of the discussion on the revised standing orders relating to the visitation and inspection of qualifying examinations Dr. MCVAIL moved that they be remitted to the Executive Committee for further consideration and that the committee should consult counsel as to the agreement of the proposed standing orders with Section 3 of the Medical Act of 1886. He said there were points which members did not understand and it would save time if the regulations were remitted.

Mr. YOUNG seconded the motion.

Sir VICTOR HORSLEY asked whether a special meeting of the Executive Committee might not be summoned for the following day.

The PRESIDENT said he did not think the committee regarded the matter as being so urgent as to require them to press counsel for an immediate opinion. As there should be no doubt remaining in the minds of members regarding the regulations he thought the committee would have no objection to the step suggested.

Dr. McVail's motion was then agreed to.

Qualification for Public Health Diploma.

Dr. BRUCE submitted the report of the Public Health Committee which was received and entered on the minutes. He moved the adoption of a recommendation that a note should be added to Rule 3 in the resolutions and rules adopted by the General Medical Council for diplomas in public health to the following effect:—

> *Note* (3).—A candidate who shall have produced evidence that he has himself held for a period of not less than three years an appointment as medical officer of health of a sanitary district having a population of not less than 15,000 may be exempted from the requirement of Rule 3.

The committee in its reference to this matter expressed the opinion that a note containing a similar exemption was dropped out of the existing regulations by inadvertence. The committee thought it desirable that a note conferring
should be re-introduced. The experience of
stration which it was the purpose of Rule 3
l be adequately secured in the case of a can-
himself for a sufficient time and in a district
ent been the responsible officer of health. In
view, however, of ions of public
health administra it desirable
that the period of the sanitary
district should now be more exactly defined than in the note above referred to Dr. Bruce said the Council had to consider whether the candidate should be required to hold the appointment for a certain number of years and what limit of population should be fixed. The meaning of the note was that a man who held an appointment for three years in a district the population of which was 15,000 would be freed from what he might call a second apprenticeship.

Dr. LINDSAY STEVEN seconded the motion for approval of the note.

The PRESIDENT said he thought the Public Health Committee had decided wisely. If the Council agreed that such a note should be inserted its general character and application to all cases would avoid the necessity for applications to the Council for exemption.

Sir JOHN WILLIAM MOORE thought the population limit seemed rather low. To reduce it to 15,000 was to open the door a little too widely.

Dr. BRUCE said the committee considered 15,000 the proper number as being a fair medium.

Dr. LINDSAY STEVEN said it had been pointed out by Mr. Power that if the number were raised to 20,000 they would not be granting any very great privilege because advantage of the rule could not be taken by a great number of men. On the other hand, if they reduced the number to 10,000 they would make it rather easy.

Mr. BROWN was of opinion that in mining villages and other small places the duties of medical officers were often more onerous than those of medical officers in large towns and consideration ought to be had for such men.

Dr. MCVAIL thought that the proposal of the committee was a great relaxation and ought to be limited to a period of
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than what he got
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years. By this note he
ouraging public bodies to
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e Council did not need to
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of this note would be anything less than the educational value of Rule 3 without the note. He did not believe in the operation of a time limit in matters of this kind. The effect of leaving out the note would not be to encourage the local authorities to appoint holders of diplomas in public health. If they found that candidates for these posts had not diplomas and could not easily get them they would still appoint men without them and the action of the Council in the matter would be left out of account.

Sir John Batty Tuke said that he had given up the public health diploma in despair. They had whittled it down and watered it down year after year.

Dr. McVail moved as an amendment that the proposed note should cease to be of effect five years from this date. He said he was astonished that the President should advocate in regard to public health what was equivalent to unqualified practice.

The President said that he must disclaim any such interpretation of his remarks.

Dr. McVail said it was as it appeared to him.

Sir John Batty Tuke seconded the amendment.

Mr. Morris wished to know whether there would be accommodation in hospitals and elsewhere for the candidates to qualify for admission to the examinations that at present existed.

Sir John W. Moore pointed out that this was no new regulation at all. It was a note that had fallen out inadvertently.

The President, in the course of further remarks, said that they were tightening up Rule 3 and not lightening it.

Dr. Bruce said that with the limits of 15,000 of a population and three years of service it was quite safe to carry his motion.

Dr. Little expressed the opinion that the number of population should be reduced to 10,000.

On a division Dr. McVail's amendment was rejected by 17 votes against three. Ten members did not vote and three were absent.

Sir William Thomson moved as an amendment after the word "district" to insert "within the British Dominions and."

This was seconded by Mr. Jackson and agreed to.

Dr. Bruce's motion was then carried and the note as amended approved.

The Case of Mr. Herbert Du Cane.

The Council considered the case of Herbert Du Cane, registered as of 56, Bolton-road, Darwen, Lancs., Lic. Soc. Apoth. Lond., 1890, who had been summoned to appear before the Council to answer the following charge, as formulated by the Council's solicitor:—

> That you abused your position as a medical man by committing adultery with a patient—namely, Mrs. Taylor, a married woman, whom you had been and were attending professionally.

Mr. Danckwerts, K.C., and Mr. Ellis Griffith appeared for the defendant, and Mr. F. G. Hindle, solicitor, for the complainants (the Darwen Medical Society).

Mr. Hindle opened the case for the complainants. He read a letter of confession written by Mr. Du Cane to Mr. Taylor and a declaration by Mr. Taylor regarding the regular professional attendance of Mr. Du Cane upon his family. A declaration was also read by Mr. William Standing, a chemist, who made up a prescription of Mr. Du Cane's for Mr. Taylor in January, 1904, as well as a declaration by a domestic servant regarding the dates of Mr. Du Cane's attendance. He contended that the defendant was in regular attendance on Mrs. Taylor, Mr. Taylor, and their child up to the very time of the elopement and mentioned that a decree nisi was obtained by Mr. Taylor on Nov. 25th last.

Mr. Taylor gave evidence in support of his declaration, stating that Mr. Du Cane was in regular attendance on his wife.

Mr. Danckwerts, addressing the Council on behalf of Mr. Du Cane, said that the defendant and Mrs. Taylor were both in Australia. He submitted that no evidence had been placed before the Council to prove that Mr. Du Cane used his professional position to steal the affections of Mrs. Taylor. The whole case hung upon Mr. Taylor's recollection and he asked the Council to give Mr. Du Cane the benefit of the doubt.

The Council having sat *in camerâ*,

The President announced that the Council had decided that the facts alleged against Herbert Du Cane in the notice of inquiry had been proved to the satisfaction of the Council and the Council had judged him to be guilty of infamous conduct in a professional respect and had directed the Registrar to erase from the Medical Register the name of Herbert Du Cane.

The Council then adjourned.

Friday, May 26th.

The Council resumed, the President (Dr. MacAlister) being in the chair.

Diplomas in Public Health.

Dr. Bruce moved the approval of a recommendation by the Public Health Committee to the effect that under Rule 3 relating to diplomas in public health candidates might produce evidence that they had been diligently engaged in acquiring a practical knowledge of the duties of public health administration under supervision of —— "outside the United Kingdom, a medical officer of health of a sanitary district having a population of not less than 30,000, who himself holds a registrable diploma in public health." He said it was right that the civil medical man should have the same privilege as medical officers in the army service. In proposing this amendment of the rules they were not in any way relaxing them but simply defining them. In his view they ought not to relax or in any way decrease the value of the diploma. He would be the last man to depreciate the diploma and he would be very glad if more men held it. He submitted a table showing that in the ten years ending 1904 the registrations of public health diplomas in England numbered 339, in Scotland 248, and in Ireland 83. He did not think that the remark levelled at them by Sir John Tuke was justified. They had not been on the downward grade.

Sir John W. Moore, in seconding the motion, suggested that the words "within the British Dominions" should be inserted.

This was agreed to.

Dr. Bruce pointed out that the effect of Scotland leading the van in public health was that Scotsmen were insisting more and more on taking advantage of the public health diploma. The increase in the registration was due to Scotland and Ireland.

The President remarked that the superiority of Scotsmen would be more marked when they extended this provision outside the United Kingdom.

Mr. Thomson said he did not see why men with experience who had obtained offices in the Colonies should be in a different position from that of men in the United Kingdom.

Dr. Bruce's motion was then adopted.

Report of the Education Committee.

Dr. Windle submitted the following report of the Education Committee.

I. Teaching without Examination.

In the May session of 1904 the following resolution was passed by the Council: That the Education Committee be requested to collect information and report on the question of the possibility of including certain subjects in the curriculum without requiring examination in them.

The Education Committee desires to report that it has endeavoured, though without great success, to elicit the information which the Council requested. It was, in the first instance, decided that it was not advisable that any licensing body should be asked whether, in its opinion, there were any subjects of the present curriculum which might be taught without being examined upon. The inquiries made were therefore limited to what had taken place in the past.

It appears that in some cases the following subjects—vaccination, ophthalmology, mental diseases, infectious diseases—whilst required as part of the curriculum, are not specially examined upon—that is to say, there is no separate examination in one or more of these subjects. At the same time, students are given to understand that questions on any or all of these subjects may form a part of one or other of the papers set at the examination. It cannot, therefore, be said that there is any subject in the curriculum at present which is definitely excluded from examination.

The Education Committee has also endeavoured to ascertain whether any light could be thrown on the subject by continental experience and in this connexion has to thank Dr. H. Frank Heath of the Education Department for the information and papers which he has been good enough to supply it with. It appears that there is no country in Europe in which the certificate of a professor as to satisfactory attendance is accepted in the Faculty of Medicine, or indeed in any other Faculty, in the place of an examination. The need for such a device for moderating the rigours of the examination system as it flourishes here has never presented itself, for with the possible exception of Sweden (where the system has certain resemblances with our own) the examination is never divorced from the teaching and the record of the student's work in the schoolroom, laboratory, and hospital is always a most important factor in the ultimate decision. There is a centralised external examination in medicine held in Brussels by representatives from all the universities in Belgium at which medical students from any one university may present themselves if they so desire.

It would appear that there are special local reasons which may account for this examination, which in any case is very unusual in its nature.

We are informed by Dr. Heath that the only real parallel to the methods pursued in the United Kingdom is the examination system of China.

The Education Committee has therefore to report that its inquiry has led to information of a more or less negative character save in so far that it has brought out the fact that the examination of students abroad is almost entirely—generally entirely—in the hands of those who have taught them. Some at least of those who are in favour of the system of permitting certain courses to be taken out without requiring an examination to be held in them would probably agree that no such course should be considered to have been satisfactorily followed unless the teacher of that course had certified that the student had passed his class examination Such a method it must be admitted would very closely resemble that in vogue on the continent

II Application from the University of London

Dr Windle moved that the report should be received and entered on the minutes

Dr **Norman Moore** seconded the motion

Dr **Mackay** said he thought the subject matter of the first part of the report was of the very greatest importance The whole question of examination and its relation to teaching had already been discussed by the Council and what they had heard was only a stage in the further illustration of the matter He would be the last to suggest that examinations should be done away with He felt certain that particularly with respect to the final subjects of medicine it was of the utmost importance that every licensing body should take care that those who received its licence were fully qualified for the work they took in hand He should be very much inclined *to have the final examinations of the different licensing* bodies very much improved and extended He thought those subjects mentioned in the report—vaccination, ophthalmology, mental diseases, infectious diseases—should all form an integral part and not merely a chance part of the examinations When they came to deal with the earlier subjects of the curriculum, which properly were only to be regarded as preparatory to the great final test of medicine, he thought the question of examination assumed a very different form indeed and that undue and over severe examination might tend to destroy the efficiency of the teaching in those subjects While it was of great importance, for instance, that students should have a knowledge of the principles of biology, if the subject was made examinable, and if during the three months, which was all that the greatest universities could devote to it, they compelled students to get up the subject, the students were forced from the outset of their curriculum to adopt a wrong method of study The methods of preparation for examination were very different from methods of real study The evils of examination did not lie with the General Medical Council because that matter was in the hands of the universities and other bodies and it was from them that the remedy must come The Council had done good in the past by directing the attention of bodies to the suggestions they had made The Council by keeping before it a distinct method in medical education could do a very great deal He would point out that the Council in the Acts which governed its procedure had power to inquire into courses of study held by the different licensing bodies and the various examinations of those bodies The Council had recently conducted an examination of the first professional examination and it was right that it should exercise the power if it had any reason to believe that the courses of study were not sufficient On the other hand, he did not think the Council should make a settled policy of examining the earlier examinations He feared that would increase the stringency of examinations and the difficulty of the medical students It should be only in exceptional cases that that work should be taken up by the Council He thought the Council was not in a position to go any further in its special efforts in this direction without having further information The matter was of the greatest importance and he thought they ought to find out what was the custom in the different countries of Europe and America and that at any rate the Council should know what other countries were doing in the way of medical education Though it was a difficult task still he thought the Education Committee if given sufficient time ought to be capable of fulfilling it The suggestion which he would afterwards put forward as a motion was that it should be remitted to the Education Committee to prepare and to present to the Council a detailed report upon the system of examination in medicine followed in other countries with the special object of determining the number of professional examinations demanded, the subjects included in these examinations, and the value, if any, attached to the records of class attendance and work He did not think this work could be accomplished speedily but in course of time the Education Committee would be able to report some very valuable information which would lead to good results

Dr **Lindsay Steven** said he had given this matter considerable attention and he had had the opportunity of bringing it before his constituents and discussing it with them The opinion he found to prevail in that part of the profession which he represented was that it would be an exceedingly dangerous thing to include within the curriculum either in the earlier part or the later part a compulsory course upon which there should be no professional examination Nothing had come out in this report by the Education Committee that had led him to disagree with that opinion or to alter his own personal opinion It was a dangerous thing to make compulsory courses in a curriculum and not demand a professional examination upon them

Dr **Pye Smith** said he wished to bring before the Council the subject of a junior schools examination which the University of London wished the Council to recognise as qualifying for the subject for which it was held The University of London asked that this school examination should from the point of view of the Council be on the same footing as the similar Oxford and Cambridge examination

Sir **William Turner** said that he would like some information Was this examination conducted by the University of London through examiners appointed for the *purpose and was it intended to take place* as a leaving certificate examination representing the state of knowledge of a boy of 15 or 16 ?

Dr **Pye Smith** replied in the affirmative and added, in reply to a further question, that the examination was not to occupy any position in the scheme of graduation

Dr **Windle** said that the matter ought to be explained fully The Consultative Committee submitted to the Council and other educational bodies a scheme which contemplated the holding of leaving examinations of two grades in secondary schools Those examinations presented several cardinal points—first, that they would be on the curriculum of the school secondly, that they would be held by the teachers of the school , and thirdly, that they were to qualify, if possible, for matriculation and other professional examinations The Consultative Committee only asked that the senior of those examinations should be accepted, in view of the examinations which the Council now accepted for entrance to the medical curriculum and not the junior one That was made clear at the conference Incited by this hope of the authors of the scheme universities had tried to arrange a similar plan and the University of London originally proposed a senior school leaving examination which it was prepared to accept, in view of its own matriculation That examination was brought under the cognisance of the Education Committee and the Education Committee at once accepted it because it was felt that as it was accepted by the University itself as the entrance to its own professional matriculation there could be no question of accepting it as the entrance to any other matriculation But they now came to this junior leaving examination which was not going to admit to any further examinations in the University of London So far as the student was concerned he was as absolutely an outsider in the University of London as if he had never presented himself for this examination and passed it But it was asked that this should be accepted as admitting students to other diplomas It seemed rather a curious procedure but it had a certain parallel in the examinations of the junior Oxford and Cambridge local That parallel was not so close as it would appear to those who were not quite familiar with the case The Oxford and Cambridge examination was accepted for a considerable number of years because there was a need It was an examination largely held in schools and it was held to be a great advantage not to compel those schools to take another examination and it had been accepted for some time as an examination qualifying for admission to the curriculum But of late years the junior local examination of Oxford and Cambridge had not been accepted as such The Universities of Oxford and Cambridge, desiring, however, that their examinations in schools should not fall out as qualifying examinations for medical students had arranged in connexion with the local examination a special preliminary medical examination which was held with it, but which was of a higher standard and more stringency The percentage of failures at that examination was about 60 per cent , whereas the percentage of failures in the junior examination was very much lower The Oxford and Cambridge local might be considered as equivalent to what was now proposed by the University of London, but that was not the examination the Council accepted but a totally different thing. What was pointed out in the letter that was being sent to the registrar of the University of London was that if the University of London chose in connexion with this junior leaving certificate examination to set up a medical preliminary examination as the Oxford and Cambridge Local Board had done the Education Committee then would be quite ready to examine the regulations and conditions of the examination and to accept it if it found it was of the scope and character which the Education Committee had been in the habit of demanding. This was only the first of a series of applications that would arise and the Council must have a policy. The Education Committee was quite clear as to what its policy was.

The PRESIDENT remarked that Oxford and Cambridge had also established junior schools examinations, but they had not applied for the recognition of these for the medical curriculum because they did not consider them up to the mark. These examinations were on the same level as the junior schools examination of the University of London.

The motion was agreed to and the report was received and entered on the minutes.

Dr. MACKAY then proposed his motion, viz. :—

> That it be remitted to the Education Committee to prepare and present to the Council a detailed report upon the system of examination in medicine followed in other countries with the special object of determining the number of professional examinations demanded, the subjects included in these examinations, and the value, if any, attached to the records of class attendance and work.

He said the motion only asked that their information should be more detailed and precise.

Sir JOHN BATTY TUKE seconded the motion.

Dr. PYE-SMITH said that with respect to Dr. Windle's exposition he had nothing to say against it, but while recognising the importance of keeping up those examinations to a high level he thought the examination as proposed by the University of London did preserve a high level of a school leaving examination. He could not, of course, pledge the Senate, but he might say that it would be the last to wish to lower the standard. The reply of Dr. Windle would enlighten them and pave the way, he thought, to an examination which would be acceptable to Dr. Windle himself.

Dr. WINDLE, referring to the motion before the Council, said that while such a report as Dr. Mackay proposed would be very interesting and useful it would be very laborious work to draw it up. The pith of the information which could be elicited by such a motion was really contained in the report of the Education Committee.

Dr. LITTLE remarked that the Education Committee was already overworked.

Several other members alluded to the great amount of work which Dr. Mackay was proposing to put upon the Education Committee.

Sir JOHN BATTY TUKE said that if they could bring their examinations down to one long final examination it would do a great deal of good to the student and a great deal of harm to the crammer.

Dr. MACKAY said the work did not require to extend to the length suggested. They might give a very useful summary of the method of examination in this country on a couple of pages and they might do the same in the case of America, Germany, France, and Italy.

With the leave of the Council the words "a committee" were substituted for "the Education Committee."

The motion so amended was put to the vote and rejected by 11 votes against 9.

Dr. LINDSAY STEVEN asked Dr. Windle whether the committee had anything to report on the remit of last November to consider whether the adoption by the Council of one or either or both of the following resolutions would not help to secure the attainment of the objects the Council had in view in instituting the five years' curriculum—viz., (1) that the preliminary scientific examination in physics, biology, and chemistry should be passed before the student begins the qualifying stage of anatomy and physiology; and (2) before being admitted to the final examination the student should produce evidence that he has devoted the last year of his curriculum exclusively to practical and clinical work and study.

Dr. WINDLE said the committee was not yet in a position to report on that matter.

The PRESIDENT said that no doubt the Education Committee would thank Dr. Lindsay Steven for reminding it of its duty.

Financial Report.

Dr. PYE-SMITH moved that the following report of the Finance Committee be received and entered on the minutes :—

> The Finance Committee have to report that the income of the General and Branch Councils for the year ending Dec. 31st, 1904, was £8062 0s. 6d. The expenditure for the same period was £8280 0s. 7d. Consequently there is a deficit on the year's working of £218 0s. 1d. Although there is a deficit the committee cannot but regard with satisfaction the fact that it compares so favourably with that of last year (£2165 1s. 8d.); indeed, with the exception of the year 1898, in which the Pharmacopœia was published and the receipts thereby abnormally increased, this is the first time since 1895 that the deficit has not exceeded £1000.
>
> Taking matters in detail it will be seen that the receipts from fees show a decrease of £115 11s., the English branch having received £93 5s. less, the Scottish branch £195 18s. 6d. less, and the Irish branch £173 12s. 6d. more. The sum received is practically the same as that received in 1902 (£6613 15s. 6d.) but the average for the past three years is about £400 a year less than for the previous three, notwithstanding the raising of some of the fees, the result of which is shown below.
>
> It will be remembered that in July, 1903, the fees for the registration of additional qualifications and for restoration to the Register were raised from 5s. to £1, and it is now possible to compare a full year at the new rate with the last year at the old rate as follows:—

	1902 No. of fees.	1904 No. of fees.	1902 Cash received.	1904 Cash received.	Increase.
			£ s.	£ s.	£ s.
English branch	569	... 404	... 142 5	... 404 0	... 261 15
Scottish branch	158	... 150	... 39 10	... 150 0	... 110 10
Irish branch	73	... 59	... 18 5	... 59 0	... 40 15
Total	800	... 613	... £200 0	... £613 0	... £413 0

> The English branch shows a decrease of 46 in the number of original registration fees received, the Scottish branch a decrease of 47, while the Irish branch shows an increase of 30, making a net decrease of 63. The average number of original registrations during the past seven years has been 154 less than for the previous seven and 92 less than for the seven years before that.
>
> Turning to expenditure it will be seen that there is a reduction of £2047 17s. 10d. and the following details seem to call for comment:—(a) The decrease of £1021 4s. in General Council fees is due to the fact that there were two sessions instead of three and that they lasted altogether for 13 days instead of 17. The reduced scale of travelling allowances tended to economy; but to balance this additional expenditure was entailed by the addition of two new members to the Council. (b) The increase of £39 3s. 3d. in various committee fees was caused by the meeting of the Preliminary Scientific Committee early in May. (c) The reduction of £75 4s. 9d. in the cost of printing the Medical and Students Registers is due to the smaller number of copies ordered in accordance with the resolutions adopted in July, 1903. (d) The cost of printing the programmes, &c., was reduced by £124 2s. 6d. and was the natural result of the shortened sessions. (e) Law expenses show a reduction of £78 1s. 7d. The Council was especially fortunate in having a small number of penal cases to deal with, none of which took up much time; unfortunately, three of the cases which came up were only postponed and will have to be heard this session. (f) The reduction of £287 8s. 2d. in the visitation of examinations is due to there being no inspection of primary examinations and also to there being only a small portion of the cycle to complete. (g) Miscellaneous expenses were reduced by £129 4s. 1d., partly because of the smaller cost of reporting penal cases and partly because in 1903 50 guineas were paid for the valuation of the Council's property.
>
> With regard to the income and expenditure of the three branch Councils for the past three years, with the small exceptions of the branch Council fees in Scotland and Ireland and the receipts of the Irish branch from registration fees, there is a reduction all round in income and expenditure; but it is satisfactory to see that each branch is doing what it can to balance the diminished revenue by keeping down expenses.
>
> It will be noted with satisfaction that the total assets of the [illegible] result branches are only reduced on the year's [illegible] which compares very favourably with th[illegible] shown in the previous year. It will be not[illegible] valued at about 90. The reason of this is that Consols [illegible] English branch in 1903 and 1904, but the auditors omitted to write off the difference between the price at which they were sold (91) and the price at which they had been valued (90), and consequently the state- [illegible]s that £9065 11s. 10d. Consols at 90 were [illegible]ctly accurate, though the difference is but [illegible] opinion that these differences should be written off as they arise. The Pharmacopœia accounts show that the funds from which the expense of publishing the next Pharmacopœia will be met are steadily, if slowly, increasing at the rate of about £200 a year.
>
> *Irish Branch.*—Assuming that the expenses for this year, including the contribution to the General Council, are about the same as those of last, say £1000, and the receipts do not fall below £850, there will be a deficit of about £150 on the year's working. Against this there is £111 in hand, and the committee recommend a grant of £100, should it be required, to make up the deficiency.
>
> *Dental Fund.*—The English branch having repaid the loan to it of £1200, this sum has been invested in Consols, of which £1367 10s. 5d. were bought at 87¾, bringing the total invested funds up to £8400. Since the close of the year a further sum of £660 3s. 10d. Consols has been bought at 90¾. The income for the year exceeded the expenditure by £435 19s. 1d.
>
> To forecast the expenditure for a year is most difficult, because the number and length of the sessions, which cannot be foretold, are by far the most important factors in the calculation. It should be remembered that the assembly and dispersal of the Council, exclusive

of all fees for attendance, costs £350, and that hotel expenses and attendance fees come to £200 a day, or 16s 8d a minute for the four

necessary to find about £1
Hanover-square With re
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No 16, Hanover square will

Dr. Pye-Smith congratulated the Council on having got near an equality between expenditure and income

Mr TOMES seconded the motion, which was agreed to

On the motion of Dr. PYE SMITH, seconded by Mr. TOMES, it was resolved that a grant of £100, should it be required, be made towards the expenses of the Irish Branch Council during the current year.

Dr BRUCE moved —

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the management of the

This was seconded by Sir CHRISTOPHER NIXON and agreed to

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The PRESIDENT remarked that the Council was extremely well served by all its officials.

The Final Examination of the University of Oxford

Sir PATRICK HERON WATSON moved:—

That the report of the Examination Committee on the report by the visitor, Dr McCall Anderson, and the inspector, Mr Thomas Bryant, on the final examination for the degree of Bachelor of Medicine and Bachelor of Surgery of the University of Oxford be received and entered on the minutes

Mr. YOUNG seconded the motion, which was agreed to

The following was the report of the Examination Committee on the visitation and inspection.—

The final examination of this University was inspected in December, 1904, by the visitor, Dr. McCall Anderson, and the inspector, Mr

and clearly expressed, and indicated thought and knowledge The *viva voce* clinical examination was "everything that could be desired," although "the marks given were perhaps generous."

SURGERY

The visitor and inspector read many of the written answers in
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MIDWIFERY AND GYNÆCOLOGY.

PATHOLOGY

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too liberal.

FORENSIC MEDICINE AND HYGIENE.

contained three questions on forensic medicine—
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nspector as they
and found to be
is no report regarding a *viva voce* examination

or is "that the
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Medical Acts."
The visitor and
ere is still no

*** At the conclusion of the surgical section of the visitor and inspector's report the following paragraph occurs —

"It did not appear that they had in any way suffered from having been arts and science students of a university which prescribes no special medical curriculum but which offers to its former graduates an examination for B.M. and B.C. degrees of such a high standard as we believe the examination we have inspected to be"

Mr. JACKSON said he wished to ask whether in the surgery examination there was no operation on the dead body. He thought that in such an examination there should be some proof that the student was able to use the forceps and the knife as well as other instruments Apparently there was no mention of operations on the cadaver and nothing was said with regard to diseases of the ear.

Sir CHRISTOPHER NIXON said that he was disappointed that no reference was made in this report to the former report presented to the Council on the inspection and visitation by the late Sir George Duffey and himself. The present report showed that Sir George Duffey and himself had the most ample justification for the comments they then made on the examinations of the University of Oxford. First of all they found fault with the way in which the clinical examination was conducted simultaneously in medicine and surgery so that there was not an opportunity for the visitor and inspector to make a report on both examinations. They further reported that the time was insufficient. The present report showed that there had been a complete alteration, the examinations being held upon different days and double the amount of time being given to the clinical examinations. The system of marking had been objected to and now there was a very complete and elaborate system. He also referred to previous comments on the lack of special examination in clinical microscopy and the deficiencies of the examination in surgical anatomy

Dr MCCALL ANDERSON said the visitor and inspector were only asked to give an opinion as to the sufficiency of the examination and it must be very gratifying to Sir Christopher Nixon to find that all the criticisms had been amply met by the University With regard to operations on the dead body the difficulty, of course, was with regard to subjects and the way this difficulty was met, as stated in the report, was the best substitute for actual operations on the cadaver. He pointed out that microscopic examination was made by every student and as to the absence of a report regarding a *viva voce* examination in forensic medicine he said that the report of the visitor and inspector showed that the examination in forensic medicine and hygiene was thoroughly practical. Though there was no separate *viva voce* examination the candidates were liable to be so examined. He expressed his recognition of the most courteous consideration which he and Mr. Bryant had received from the University authorities and concluded by referring to the examination as far above the requirements of the Medical Acts

Sir THOMAS MYLES said that the Irish bodies continued to attach the very highest importance to the actual operations on the cadaver He felt that they would be put in a position
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did

Dr. MCCALL ANDERSON said he agreed that there ought to be an examination in operative surgery but they could not make bricks without straw.

Sir WILLIAM THOMSON said that he thought it would only have been courteous to make some reference to the previous report. It would tend to point to the value of inspection and its results He thought it unfortunate that great institutions like the University of Oxford should be unable in carrying out its examinations to meet this so called difficulty in regard to operative surgery. He thought that if a little effort were made or a little regard had to the views sometimes expressed in the General Medical Council the matter would never again need to be referred to by any visitor or inspector. This was a matter in which he entirely agreed with Sir Thomas Myles. It was quite absurd to him to hear of tests being made as to proficiency in operative surgery which simply consisted in painting with a line of chalk on the living body or describing the outline of the operation. He held that the Council should insist on these substitutions for examination being put an end to.

Dr. **BENNETT** expressed surprise that ophthalmic examination was omitted from the examinations in practical surgery and found fault with the use of blunt instruments on the living body.

Mr. **MORRIS**, referring to the practice of the Royal College of Surgeons in London, said that operations on the cadaver took place in the Fellowship examinations, but from their experience the examiners had one and all formed the opinion that very little value attached to that form of examining candidates for the Membership.

Sir **VICTOR HORSLEY** said he understood that Mr. Morris was speaking for the Council and not for the College as a whole. If he submitted this question to the Royal College of Surgeons he would find that the Fellows and Members did not agree with him. Most of them thought that the absence of operations in the examinations for operative surgery was a great blot on the joint examination.

Sir **JOHN W. MOORE** expressed the opinion that when a visitation had resulted as it had done in the case of Sir George Duffey and Sir Christopher Nixon some recognition of it ought to be made in the present report.

Dr. **NORMAN MOORE** thought it would form a very bad precedent if the Council were to congratulate itself on the result of its efforts. It should rest in dignified satisfaction.

Dr. **McVAIL** said there was not the slightest reflection on the truth of the report of the former visitor and inspector in the report now before them and it was not always advisable to say how a change had come about. There could be no doubt that the examination was in every way satisfactory. As to the lack of a formal examination in ophthalmology he noticed that the eye was mentioned in the examination papers. In medicine the ophthalmoscopic examination included the following: cases—normal eye, opaque nerve fibres and high myopia, persistent hyaloid, keratitis.

The **PRESIDENT** said that in a number of reports before the Council criticisms were made on particular parts of particular examinations. It was not to be assumed that the Council ignored those criticisms. They would come up for consideration when the final report of the Examination Committee on the whole cycle was brought up. They could not deal fairly with one examination at a time. They must deal with them all and he would add that this examination at Oxford was not the first regarding which criticism had been made in connexion with operative surgery.

Mr. **THOMSON** said it must be a matter for congratulation on the part of the graduates of the University of Oxford that now they were reinstated in the good graces of this worthy Council. He did not assent to the view that the standard of the Oxford examination had been raised in the way in which certain members suggested. The standard had always been a high one. Their candidates had to pass the qualifying subjects in medicine, midwifery, and surgery at one and the same examination. They were not permitted to take it piecemeal. He admitted that the character of the examination had been altered but not the standard. It had been altered so far as the method and routine of the examination were affected. It was easy to come down to Oxford and say this or that was not so good as it ought to be but they had to consider the difficulties of the situation. All their examiners in the final subjects might be regarded as extern examiners. They were not resident with the exception of their Regius professor. The students suffered no inconvenience by the arrangement of the examinations. It was a serious matter to ask men to come from all parts of the country to waste three or four days when they might overlap the subjects and save time. Such overlapping was not a justification for suggesting that an examination was not sufficient. Members of the Council would remember certain instances being brought forward as instances of the leniency of this examination. One of the men who in the previous report was regarded as a weakling was one who by research and the practice of his profession had attracted not only the attention of the profession but that of the public as well. He wished that all the insufficients were as capable. He had nothing to do with the last report but certain observations had been made on the present occasion which rather led one to assume that serious changes had been effected in the character of this examination. It was pointed out that a system of marks was in operation, but this was a mere suggestion put down so that the examiners might have something to go by. The University had no intention of requiring its examiners to conform to a hard-and-fast system. The examination had been made a little more methodical but the general standard had not been altered. It seemed a source of satisfaction to Irish members to tell them many of the virtues of their examinations in operative surgery. He would not venture to express any opinion in this matter. He must leave it to the surgeons in this country but he might say that there seemed to be no unanimity on the subject. If the Council liked to make recommendations it must also provide the facilities by which those recommendations were to be given effect to. He would point out that Oxford also in its senior examination for the Mastership of Surgery examined every candidate on the cadaver. With regard to the lack of special examination in ophthalmology and so on after what Dr. McVail had pointed out and considering that the examination was taken at one time, he did not think that could be called a serious defect in the examination. The candidates were liable to be asked questions on those subjects.

The motion was then agreed to and the report of the Examination Committee was approved.

The Final Examination of the University of London.

Sir **PATRICK HERON WATSON** submitted the report of the Examination Committee on the reports by the inspector, Mr. Thomas Bryant, and the visitor, Sir John Batty Tuke, on the final examination for the degrees of Bachelor of Medicine and Bachelor of Surgery of the University of London. He moved that it be received and entered on the minutes.

Mr. **YOUNG** seconded the motion, which was agreed to.

The report was in the following terms:—

The inspection and visitation of the final examination of the University of London, held in October and November, 1904, is reported on separately by the inspector, Mr. Thomas Bryant, and the visitor, Sir John Batty Tuke. The report by the inspector extends from page 6 to page 15; that by the visitor is comprised in one paragraph on page 15.

The inspector was present during the examinations in oral medicine, clinical medicine, oral surgery, clinical surgery, surgical pathology, surgical an[illegible] [illegible]y, forensic medicine, hygiene, a[illegible] [illegible] He also read some of the candidates' answers in the written exa[illegible] in all the subjects. The visitor was present along with the inspector on two days of the clinical surgical examinations.

The inspector reports that the examination was "sufficient." The visitor reports that it was "sufficient" and of "high quality." The inspector commends the written questions in medicine, surgery, midwifery and gynæcology, pathology, forensic medicine, and hygiene; and as regards most of the candidates' papers he was well satisfied and he nowhere dissents from the marks that were awarded. He states that the oral examination in medicine was "very thorough"; in surgical pathology it was "excellent" and "of a high order;" in surgical anatomy and appliances "good"; in pathology "excellent and searching"; in forensic medicine and hygiene "a very searching one"; and in midwifery and gynæcology "a very full and practical one." Regarding clinical surgery h[illegible] [illegible]tion was high in standard. In clinical medicine he [illegible] [illegible]. Geo[illegible] [illegible], much stress being laid upon metho[illegible] [illegible] of these was less satisfactory owing to [illegible] her physician at short notice taking his place; the cases were few and scattered and during part of the time friends of the patients were present in the ward.

At the oral examinations in medicine, clinical surgery, surgical pathology, surgical anatomy and appliances, each candidate was examined by one examiner only. In pathology each of the two examiners examined every candidate at separate tables and conferred as to the marks to be awarded. This was also the arrangement in forensic medicine and hygiene and in midwifery and gynæcology. Concerning this method of examination the inspector remarks as follows:

"The only [illegible] to be made has reference to the following [illegible] neral Medical Council: 'A candidate sh[illegible] except in the presence of two examiners. [illegible] this examination the recommendation, as taken in its ordinary sense, was *ignored*; for the *viva voce* examination was invariably conducted by a single examiner, who himself fixed the marks awarded *to* the candidate. Where two examiners divided the time allowed for the examination between them the final mark was given after a conference between the two; but in all other instances the results of the examination were decided upon by one examiner on his sole responsibility. In another university which has been inspected an *interpretation* is given to this recommendation which differs widely from that usually accepted. In view of these facts it appears to the *inspector* that the Council should consider in what sense the recommendation is to be interpreted, for it is quite clear that where the number of candidates is large the difficulty of carrying it out, at least in the sense in which it is understood the Council intended, would be great and the expense heavy. Where all the examiners are of a high order the presence or absence of a second examiner or assessor may not always be of much importance. But it is easy to imagine conditions in which the absence

Sir **PATRICK HERON WATSON** moved that the report be approved.

Mr. **YOUNG** seconded the motion.

The **PRESIDENT** said the motion implied that one point was reserved for the consideration of the Council and that it would come up again in connexion with the whole system of examinations, in some of which a difference of interpretation had been noted.

The motion was agreed to and the report was approved.

Final Report on Cycle of Inspection.

Dr. **McVAIL** moved to remit to the Examination Committee to prepare and present to the Council at its May session next year a general report on the whole cycle of visitations and inspections of the final examinations.

Sir **JOHN W. MOORE** seconded the motion.

Dr. **PYE-SMITH** said that unless they had some use for this general report they ought to let the matter rest with the good that had been done. They had all the reports on the minutes.

Sir **VICTOR HORSLEY** said that the Council had a duty to perform—namely the co-relation under the Act of 1886 of medical education throughout the country. Until they had digested all those reports and agreed what should be the status of medical education they had not done their duty under the Medical Acts.

Sir **JOHN W. MOORE** said that important matters such as the practice of operative surgery had been kept over till they considered the general report.

Dr. **MACKAY** said that it was the duty of the Council to co-relate the results and put them together before they started on a new cycle of inspections.

The **PRESIDENT** said that he thought the Council was bound to have a general report because of some of the matters being left over for discussion.

The motion was carried by a large majority.

The Navy, Army, and Indian Medical Services.

On the motion of Sir **PATRICK HERON WATSON**, seconded by Dr. **LITTLE**, the following report of the Examination Committee on the statistics relating to the examinations of admission to the Navy, Army, and Indian Medical Services was received and entered on the minutes.

a circular letter to the

the percentage of rejecti

regularly to consider the

the Council such suggestions as occur to them.

On the motion of Sir **PATRICK HERON WATSON**, seconded by Mr. **BROWN**, the recommendation of the committee was adopted.

Report of the Pharmacopœia Committee.

Dr. **NORMAN MOORE**, on behalf of the President, in moving that the report of the Pharmacopœia Committee be received and entered on the minutes, said it contained no contentious matter and no recommendations.

The motion was seconded by Sir **JOHN W. MOORE** and agreed to.

The report was as follows:—

From

Pharmac

has alre

one time.

The committee desire to record their sense of the loss they sustained by the death of Dr. Tichborne, whose keen interest in the Pharmacopœia and whose personal labours for its improvement were greatly valued by his colleagues.

During the past year the committee have had under consideration the question of organising, in a more systematic fashion than has

several years past, were then added as additional members. To the body of experts so appointed, and now at work, various questions

harmacy in general

year has been set

ceting of the com-

mittee of reference on pharmacy, which was held on Feb. 23rd, Mr. Walter Hills was chosen as chairman and Professor Greenish was appointed secretary. At this meeting the President and Dr. Tirard, secretary of the Pharmacopœia Committee, were present and gave explanations as to the inquiries contemplated and the methods suggested

posals that may be made to them by any of their committees or

Report of the Dental Committee.

Mr. **TOMES** moved that the following report from the Dental Education and Examination Committee be received and entered on the minutes. This was seconded by Mr. **BROWN** and agreed to. The committee reported:—

A communication has been received from the University of Dublin (Trinity College) notifying the General Medical Council of the establish-

degree in dental science, as well as of a Licentiateship in

UNIVERSITY OF DUBLIN.

LICENCE IN DENTAL SCIENCE.

It is not proposed to throw open this examination to students who have wholly or in part studied elsewhere, except in the case of qualified persons or others who may desire recognition of courses taken

lishment of the degree or licence The public

The final examina

dental surgery and pathology, dental mechanics orthodontia.

Whilst the amount of study required of the student shows a general correspondence with that prescribed by other bodies it is somewhat

attendance at a general hospital

to him, for the necessities of the case bring it about that he must attend clinical instruction at a period when the ordinary medical student is not doing so; and, further, he is not examined in medicine and surgery till two years or thereabouts after his attendance on these subjects has ceased. There are only two examinations, physics and chemistry being included in the first, which results in its embracing a very considerable range of subjects. The student is, however, allowed to pass them in groups.

DEGREE IN DENTAL SCIENCE.

This has the same curriculum as that for the licence, with the addition of lectures on pathology, practical pathology, and bacteriology, which should be taken out in the fourth or fifth year. All candidates must have passed for the B.A. degree and must have been students of the medical or dental schools for five years. The previous dental examination is the same but the final examination embraces the additional subjects of pathology and bacteriology. The possession of the degree (M. Dent. Sc. Univ. Dub.) *may therefore be taken to imply a higher* general culture.

VICTORIA UNIVERSITY OF MANCHESTER.

DIPLOMA IN DENTISTRY (L.D.S. MANC.).

The preliminary examination is to be such as is required by the General Medical Council for registration as a dental student.

A curriculum of four years' duration subsequent to registration is required and studies are divided into four courses with examinations at the end of each.

The first course embraces chemistry and physics which may have been studied prior to registration and at any institution recognised for the purpose by the University.

The second course embraces metallurgy and dental mechanics; the [illegible] at an approved dental hospital for two years [illegible] late of registration, or by apprenticeship to a [illegible] the first examination must have been passed.

The third course and examination embraces anatomy, physiology, and dental [illegible] These may be any courses recognised b[illegible]

The fourt[illegible] comprises surgery, operative dentistry, and dental surgery, and prosthetics. Clinical instruction at *a general hospital must have extended over 12 months and the practice* of a registered dental hospital over a period of two years.

It will be noticed that this scheme differs markedly from that of the Dublin University. No part of the instruction is required to be taken out at the Victoria University, so that the examination for the diploma is absolutely thrown open to candidates educated at recognised schools elsewhere.

There are four examinations in the place of two; and though it is not expressly so prescribed, the natural result of the arrangement will be that the attendance at a general hospital and upon the general subjects taught there will be taken in the fourth year.

DEGREE OF BACHELOR OF DENTAL SURGERY.

A period of five years of study is required subsequent to registration. The same matriculation examination as that required by the Faculty of Medicine must be passed.

The first course and examination differs from that required for the diploma, in that zoology is added, and the period of instruction is 12 months instead of six, and must be taken in the University.

The second course and examination differs little from that required for the diploma but must be partly taken in the University, and the same applies to the third course and examination, except that all must be taken at the University.

The fourth course can be taken out at other recognised schools or at the University, and embraces surgery, pathology, including bacteriology, clinical medicine and surgery, dental surgery and pathology, three years of dental hospital practice, and an additional year of work in the mechanical laboratory of a recognised dental hospital, &c. Persons qualified before October, 1905, who have pursued their studies at Owens College or at the University may be allowed to obtain the degree of Bachelor of Dental Surgery after passing the third and the final examinations without any additional study, a concession not beyond question in respect of a "higher" degree. The degree of Master of Dental Surgery may be obtained either on presentation of a thesis or by examination on certain dental subjects or groups of subjects as yet undetermined.

The degrees, therefore, are confined to those who have, to a considerable extent at all events, studied in the University.

Special courses of lectures on the surgery of the mouth, on dental bacteriology, and on dental materia medica are not represented in the curriculum for the licence, though *such courses are required, for* example, by the Royal College of Surgeons of England for their licence.

It appears to your committee desirable that degrees "in respect of a higher degree of knowledge" should be granted to those persons only who are already possessed of a registrable qualification, a course which appears to be indicated by the words used in Section 11 (6) of the *Dentists Act.*

DENTAL BOARD OF VICTORIA, AUSTRALIA.

A letter has been received from the Dental Board of Victoria expressing their gratification at the recognition of their diploma and their cordial agreement with the conditions attached thereto. They ask for information as to the returns made to the General Medical Council by the licensing bodies of the United Kingdom and fully recognise the necessity of some test of the sufficiency of their examinations which, owing to distance, cannot be inspected like those of the licensing bodies at home. They offer, should the Council desire it, to retain for 12 months the examination papers, returns, &c., and to forward them to the Registrar. Powers of visitation of their examinations [illegible] to the University of Melbourne. They point [illegible] on of the statistics as to the proportion of pa[illegible] obtain at home might not be perfectly fair to a school as yet small and at the moment possessed of an unusually competent body of students.

RECOMMENDATIONS.

(i.) That the registrar be instructed to accept for the purposes of registration upon the Dentists Register the licence in dental science of the University of Dublin and the licence in dental surgery of the Victoria University of Manchester (Dentists Act, Sec. 6 (*a*)).

(ii.) That the degrees in dental *science and in dental* surgery granted by the same universities be recognised for entry upon the Dentists Register as "additional diplomas, memberships, licences ...... granted [illegible] knowledge" (Dentists Act, Sec. 11 (6)).

[illegible] sitation in the ordinary sense being at [illegible] fer of the Dental Board of Victoria (Australia) to submit candidates' papers, marks, and returns generally to the registrar be accepted.

Mr. TOMES moved the approval of the first recommendation which was seconded by Dr. BENNETT and agreed to.

Mr. TOMES moved the approval of the second recommendation which he said was necessary in accordance with the Act.

Dr. LINDSAY STEVEN seconded the motion.

Sir WILLIAM TURNER asked whether there was not likely to be some confusion in the introduction into the university system of a licence which was to be given precedent to the conferring of the degree.

In the course of further discussion,

Mr. YOUNG stated that those degrees would be subject to visitation and inspection at any time, and

Sir JOHN W. MOORE remarked that the degree at the University of Dublin was only to be given to bachelors of arts.

The recommendation was approved.

On the motion of Mr. TOMES, seconded by Dr. LINDSAY STEVEN, the third recommendation was agreed to.

Mr. BROWN moved:—

> That the President be authorised to take the opinion of the legal advisers of the Council as to whether degrees granted in dental science and dental surgery by universities in the United Kingdom are registrable as primary qualifications to practise dentistry.

He said it was obvious that some such decision was called for.

Mr. JACKSON seconded the motion, which, after some discussion, was adopted.

Canvassing and Advertising.

On the motion of Dr. WINDLE, seconded by Sir VICTOR HORSLEY, the following communication from the British Medical Association was received and entered on the minutes:—

Offices of the British Medical Association,
429, Strand, W.C., May 22nd, 1905.

SIR,—In pursuance of a resolution of the Council of the British Medical Association, con[illegible] thical Committee of the Associati[illegible] Council to [illegible] to medical [illegible] sing for the [illegible]

Cases are constantly brought un[illegible] Association of such canvassing and [illegible] or by lay bodies by whom medical [illegible] of door-to-door visitation, distribution of cards and handbills, or newspaper notices. These cases have been [illegible] Ethical Committee of the Association. [illegible] concerned have been asked to give such [illegible] for the assistance of the committee in considering whether the cases should be reported to the General Medical Council. The reply repeatedly received has been that the medical practitioner was not aware that there was any professional objection to such canvassing or advertising.

We forward, as an example, the correspondence of the *committee* with a practitioner whose name, address, surgery hours, and fees were printed on cards which were distributed in the neighbourhood of his residence, and who, it will be seen, pleaded that he was not aware of any objection to such distribution. We inclose also copies of cards, handbills, and newspaper adve[illegible] which have at times been brought to the notice of the Et[illegible] appear to that committee to be [illegible]

The Ethical Committee and [illegible] ciation would submit for the [illegible] Council:—

(1) *That advertising, including canvassing*, by medical practitioners for the purpose of procuring patients is injurious to the interests of the public as well as of the medical profession and that the disciplinary powers conferred upon the General Medical Council for the public [illegible] XXIX. [illegible] Medical Act, 1858, would be [illegible] Council declaring [illegible] ng for the purpose [illegible] r notices, or other [illegible] means;

(2) That although, as the Association recognises, the General Medical Council possesses no statutory authority to formulate by-laws [illegible] can only deal with for [illegible] ts, nevertheless the eac[illegible] to time declaratory act[illegible] 1897, and June 6th, res[illegible] nqualified assistants 189[illegible] nvass and advertise) an[illegible] present case appears ha[illegible] *to be one in which* to [illegible] the [illegible]

(3) That the issue of such a notice would not only be helpful to those medical practitioners who, under present conditions, are actually ignorant of the past decisions of the General Medical Council in cases of canvassing and advertising, and thus inadvertently offend, but

would deprive those who deliberately offend of an excuse which they at present put forward

We are, Sir your obedient servants

Medical Secretary

edical Education and

Dr WINDLE moved—

That the communication from the British Medical Association especting the desirability of issuing a general warning notice to

the next meeting of Council

He thought this would be the best manner of dealing with a matter which should be left not to the General Medical Council but to the Executive Committee and the legal advisers

Sir VICTOR HORSLEY in seconding the motion, said that now that they had had several concrete cases of advertising brought before them it was time the Council should consider whether it ought not in its wisdom to issue a decree

Dr LINDSAY STEVEN supported the motion He was glad the medical authority of the British Medical Association had been brought to bear on this question About a year ago he proposed a motion on similar lines but withdrew it They had now additional facts before them and they had this important communication from the British Medical Association so that there should be no difficulty now in remitting the matter to the Executive Committee

The PRESIDENT said he agreed that they had had sufficient experience of the vagaries of the gentlemen likely to be touched by this motion and they ought to proceed to formulate something

The motion was agreed to

Remuneration of Members of Council

Mr BROWN moved that from and after July 1st next the remuneration for attending meetings of the Council and Executive Committee should be three guineas per diem instead of the standing orders be

in order that the question should be decided upon

The motion was rejected only the mover and seconder voting for it

Appointment of Assistant Examiner

On the motion of Sir HUGH BEEVOR seconded by Mr MORRIS it was resolved that Mr W McAdam Eccles F R C S be appointed as assistant examiner in surgery to the Apothecaries Society of London for a period of four years, vice Mr W Bruce Clarke who retires by rotation

The Council adjourned

SATURDAY MAY 27TH

The Council resumed, Dr MACALISTER the President, being in the chair

Direct Representation on the General Medical Council

Mr BROWN moved that representations be made to the Privy Council that the time has arrived when the number of Direct Representatives for England Scotland and Ireland should be increased to the maximum number permitted by the Medical Act 1886 He contended that the medical profession of the United Kingdom deserved to be more adequately represented than they were at the present time The powers he asked the Council to exercise were contained in Section 10 of the Act which provided that the General Medical Council might at any time represent to the Privy Council that it was expedient to confer on the medical practitioners resident in any part of the United Kingdom the power of returning an additional member to the General Medical Council That meant that they had the power of representing that England and Wales, Scotland, and Ireland should each return an additional member At present there were only five. When the Act was passed the membership of the Council numbered 30 but they had recently had additions and it was now 33 Accordingly the direct representation had diminished in proportion to the whole representation since 1886 Besides new universities were being started and he had no doubt that they would expect to be represented on the Council That was one reason why the direct representation should be increased Another reason was the considerable increase in the number of registered practitioners In the year 1886 there were 17 000 medical men registered in England There were now more than 21 500 In 1886 there were 5000 registered in Scotland At present there were 11 000 In Ireland the number had increased from 4317 to 5267 Looking at the Medical Directory they found that in England and Wales there were practising in 1886 17 395 compared with 24,351 at the end of last year showing an increase of 7000 The time had arrived, he thought when they could fairly claim additional representation

Mr JACKSON, in seconding the motion, said that in many instances new universities that might obtain representation on the Council must represent only a small number of graduates In these circumstances they had a right to ask for additional representation for the thousands of practitioners to whom Mr Brown had referred He submitted that there were certain points which the universities looked at from a different point of view from that of the practising medical man

Sir JOHN W MOORE said that so far as Ireland was concerned it had consistently returned as its Direct Representative a gentleman who was most intimately connected with two of the licensing bodies in that country and a member of the governing bodies of both He thought that was an unanswerable argument against the views put forward by the proposer and seconder The licentiates of the Irish College of Physicians had only to make representations to the College and they would be treated with the utmost courtesy and their views presented to this Council

Sir VICTOR HORSLEY said that he would recommend Sir John Moore to take a plebiscite on the subject The method to which Sir John Moore referred would not satisfy the licentiates of the Colleges in England The question was not one of accommodation in their present room, it was a question of logic and justice Mr Brown and Mr Jackson had furnished them with the logical argument As regarded the claim of justice he would point out to the representatives of the new universities that they sat on the Council on a claim of justice He therefore asked their vote on behalf of the motion

Dr LITTLE said that the Council was if anything too large and the work would be better done if it were smaller He did not agree that the interests of the practitioners throughout the country were not to be safeguarded by him because he was not a direct representative He was sure that those members who were chosen by the various universities and corporations had the interests of their graduates and licentiates at heart just as much as if they had been directly represented He could not support the motion

Dr BRUCE remarked that since the Direct Representatives were introduced more had been done in the way of calling attention to the practising of unqualified men than was done before He supported the motion

Sir CHRISTOPHER NIXON said he took it that the members who represented the profession directly were quite competent to bring before the Council any interest that concerned the profession at large He did not see how they would gain anything by multiplying the representation of the profession which was so efficient at the present time They were all concerned in the interests of the general practitioner

Dr MCVAIL remarked that since the Act of 1886 was passed the profession had nearly doubled its ranks The education and the status of the profession had enormously improved and these facts alone warranted increased representation If Parliament were now considering the constitution of the Council anew he could not doubt that it would consider the direct representation given in 1886 to be insufficient now They could alter their accommodation if they introduced more members and there were various ways of improving the Council s finances He himself was prepared to abolish fees to members altogether

Sir WILLIAM THOMSON said that a justification for this increase in the representation would be the increased number of the general body of the profession Mr Brown had put the matter very fairly and temperately and the time had come when a claim might be made So far all the increase in representation had been one sided

Dr NORMAN MOORE said that he, as a representative of a corporation, did not come there to represent the private interests of the Royal College of Physicians, but that body had chosen him as a proper person to be concerned in the business of the Council and he thought that was the general feeling of other representatives of universities and corporations. He had never heard an appeal to the particular interests of anybody from any member of the Council. As to the improved character of the profession the Council had a share in the general education of the profession but it was only one of the great many forces which had produced the improved condition. The spread of universities, the greater intensity of work in the universities, the general improvement of education, and the greater consideration of education throughout the country had been influences. There was a strong reason against having an addition to the direct representation. The Council was established for the purpose of considering a variety of questions mainly surrounding education, training, and conduct. In order to select people who should discuss those matters a method of election which enabled the electing body to know everything about the persons it was to choose was most important. The object was to have skilled men who would be capable of dealing with complicated problems and who would be absolutely trusted to do so. They had been most fortunate in the direct representatives with whom they had had the honour of sitting, but he thought it was a surprising thing that they should have been so fortunate when they considered how little the constituents could know about them. The universities had another important advantage and that was that their choice was not confined to the opinion of the Medical Faculty. That was an influence which was of great advantage and importance to the Council. He would vote against the proposition.

Dr. LINDSAY STEVEN said that while he must admit the great force of the arguments which had been brought forward by Mr. Brown in support of his view of the case, at the same time he felt upon this occasion, at least, that he could not vote for the matter one way or the other. He quite agreed that the Medical Acts gave the Council the right of recommending in such a matter, and certainly the great increase in the numbers of the profession that had taken place in the last 10 or 15 years would seem to justify the consideration of the matter, but he did not believe that there was any great demand on the part of the general practitioner for additional representation at the present moment. He should have thought that if such a demand existed a much larger percentage would have taken the trouble to vote in recent elections to the Council.

Dr. CATON said it seemed to be implied that those members of the Council who were chosen by universities or corporations came chiefly and essentially to protect the interests of those universities and corporations. He should like for himself and his colleagues to say that they came chiefly and essentially to support the honour and dignity of the profession and that they were all representatives of the profession. They tried to do the same work as the direct representatives.

Mr. BROWN said he quite agreed that the representatives of the universities and corporations came to the Council to promote the interests of the profession generally but he maintained that the present proportions did not satisfy the profession generally.

On a division the motion was defeated by 8 votes. 10 voted for the motion, 18 against, and 5 did not vote.

Rules regarding Midwifery Practice.

Sir JOHN WILLIAMS moved :—

> That a committee of the Council be appointed to inquire into the operation of the rules regarding the midwifery practice required of candidates for medical qualifications.

He said that years ago the mortality from sepsis after delivery was pretty much the same as to-day. In 1876–80 it was 1·7; in 1881–85, 2·8; in 1886, 2·4; in 1891–95, 2·5; in 1896–1901, 2·0. This mortality ought to be absent and his object was to have an inquiry into the reasons for its continuance.

Dr. MCVAIL seconded the motion which was agreed to.

The committee was appointed as follows: Sir John Williams (chairman for convening purposes), Dr. McVail, Mr. Jackson, *Dr. Barrs, Dr. Caton, Mr. Young, and Sir C.* Nixon.

Executive Committee.

The Executive Committee was constituted as follows: Sir Hugh Beevor, Dr. Pye-Smith, Mr. Young, Mr. Tomes, Sir John Batty Tuke, Sir P. Heron Watson, Sir C. Nixon, and Sir William Thomson.

Penal Cases Committee.

The following were elected members of the Penal Cases Committee: Sir Hugh Beevor, Dr. Windle, Mr. Tomes, Sir Victor Horsley, Sir P. Heron Watson, Dr. Finlay, Sir C. Nixon, and Sir William Thomson.

Students' Registration Committee.

On the motion of Sir HUGH BEEVOR the report of the Students' Registration Committee on applications for exceptional registration as students or for antedating the commencement of professional study was approved and placed on the minutes.

Procedure in Penal Cases.

Sir WILLIAM THOMSON proposed :—

> That the Executive Committee be requested to consider, in consultation with the legal assessors of the Council, the question of amending the notice of inquiry in penal cases so as to enable the Council in cases where more than one charge is brought forward to come to a decision on each charge separately.

Dr. NORMAN MOORE seconded the motion. He said this procedure would enable the Council to arrive at a decision with greater precision in some of the cases that came before it.

The motion was agreed to.

Fee suggested for Students' Registration.

Dr. MACKAY moved :—

> That it be remitted to the Finance and Executive Committees to take into consideration the suggestion made by the President in his address at the opening of the present session to the effect that a small fee might with advantage be charged for students' registration.

He said that the subject was important and the quarter from which the suggestion came seemed to make it almost imperative that it should not be lost sight of.

Dr. LINDSAY STEVEN seconded the motion.

Dr. NORMAN MOORE said he hoped the motion would not be pressed at this meeting of the Council. He could not help feeling a doubt as to the expediency of making such a charge. Students' registration was entirely a private matter of the Council. The Council thought the registration was a useful thing but it was entirely unnecessary for any student in any part of the United Kingdom to place his name on the Register. To charge a fee, therefore, would be making use of a false impression that such registration was necessary; it would not be perfectly honest.

Sir CHRISTOPHER NIXON said that all the motion did was to refer the matter to the two committees for consideration. By passing the motion the Council did not commit itself to anything.

Sir PATRICK HERON WATSON said that such a proposal could hardly be carried out without the sanction of the Privy Council.

Mr. BROWN supported the view taken by Dr. NORMAN MOORE.

Dr. MCVAIL contended that nothing but an Act of Parliament could give the Council this power.

Dr. BRUCE said that while it was true that the Council could not insist upon registration surely if a student preferred to put his name on the Register he should be asked to pay the fee.

Sir JOHN BATTY TUKE expressed the opinion that it would be very inexpedient to charge a fee to which the Council had no right and he feared that such a thing would tend to break down the system of the registration of students which was a most useful part of the machinery of the Council.

Dr. PYE-SMITH questioned whether it would be creditable to a public body like this to make a demand which it had no power to enforce.

Sir WILLIAM TURNER said that certain bodies had taken up the attitude that they would not demand registration on the Students Register from those who appeared before them as candidates for their diplomas. But these bodies were a small minority and the great bulk of the medical authorities were in harmony with the Council on this matter and required of the candidates that they should be on the Register a certain number of years. A very large percentage of those who obtained admission to *the Medical Register* had been on the Students Register. This registration of students involved a charge on the funds of the General Medical Council; the Council was spending about £400 to carry out this registration to which the great bulk of them attached the utmost importance and therefore he thought they would be justified in exacting what was described in the motion as a small fee Of course this did not imply that the registration was to be compulsory They had no power to make it compulsory, he only wished they had

Sir **Victor Horsley** said that what the Council voted for in 1904 was the question of placing this matter in the Act by a specific clause and the Council determined to ask the Privy Council to do this very thing Therefore for this Council not to accept the present motion would be to stultify itself and also in a sense to stultify its belief in the registration of students a belief it had held for years He could not see any objection to the motion from any point of view, either from that of expediency or that of legality

The **President** explained that Dr Mackay in bringing forward this question had acted on his own responsibility All he would say upon it was that he did not think that the idea was such a very bad one that it ought to be condemned unheard

Dr **Little** did not think a small fee would deter anyone from registering People, as a rule, valued most what they had to pay for

Dr **McVail** said that in his reference to a vote in 1904 Sir Victor Horsley did not mention that in November the Council rescinded the whole affair

Sir **Victor Horsley** We did not rescind the whole affair in November, we only did not proceed further into the matter in consequence of a letter from the Privy Council

The motion was carried by a large majority

Diplomas in Public Health.

Dr **Bruce** moved and Dr **Norman Moore** seconded that it be recorded in the minutes that recommendations of the Public Health Committee as to the rules for diplomas in public health already adopted were additions to those rules but involved no further alterations in them

This was agreed to

Appointment of Committees

The following committees were appointed —

Examination Committee —By the English Branch Council Dr Pye Smith Mr Young and Dr Caton, by the Scottish Branch Council Sir P Heron Watson, Dr Finlay and Dr McVail, by the Irish Branch Council Dr Little Sir W Thomson and Sir T Myles

Education Committee —By the English Branch Council Dr Windle Dr Norman Moore and Sir G Philipson, by the Scottish Branch Council Dr Mackay Sir John Tuke and Dr McCall Anderson, by the Irish Branch Council Sir W Thomson, Dr Bennett, and Sir C Nixon

Public Health Committee —By the English Branch Council Sir G Philipson, Mr Power and Mr Jackson, by the Scottish Branch Council Dr Bruce, Dr Lindsay Steven and Dr McVail, by the Irish Branch Council Dr Bennett and Sir John W Moore

Pharmacopœia Committee —The President (chairman) Dr Norman Moore Sir George Philipson Sir J Batty Tuke Dr McVail Sir John Moore Dr Little, Dr Caton and Dr Barrs

Finance Committee —Dr Pye Smith (chairman) Mr Tomes, Sir P Heron

Dental Committee rris
Mr Tomes Sir P H

Dental Education and Examination Committee —Mr Tomes)r Lindsay
Steven Myles

Stud igh Beevor (chairman) Sir J Batty Tuke Dr Mackay, Dr Bennett, Sir William Thomson, and Dr McCall Anderson

Re-election of the General Registrar

On the motion of Dr **Windle** Mr Allen was re elected registrar

Vote of Thanks to the President

Dr **Norman Moore** moved that the best thanks of the Council be given to the President for his able services in the chair during the present session

Sir **Thomas Myles** seconded the motion, which was carried by acclamation

The **President** I cannot help thanking you very sincerely not only for the way in which you have aided me to day but for the uniform help you have given me by your sympathy and your willingness to excuse my inexperience

This concluded the business and the Council rose

MEDICAL DEFENCE UNION

Mr M A Messiter, the President of the Medical Defence Union, took the chair at the annual general meeting of the members of the union held at 11, Chandos street, London, W, on May 25th In moving the adoption of the report of the council the President congratulated the members on the success of the union and on the satisfactory report for the year 1904 Only two cases under the Medical Acts had been brought before the courts during the last year Several other cases had been fully considered and evidence obtained, but such evidence was not felt to be sufficiently precise to warrant summonses being issued and process instituted The "state of fog by which the present Medical Acts were surrounded made it impossible to take any steps unless the case was clear and conclusive, and those offending against the Acts were so fully aware of their vagueness that in general they had no difficulty in obscuring the issue and of conducting their practice by means of titles which, although bogus, kept them outside the reach of the law The matter of Mr Coroner Troutbeck had continued to engage the attention of the council and numerous complaints had been received as to his action in retaining the services of Dr L Freyberger in a large percentage of inquests to the detriment of the practitioners living in the districts concerned Certain steps were being taken which, it was hoped would put a stop to the course adopted by Mr Troutbeck a course which although not unlawful could certainly be described as not 'expedient either in the interests of the public or of the medical profession Communications had been made both to the Lord Chancellor and to the Prime Minister (Mr Balfour) and also to the London County Council, but inasmuch as the matter at present was so to speak, *sub judice* the council was unable to give more precise details In the report furnished by the solicitor to the union Mr W E Hempson stated that the year s legal work of the union had been a heavy one The total number of cases referred to him and completed within the year was 182 These cases showed that the work of the union extended over the length and breadth of the United Kingdom Of the 182 cases 13 affected members resident in Wales, six related to matters concerning members residing in Scotland, and five had relation to matters dealt with in Ireland Of the remaining 158 cases 96 arose in London and the suburbs and the remaining 62 were distributed over the various provinces in England The useful and beneficial provisions of the Public Authorities Protection Act 1893 so far as they affected medical men placed in official positions were brought out in an action occurring in the past year and which in point of decision had the advantage of having been adjudicated upon by the Court of Appeal Amongst some excellent advice given to members of the union the following was worthy of notice —When a medical man was called in to attend an employé in certain works he generally took it as a matter for granted that his fees would be paid by the employer, he therefore accepted the case and continued to attend When the account was rendered the employer often denied liability altogether or else expressed his willingness to pay for the first attendance only leaving the medical man to look to the patient for the fees for the subsequent treatment In the majority of cases no evidence was forthcoming in support of the medical man s claim for his fees against the employer and the advice was given that when called in in such circumstances a clear understanding should be arrived at in writing if possible as to whom the medical man was to look to for payment of his fees The number of members on the register of the union was 6266 and the amount of the guarantee fund was £8844 17*s* 6*d* After the report had been unanimously adopted, Dr F J Wethered, the honorary treasurer of the union, proposed that the balance sheet of accounts should be adopted He commented on the increase in law expenses but did not regard it as unfavourable because it showed that the union spared no cost in obtaining the very best legal talent available for n
with litigation The
due to the extra expe
British Medical Asso
Members of the union
facts of the case and that cost money —The motion proposed by Dr Wethered was duly seconded and carried unanimously —The proceedings ended with a vote of thanks to the President to Dr A G Bateman, the general secretary, and to Mr Hempson, the solicitor to the union

THE LANCET.

LONDON: SATURDAY, JUNE 3, 1905.

The Protection of our Mercantile Marine from Overcrowding and Disease.

THE last annual report of the medical officer of health of the Port of London suggests many reflections with respect both to the protection of the metropolis from sea-borne exotic diseases and with reference to the sanitary conditions under which the sailor lives when afloat. It is more particularly upon this latter point that we shall now dwell. In connexion, however, with the subject of the introduction of such diseases as plague, cholera, and yellow fever it is necessary to observe that there is too great a tendency in the mind of the public to assume that the river Thames is the only channel along which sea-borne diseases can be conveyed to the metropolis. But without for a moment underrating the value of the admirable work performed by the port sanitary authority of London in this particular, it will be apparent to all those familiar with the broader aspects of the question that London is dependent for its immunity upon practically every port in this country and more particularly upon ports such as Liverpool, Southampton, Bristol, and Plymouth, at all of which places passengers land who within a very few hours become part of this great metropolis. As, therefore, there is no inspection of foreigners or aliens on their arrival by train in London it is obvious that other ports must in some degree share with London the honour of protecting the Londoner from exotic disease. In so far, however, as the metropolis is concerned in its own protection it is eminently satisfactory to find that in the opinion of Dr. HERBERT WILLIAMS, the medical officer of health, "the port sanitary authority is in a position to deal with any possible epidemic with absolute confidence." As, therefore, the year 1904 presented no very remarkable features with reference to exotic disease in this port we shall pass on to consider another question, which is of great importance to seamen generally, and which is dealt with very fully by Dr. WILLIAMS in his current report. Although, in the first instance, our port sanitary authorities were formed to protect us against exotic diseases, and although unfortunately some of our smaller authorities still regard this as their only duty, it is a gratifying fact to find that the larger authorities have duly appreciated their responsibilities with reference to the comfort and the wellbeing of the sailor. It might, indeed, be said that the chief duty of a port sanitary authority during non-epidemic times is to look to the sanitary conditions under which the seaman is compelled to live. No one who has had any experience of life at sea and who is cognisant of the conditions of life in the forecastle will question the utility of this side of the work of port sanitary authorities, and the fact that during 1904 no fewer than 33,493 vessels were inspected in the Port of London will convey some idea of what an important work is being carried out on the Thames in this sense, more especially when it is borne in mind that in nearly 13 per cent. of the vessels visited the cleansing of the crew's quarters resulted from the visit. Of the total number of vessels inspected 84 per cent. were under the English flag.

The conscientious medical officer of health, however, when he inspects a vessel is anxious to do something other than to order the forecastle to be cleansed. He desires above all more cubic space, more ventilation, and more light. But as he leaves the forecastle he turns to an inscription over the door and sees there evidence of the fact that the forecastle has been duly certified by the surveyor to the Board of Trade as fitted to accommodate, presumably *as regards space, light, and ventilation, a certain* number of seamen, and finding that this number is not exceeded he hesitates before suggesting structural alterations. This is practically the mental attitude of every medical officer of health and although a "ship" is, legally speaking, a "house" the medical officer of health soon finds the impracticability of dealing with a house afloat as he would with a house ashore. The fact is that the provisions of the Merchant Shipping Act relating to the cubic space, ventilation, and so on, of crews' quarters are much in need of revision and until something is done in this direction the work of the port medical officer of health will continue to prove discouraging. As Dr. WILLIAMS points out, the amount of cubic space allowed to seamen is far less than that provided for military barracks, workrooms, and common lodging-houses. Indeed, the result of an investigation made on board four vessels constructed between 1899 and 1904 was to show that in one of the vessels, had the forecastle been occupied by the number of persons for which it was certified by the Board of Trade, each occupant would have had some 85 cubic feet of air space and 12 square feet of floor space, whereas on shore anything below 300 cubic feet per head is regarded as overcrowding. It is pointed out, too, that in a room of the size of the forecastle here in question it would be necessary under the London Building Act to provide two windows measuring some four feet by three feet each, the windows in the forecastle measuring only two-thirds of a square foot. Other instances of a similar nature are furnished in the report before us and Dr. WILLIAMS adds that, in these circumstances, it is not surprising to find a large number of cases of tuberculosis among seamen and firemen. It is for this latter class—the firemen—that Dr. WILLIAMS specially pleads since, unlike the seamen, the firemen spend their working hours under the extremely trying conditions of the stoke-hole. All medical men who have acted as ships' surgeons in the tropics or, indeed, anywhere, will cordially agree with Dr. WILLIAMS on this point.

Doubtless the answer of the shipping interests to these criticisms would be to the effect that it is unreasonable to ask for the same minimum at sea as is asked for ashore and reference would be made to the fact that the wealthy classes take voyages for health and pleasure on modern vessels wherein the cubic space in the state-rooms is far less than the same class is accustomed to ashore; far less, probably, than the 300 cubic feet of the common lodging-house. This criticism must obviously be allowed weight and reformers will do well to make the allowance. But it has to be remembered that on modern vessels the ventilation of the cabins is a matter which receives great attention and that the lighting is much superior to anything likely to be found in the forecastle. Moreover, the passengers do not take their meals and spend their spare time in the cabins. They have ample saloon and deck accommodation and work neither in the stokehole nor between decks. But Dr. WILLIAMS goes, we think, straight to the main issue when he points out that the forecastle, where it is obviously impracticable, owing to the cramped position and exposure, to procure either adequate light, space, or ventilation, is not the proper place for crews' quarters. He urges, and there is clearly much to be said for the suggestion, that in steamships the crews' quarters should be aft and in sailing vessels they should be amidships. Dr. WILLIAMS proposes, as a remedy for the present unsatisfactory standards of the Board of Trade—and a similar suggestion was, we believe, made a few years ago by the medical officer of health of Manchester—that the plans of all new vessels should, in so far as the inhabited quarters are concerned, be approved by the local sanitary authority on the lines of model by-laws drawn up by the Local Government Board. There can be no doubt, assuming that the smaller sanitary authorities had the necessary expert advice at their disposal, that advantage would accrue from such a course, although we doubt the reasonableness of pressing for land standards. The conditions under which the sailor lives are slowly improving and if the crews' quarters could be removed to a position where light, space, and ventilation might be easily secured a very material further advance would be made. Perhaps the London port sanitary authority could persuade the President of the Local Government Board to receive a deputation upon the subject or a conference might be arranged between the shipping companies and the port sanitary authorities.

Nutrition and Malnutrition.

THE application to pathological conditions of the results obtained by physiologists in their study of the normal structure and functions of the tissues and organs of the body and of those obtained by cytologists in their study of the manifestations of life in simple organisms has in many cases contributed materially to the elucidation of the problems of disease, and the somewhat trite definition of pathology as "physiology in difficulties" is more than justified. In the special department of neurology the closely associated study of the physiology and pathology of nervous organs has yielded a fruitful harvest to both and the neurologist in nearly all cases is both neuro-physiologist and neuro-pathologist. In other branches of medical work unfortunately the association in the past has been less close, at any rate in this country, and in the study of vital phenomena the physiologist and the physician are apt to look upon one another with some degree of mutual distrust, the physiologist regarding the conclusions of the physician from a study of disease as of necessity too inexact to admit of physiological inferences, the physician, on the other hand, regarding the conclusions of the physiologist as theoretical and inapplicable, and therefore neglecting to keep in touch with recent physiological literature relating to his own sphere of work—a matter, indeed, of great difficulty in these days of numerous publications.

In his Lumleian lectures delivered before the Royal College of Physicians of London and published in our columns[1] Dr. W. H. ALLCHIN has summarised in a masterly fashion some of the problems in the bio-chemistry of nutrition and the present state of our knowledge in regard to them. Dr. ALLCHIN possesses a faculty for concise statement, for lucid exposition, and for critical acumen which have enabled him to condense within the limited compass of three lectures a wealth of information and of suggestive lines of thought for future research. Dr. ALLCHIN has not hesitated to devote two of his three lectures to the study of the normal processes, to the statement of recent work, and to the general trend of physiological opinions at the present time, and has not feared to include controversial matter or suggestive hypotheses, but always clearly indicating how far such views are supported by experimental facts. The method in his hands yields such excellent results that we can only express the hope that other workers in the border regions of physiology, pathology, and therapeutics will follow the lead so suggestively given, the more so that the method after all is the most rational one and serves, moreover, the double purpose of affording to the physician suggestions in his work and of opening out possible new lines of research to physiologists in the elucidation of problems of disordered function. Dr. ALLCHIN defines "nutrition" as "that series of changes which the ingesta undergo in the body to fit them for use by the living matter in the maintenance of its own integrity and as the material from which energy is liberated," and further states that "underlying as it does the characteristic activities of living matter nutrition may in its widest sense be regarded as synonymous with life itself." The material factors of the nutrition problem are "the living matter of unknown and perhaps unknowable exact composition of the chemical nature of which we have any conception from its derivatives only; and, on the other hand, its food which corresponds in great measure to these same derived substances." The essential point of the whole problem is the assimilation of the nutriment or its incorporation into the protoplasmic molecule. A very important point made by Dr. ALLCHIN, the more important seeing that it is often lost sight of in the discussion of the problems of nutrition, is that protoplasm is not of uniform composition even in the same organism and therefore that the nutritive needs of the different constituent cells are not exactly the same. In other words, we may regard each cell as a small factory requiring its raw material in its own special forms to be dealt with in its own special manner. Dr. ALLCHIN illustrates the problem of nutrition by "the conception of a pyramid up the slopes of which the requisite food-stuffs travel with ever-increasing complexity of composition until when the summit is reached the molecule topples over, as it were, from sheer instability, to pursue its descent towards those simpler atom-groups which we recognise as waste products, liberating in its progress that energy which it had accumulated in the process of its synthesis." He points out, however, that we must recognise that the two processes of anabolism and katabolism are not to be regarded necessarily as a sequence, but rather as coincident and perhaps even mutually determined, and since energy is used up in anabolic operations that the actual energy necessary has to be furnished by coincident katabolic changes in the cell. The chemical changes involved in many of these processes are such as can be more or less successfully imitated by laboratory methods, but always by high temperatures or strong chemical reagents or powerful electric currents which would inevitably destroy the life of the cell; whereas in "the simplest living cell these changes are effected rapidly and surely without any such powerful agencies." The manner in which these changes occur in the cell according to recent research seems to be in nearly every case by the action of enzymes or chemical ferments, themselves the product of the living cells, even the processes of oxidation and perhaps reduction being apparently brought about by ferments such as the "oxidases." In other words, the study of the nutrition problem resolves itself largely into the study of certain special ferment actions and the conditions favouring or hindering these actions; and although this is unfortunately far from the actual solution of the problem owing to our lack of knowledge of the nature and mode of action of these ferments yet it somewhat simplifies the problems by indicating lines of research. Dr. ALLCHIN gives a very comprehensive account of the ordinary digestive ferments, including their wonderful adaptation to the purpose for which they are required and their interdependence, discussing also the rôle played in these processes by secretin and enterokinase. He further discusses the existence of proteolytic ferments and of "erepsin" in the tissues themselves as possibly serving to effect that transference of proteid from one tissue to another which undoubtedly occurs in starvation. The section of the second lecture summarising the views held with regard to the rôle of ferments in nutrition is of particular interest and contains a statement of the views of CROFT HILL on the reversibility of ferment action, showing that the older views of ferments as always katabolic in tendency must be modified and their power of effecting synthesis must be admitted.

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[1] THE LANCET, April 29th, May 6th, 13th, and 20th.

The relation of the nervous system to nutritive processes is also discussed and Professor LOEB'S interesting experiments on the relations of "ions" to vital activity and nutrition are referred to as possible factors of importance in determining intracellular fermentation and its phases. The third and last lecture, in which the views enunciated and elaborated in the first two are applied to the study of conditions of malnutrition, is of especial interest and importance. The problems discussed are necessarily of great complexity, varying from the comparatively simple case of starvation, which can be readily investigated, to the difficult problem of perverted metabolism in cachexias, or as a result of the action of toxines. The effects of an excessive diet, or of diets wrongly constructed, are also discussed, as are the effects on nutrition of maldigestion and malabsorption. Dr. ALLCHIN points out that deficiences in the quality and quantity of the food and disorders of the digestive processes may occur without the production of any degree of malnutrition and that it is not until the essential factor of nutrition —i.e., ferment action—is involved that actual malnutrition supervenes and that, therefore, the chief conditions leading to malnutrition are those which hinder or modify the normal ferment actions. The results of a deficient supply of oxygen or inability to use it are next described and the deficient oxidation and "air hunger" of the diabetic in the state of coma are referred to the incapacity of the tissues to make use of the oxygen supplied to them. The lecture concludes with a brief study of atrophy, degeneration, and death, and Dr. ALLCHIN infers from a study of LOEB'S researches that "if, then, it is possible by the application of certain electrolytes to avert from a living ovum what may be termed its natural death, similarly to avert the degeneration and death of the tissue cells of higher organisms may be looked upon no longer as a hopeless quest."

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The Spread of Small-pox occasioned by Small-pox Hospitals.

CONSIDERABLE attention is just now being directed to the effect of small-pox hospitals in increasing the prevalence of the disease among susceptible people living in their neighbourhood during epidemic periods. The subject is of considerable importance in view of the necessity of small-pox hospitals to control the spread of this disease in the present state of our vaccination law. Its study is by no means easy and requires collection and comparison of a mass of statistical and other data scattered through a variety of public health reports and official blue-books. A valuable series of recent reports issued in connexion with the prevalence of small-pox during the past few years, together with the discussions which have lately taken place at the Newcastle meeting of the Royal Sanitary Institute and at the Epidemiological Society of London, enables us, however, to bring together some of the main considerations which arise. Much new light has been thrown on the question of the carriage of small-pox infection by means of aerial convection currents but with this large subject we are unable to deal in the compass of the present article. Here we desire to draw attention to the most conspicuous feature of the reports and discussions to which we have referred, namely, the almost unanimous testimony to the reality and the importance of what is termed "hospital influence" in epidemics in which the small-pox hospital has been situated within a town or in some other position in which it has had a considerable populous area in its vicinity. Fortunately at the present day it is comparatively rare for small-pox hospitals to be thus placed. The experience of London before all small-pox cases were removed down the river as a result of Mr. W. H. POWER'S classical inquiries has become a matter of history. This experience, together with the numerous instances of a similar kind which have since been reported, has led in many cases to separation of hospitals intended for small-pox from those utilised for other infectious diseases and to the selection for the former class of hospitals of sites which lie in sparsely populated districts. During the past five years, however, several places which have been attacked by epidemic small-pox have depended for isolation on hospitals which have had considerable collections of dwellings close to them. In several of these places the facts as to the local incidence of small-pox have been ascertained by careful and minute inquiries which leave no doubt of the marked effect which the hospitals in question have exerted on people living in their neighbourhoods. In 1901 there was the well-known instance of the small-pox hospital ships in Long Reach and their effect upon the prevalence of small-pox in Purfleet and in other places on the northern bank of the Thames opposite the ships, reported first by Dr. J. C. THRESH and later by Dr. G. S. BUCHANAN. In 1902–03 occurred the severe epidemic of small-pox in Liverpool, the relation of which to the three small-pox hospitals of the city is dealt with in Dr. R. J. REECE's report to the Local Government Board referred to in THE LANCET of May 27th, p. 1456. The epidemic of small-pox which affected Gateshead and the adjoining district of Felling in 1903–04 was shown by Dr. BUCHANAN and by Dr. T. E. HILL to have been increased to a considerable extent by the persistent and excessive incidence of the disease round the Sheriff-hill Hospital which was used for the isolation of the Gateshead cases. Dr. A. K. CHALMERS has furnished a remarkable series of data showing that during the successive epidemics which have occurred in Glasgow between 1900 and 1904 it happened on each occasion that in whatever part of the town small-pox originated it sooner or later became concentrated in the eastern corner of the city in the areas which are in closest proximity to the municipal hospital at Belvidere. After making every allowance for reported negative instances (such, for example, as the escape of institutions near the Edinburgh small-pox hospital described by Dr. C. B. KER to the Epidemiological Society) the fact remains that recent experience not only has illustrated the frequency with which "hospital influence" has been traced where the conditions permitted but also has emphasised its practical importance and the necessity for its prevention. The "*standards*" which have been laid down by the Local Government Board regarding limits of population in the vicinity of a small-pox hospital have *often* been criticised. They are open to the objections *common to most* standards; in some instances, as last year in what is called the Nottingham case, they have been opposed on the ground that they do not provide sufficient security, while in other cases, especially where small hospitals are in question or where the population near the hospital is concentrated in one or two institutions, it has been urged with some force that to insist upon strict compliance with the standards is needlessly vexatious and entails an amount of administrative inconvenience disproportionate to the risk which it is desired to minimise. But however this *may be*, *it can hardly* be disputed that in their broad result of securing that the majority of small-pox hospitals in the country have been placed away from important centres of population the official regulations have gone far to remove one of the most important agencies by which epidemic small-pox may be spread and maintained.

HOSPITAL FOR SICK CHILDREN.—Before Mrs. Choate, the wife of the retiring American Ambassador, sailed for the United States on Tuesday, she sent a donation of £20 to the Hospital for Sick Children, Great Ormond-street, in which institution Her Excellency was much interested, as a parting gift.

Annotations.

"Ne quid nimis"

THE TENURE OF PUBLIC HEALTH APPOINTMENTS.

IN THE LANCET of *April 29th* we commented upon the very *unsatisfactory state* of matters existing in the Chipping Sodbury rural district with *regard to its medical* officer of health. To recapitulate, Chipping Sodbury has ever since *1873 acted* in concert with several other district councils of Gloucestershire by appointing a joint medical officer of health and that officer since 1873 has been Dr. F. T. Bond, who since *1868 has been annually re-elected by the individual councils. In October, 1904,* three new parishes were added to the Chipping Sodbury district and *the council* of that district requested Dr. Bond to undertake the *control* of these additional parishes without any extra remuneration. Dr. Bond naturally enough demurred at doing this and eventually he was granted an increase in salary of £33 *per annum. When the time* for his re-election came the Chipping Sodbury rural district *council refused* to re-elect him and appointed a local practitioner. The council *further* desires to withdraw from the combination of councils and applied accordingly to the Local Government Board to sanction the appointment of its nominee but the Local Government Board has not done so. An inquiry, *on the* contrary, was *held* by the Board and as a result the following letter has been addressed by the Board to the constituent councils of the districts.—

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We have not yet heard whether the members of the Chipping Sodbury rural *district council* have *accepted the invitation* to confer with the representatives of the other councils in the combination but we congratulate the Local Government Board on its action. It is, we fancy, a new departure for that Board to attempt to bring a recalcitrant district council under the influence of the public opinion of its neighbours. If the Chipping Sodbury rural district council persists in withdrawing from the combination and in appointing its own medical man without the sanction of the Local Government Board his salary will have to be paid in full by that council instead of one-half being provided by the county council. But the action of the Chipping Sodbury rural district council is a good *object lesson in* the *uncertainty of* tenure which medical officers of health suffer. No complaint was brought against Dr. Bond of neglect of his duties and apparently the sole reason for his dismissal by Chipping

Sodbury was his refusal to look after the health of the three added parishes for nothing. The conference of councils is summoned for June 19th.

POISONOUS HONEY.

POISONING by honey has been known since the days of Xenophon, when it seems to have been fairly common, and has been observed in various parts of the world—Germany, Switzerland, North and South America, India, and New Zealand. In the *New Zealand Medical Journal* for April Dr. E. D. Aubin has published an important paper on cases of poisoning due to wild honey, which were observed most frequently in Maoris. As the poison evidently is derived from plants visited by the bees its nature varies in different countries and so do the symptoms. In New Zealand only wild honey appears to cause poisoning. The symptoms usually followed ingestion of the honey in less than an hour. Three modes of onset were observed which Dr. Aubin terms respectively gastric, nervous, and cerebral. In the gastric form giddiness and nausea are followed by severe and persistent vomiting which may last on and off for two days. There is usually some abdominal pain but this is not as a rule a prominent symptom. The mouth feels dry and glazed. Apparently no irritant action is exerted on the bowel for diarrhœa was never observed. In the second mode of onset Dr. Aubin attributes the symptoms to irritation of the peripheral nerves, which is indicated by tenderness in the muscles; pains, chiefly of a burning character, in the muscles of the arms, the legs, the back, and the abdomen; itching; and a feeling of "pins and needles" or numbness in the arms and the legs. Such symptoms are observed in the early stages of peripheral neuritis and in poisoning by mussels. In the third mode of onset cerebral symptoms occur. For example, a Maori who had partaken largely of honey suddenly dropped down in a fit. He became unconscious and fits recurred at intervals. Delirium may be the first symptom. In severe cases, as a rule, the gastric, nervous, and cerebral symptoms are combined, one set of symptoms predominating. The characteristic symptom of poisoning by honey as observed in New Zealand is the epileptiform fit. This, as stated, may mark the onset or may not occur for an hour or more. It differs in no way from an ordinary epileptic fit and may be preceded by a cry. The head is jerked to one side with conjugate deviation of the eyes and tonic and clonic spasms occur. Cyanosis and frothing at the mouth are present and the tongue may be bitten badly. After the fit the patient may be quiet and may sleep or may be restless and delirious. In severe cases the patient is unconscious between the fits which usually recur several times. In some cases the convulsions may be more or less continuous and may result in death. The fits generally cease in less than 24 hours. Slight vaso-motor phenomena are usually present, the face and the skin generally feeling hot and swollen. Urticaria was never observed. The duration of the illness is from a few hours to two days, though nervous symptoms are sometimes complained of for a considerable time afterwards. In fatal cases death usually occurs within 24 hours. The symptoms, no doubt, are due to a poison in the honey, probably of the nature of an alkaloid which affects chiefly, if not wholly, the nervous system. The gastric symptoms, Dr. Aubin thinks, are of cerebral origin—a view which is supported by the absence of signs of intestinal irritation. We may add that in other countries such signs have been observed. As to the source of the poison, Mr. Hopkins, Government apiarist, thinks that it comes from the yellow flowers of a cress-like plant called the "whauriki" which grows chiefly in swamps. In other countries a species of rhododendron has been suspected. Wild honey found near the New Zealand swamps is especially liable to be poisonous. The most remarkable feature of the symptoms is the epileptiform fits—a condition unknown in acute poisoning due to any other cause, though well recognised in chronic plumbism. With regard to treatment Dr. Aubin recommends the administration of an emetic if vomiting has not occurred and washing out of the stomach in all cases. Potassium bromide should be given in full doses. A dose of calomel followed by an enema is also beneficial. As a rule stimulants are not advisable but may be given if the heart is failing. In cases of continuous fits bleeding and saline injections are indicated.

CENTENARY OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the premises of the Royal Medical and Chirurgical Society there was on view during the celebration of the centenary of the society an interesting exhibition of books, instruments, and other objects brought together mainly for the purpose of illustrating the condition of medicine at the time when the society was established. The exhibition contained objects in connexion with the early history of the Royal Medical and Chirurgical Society and in addition it included memorials of various kinds relating to the presidents of the society. There were also exhibited some of the medals which had been struck to honour or to commemorate Fellows of the society. The exhibits were arranged in six sections. The first section contained books and was subdivided into three parts, the first part being that of books in use by the society in the year of its foundation, 1805. The second part comprised books and pamphlets on vaccination, including a Chinese work printed in the tenth year of the Emperor Kea Kong (1805) with an English translation by Sir George Macartney sent as a present to Dr. Jenner. The third part contained a few miscellaneous books amongst which was a Pharmacopœia of St. Bartholomew's Hospital printed in 1799 by J. Adlard and lent by Mr. R. E. Adlard. The second section contained manuscripts. Amongst these was a list of the so-called African surgeons who were persons who had passed an examination in medicine and surgery at the Liverpool Royal Infirmary and were considered competent to act as surgeons on vessels engaged in the slave trade. There was also a letter complaining that other bodies had certified candidates who had been rejected by the Liverpool Royal Infirmary, many of whom were not only destitute of medical and surgical information of every kind but also of every other species of information. The third section comprised instruments and amongst these the midwifery forceps which belonged to Dr. John Burton, the prototype of Dr. Slop in "Tristram Shandy," who in Chapter XIX. is thus referred to: "Of all men in the world, Dr. Slop was the fittest for my father's purpose; for his newly-invented forceps was the armour he had proved to be the safest instrument in deliverance." The fourth section was made up of portraits and the fifth section of medals. The sixth section was labeled Miscellaneous and contained some curious pictures; one was that of the birth of Parikshit of the family of Krishna. The child was born dead but was restored to life by Krishna. On the left of the picture the mother is depicted in the birth chamber undergoing the treatment which has been customary for many ages in India. It is always a good thing for the members of any profession to look backwards as well as forwards and it is more important for the medical profession than perhaps for any other. Not only do we profit by what we know to have been the mistakes of our ancestors, but we learn the valuable lesson that in many matters we do not know much more than they did. Some little time ago an American physician, Dr. Eugene F. Cordell, delivered an interesting address before the Medical and Chirurgical Faculty of the State of

Maryland in which he lamented the lack of the teaching of medical history in the universities of that State. He pointed out that the study of medical history taught us what and how to investigate, that it increased knowledge and strengthened the judgment, that it was a mine from which many neglected or overlooked discoveries might be brought to light, and that it taught us to cherish our best traditions. With these opinions we thoroughly agree and we congratulate the Royal Medical and Chirurgical Society upon having made a historical retrospect a part of its centenary celebration.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND: ELECTION OF MEMBERS OF COUNCIL.

AT the annual meeting of Fellows on the first Thursday in July there will be elected four Members of Council. Three of these vacancies will be occasioned by the retirement in rotation of Sir Henry Greenway Howse, Mr. Edmund Owen, and Mr. Rickman J. Godlee; the fourth vacancy will be due to the resignation of Sir Alfred Cooper. We understand that Mr. Owen and Mr. Godlee will offer themselves for re-election but that Sir Henry Howse will not stand again. Mr. C. H. Golding-Bird, surgeon to Guy's Hospital, announces his intention of standing for one of the vacancies and Mr. Harrison Cripps, surgeon to St. Bartholomew's Hospital, also proposes to be a candidate.

REPEATED COPIOUS HÆMOPTYSIS FROM AN AORTIC ANEURYSM.

To the general rule that rupture of an aortic aneurysm is immediately fatal rare exceptions have been recorded. One was recently published in our columns by Dr. C. H. Melland.[1] Usually one or two severe hæmorrhages have been followed by months or years of exemption. In the *Johns Hopkins Hospital Bulletin* for March Dr. T. W. Clarke has reported a case which appears to be unique in the occurrence of a series of large hæmorrhages. A man, aged 39 years, came into hospital, under the care of Dr. E. F. Cushing, on July 13th, 1904, complaining of pain in the right upper chest, cough, and hæmoptysis. There was a history of gonorrhœa and soft chancre but not of syphilis. The patient dated his present illness from a year before admission, when he began to have discomfort in his chest, especially on the right side, dyspnœa, dizziness, tinnitus, and attacks of weakness. His general condition became worse until two weeks before admission when he began to cough and to expectorate small quantities of blood. The pain in the chest grew more severe and on admission extended to the right shoulder and down the right arm to the elbow. On the day of admission profuse hæmorrhage occurred. On examination he was found to be a muscular man, coughing frequently and expectorating considerable quantities of blood-stained mucus. The voice was husky but not "brassy." The left pulse seemed slightly fuller than the right. There was a slight tracheal tug. In the first, second, and third right intercostal spaces there was visible pulsation but no bulging. Over the pulsating area a slight systolic impulse, followed by a diastolic impact, was felt and dulness was obtained. In the back dulness extended from three centimetres above the angle of the right scapula upwards for eight centimetres. Over the right upper chest were heard a diastolic shock and a loud friction rub synchronous with the respiration. *Aortic aneurysm* was diagnosed and a modified form of Tufnell's treatment was ordered but the patient objected so much that the attempt had to be abandoned. After the second day the bleeding stopped and the cough and pain were greatly relieved, but on July 23rd four ounces of almost pure blood were expectorated. This was the beginning of a remarkable series of 16 hæmorrhages. The others took place as follows: July 29th, 8 ounces; August 2nd, 12 ounces; 6th, 32 ounces; 9th, 16 ounces; 11th, 36 ounces; 17th, 16 ounces; 20th, 6 ounces; 21st, 20 ounces; 24th, 28 ounces; 28th, 10 ounces; Sept. 2nd, 4 ounces; 3rd, 2 ounces; 5th, 16 ounces; 13th, 8 ounces; and 14th, 7 ounces. This makes in a period of seven and a half weeks over 14 pints of almost pure blood. The hæmorrhages came on after some exertion, such as sitting up or reaching for an article on the floor, lasted only a few minutes, and were accompanied by paroxysms of coughing. They were stopped by the administration of morphine, as much as a grain being sometimes required. The patient became steadily paler and in the first month the red corpuscles fell from 4,864,000 to 2,304,000 and the hæmoglobin from 65 to 38 per cent. On Sept. 15th, during a fit of anger, the patient sat up in bed, became very weak, broke out into a cold sweat, and said he was dying. He died in about 20 minutes. During the last few days of life there were signs of fluid in the right chest. At the necropsy 3000 cubic centimetres of dark blood-tinged fluid and flakes of fibrin were found in the right pleural cavity. The aorta throughout was the seat of a number of large and small irregular thickened areas which projected slightly into the lumen. On the right side three centimetres above the valves was an oval opening 2·5 by 1 centimetre in diameter leading into a spherical sac nine centimetres in diameter filled with laminated fibrin. The sac was covered by, and adherent to, the pericardium and visceral pleura, but at one point there was a tear five centimetres long communicating with the pleural cavity. Small bronchi could be traced into the sac but no blood was found in the air passages. The repeated hæmoptysis was evidently due to these small communications which ordinarily were plugged by fibrin. On exertion the fibrin no doubt shifted, giving rise to hæmorrhage.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

IN the interesting address which appears in another column Dr. Lucas-Championnière sets very plainly before our readers the differences between the course of medical study as it exists in France and in our own islands. Shortly, he says, the differences may be expressed thus. In Great Britain individual effort is everywhere free and encouraged; in France the municipality or the State hinders the development of individual effort. In the former land institutions are autonomous; in the latter centralisation reigns supreme. In France the pupils at secondary schools are closely supervised; in Great Britain the boys at public schools have but little supervision. But when a French scholar enters upon his career as a medical student he becomes practically his own master. Attached to the Paris Faculty of Medicine are some *6000 students* any one of whom can work just as much or as little as he likes. *He is not tied to one hospital* but can attend at any or all of the Paris hospitals and he follows the teaching of any member of the staff of the hospitals as he pleases. In Great Britain the student is practically tied to one hospital and is a pupil of the staff of that particular institution; nay, more, during a portion of his career he is definitely attached to one particular member of that staff. In Great Britain the hospitals are autonomous institutions, while in France they are municipal or Government institutions. In Paris they are all under the Assistance Publique, an organisation which may be roughly compared with our boards of guardians, Local Government Board, and Metropolitan Asylums Board. All the Paris hospitals are under its control, as well as nearly all other charitable institutions. Its annual budget amounts to 45,000,000 francs and it obtains its funds from certain endowments, from sundry taxes which it has the right to levy, and from a sum voted annually by the city of Paris. Owing to anyone who is poor and in want having a right to hospital accommodation the Paris hospitals are often much overcrowded. No one is better aware of the unavoidable shortcomings of the Paris system of hospital and poor relief than the Paris medical men themselves, but, taken as a whole, the Assistance Publique does admirable work. Dr. Lucas-Championnière's address deserves careful study and we may say that the methods which each nation employs are those best suited to the genius of that nation, but, on the other hand, that the intercommunication which has so recently taken place between the members of the medical professions of France and Great Britain will lead to each nation respectively becoming aware that it may learn to supply its deficiencies from the practice of the other.

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[1] THE LANCET, Nov. 19th, 1904, p. 1414.

SOME ODD FOODS.

COMPLAINT is often made that the average daily meal in the ordinary household is a monotonous round of mutton and beef. In the majority of instances this simple and oftentimes uninteresting cycle of food is compelled on the score of convenience and economy, although with a little more thought and trouble than are usually bestowed on this matter we are convinced that more variation could be contrived. The subject deserves greater attention than it has hitherto received and the results in all probability would be pleasing. In this connexion it is interesting to consider some of the more or less odd materials which man has been led to choose for the purposes of food. Environment, of course, must be a factor in regard to this choice, and necessity also. It is hard to imagine that earth would be used for choice as food and yet such has been the case in many countries during famine. The Laplanders mix earth with their bread, the Russian peasant uses a "rock flour," and the poorer classes in Hungary are driven occasionally to eat an earth which contains but a trifling proportion of nourishing principles. The use of seaweed as food is an example of the determining factors of both necessity and environment. It is not a little astonishing to find what a number of seaweeds are really edible and nourishing. Perhaps the best-known example in this country is laver, which is a kind of stew made from a weed, an alga (porphyra laciniata). The laver made on the Devonshire coast and to be found in some London shops is excellent. The sea algæ, indeed, prove on analysis to contain a considerable proportion of nitrogenous matter and as they are usually tender they are digestible. There are also several sea mosses which are esteemed for their esculent properties. Agar-agar is another example of a seaweed yielding a nutrient jelly. It is supposed that the edible birds' nest so highly esteemed when prepared in the form of soup by the Chinese has its origin in the birds feeding upon agar-agar. On the other hand, it is said that the substance of which the nest is composed is secreted from certain glands which are developed during the nest-building season but which lose this function afterwards. The viscid substance resembles the mucin or albumin excreted by the sublingual gland. The turtle may be regarded as an odd article of food since it is the only example of an edible reptile, at least, in this country. Frogs' legs, again, are rarely eaten in this country, though they are easily digested, possess a delicate flavour, and have about the same nutritive value as chicken. Neither is the snail esteemed as an article of food in this country, though in France it is partaken of in large quantities and so good is it that it has been called "the poor man's oyster." The edible snail, however, is a particular kind and is generally collected in considerable number from the vineyards in the south of France. In Spain the snail is served in a most excellent and appetising manner, and in Paris a dish of selected snails is reserved for the special use of the *gourmet*. Coal would appear to be a strange article of food, but instances are known in which children and cats have been found consuming it in a not negligible quantity. There is no evidence, however, although coal contains an abundance of one of the most important elements of food—i.e., carbon—that in this form it is in the least degree assimilated. It is almost impossible to oxidise by wet methods carbon in the free state, whereas in combination with other elements, and especially hydrogen, as in the carbohydrates, wet combustion in the economy readily ensues. Such instances of odd foods could be multiplied but those quoted serve to show the extraordinary range of material selected by man for the purposes of food.

CRICKET, HEALTH, AND ANATOMY.

WE have received from the Fine Art Society Parts I. and II. of a clever series of portraits which the society is publishing, publication commencing, appropriately enough, in the week when the first match between England and Australia has been brought to a victorious conclusion for the mother country. The work is entitled "The Empire's Cricketers"[1] and conspicuous among the portraits in the first two instalments is that of a medical man whose name is probably as well known to the public as that of any member of our profession. Dr. W. G. Grace (we may accord him the title of "Dr." in deference to public usage without any reluctance as he is no longer, we believe, in practice) may not now be chosen to represent England in a "test" match, but his cricket career is by no means run. Mr. Chevallier Tayler, the artist responsible for the portraits in the series, has caught "W. G." in a characteristic attitude awaiting the ball already on its way towards him, and prepared to come down on it in the resolute fashion that means a boundary hit all along the grass—or should we say "carpet"? We must not, however, be betrayed into the appalling lingo of the cricket journalist. Nor, indeed, is it exactly within our scope to comment upon the very clever illustrations further than to say that even those who are least acquainted with the performances of the selected athletes will find it interesting to examine the various studies of physical vigour and trained muscular effort which accompany the portrait of Dr. Grace. Cricket is a game of so manly a character, and is so essentially English in its origin and development, that many will watch with interest the struggles between the picked teams which will take place during the present season, even if in less enthusiastic moments they may deprecate an unreasonable absorption in the study of a game, may regret that young men should postpone taking up the more serious duties of life in order to prolong their indulgence in it, and may regard with impatience the support by counties of teams consisting almost entirely of paid "players." If, however, such a publication as that under review encourages the young to develop their physical powers by healthy exercise, and to appreciate the fact that temperate habits and careful training of eye and muscle are necessary in order to produce good results where eye and muscle have to be used, it is sure to exercise a useful influence. The mere worship of physical excellence by the curious and lazy is the dangerous extreme which is to be avoided. The excellent reproductions of Mr. Chevallier Tayler's drawings are apparently from originals in coloured chalk upon brown paper and the artist evinces considerable skill in depicting the human frame in vigorous action Medical men should appreciate drawings of the human frame by one who makes his subjects men of bone and muscle, not mere models in flannel And as members of the medical profession of all others have to abandon so exacting a game as cricket early, and can find but little time for looking on at it, they will not be sorry to gain some acquaintance with the physical attributes of modern players of note and of methods of attack and defence now in vogue We may suggest that a good lecture in applied anatomy might be founded upon the pictures If the actions of (say) Rhodes at the moment of delivering the ball, or Tyldesley at the moment of late cutting it were used as examples of muscular effort and function we have an idea that the lessons inculcated would stay by the student

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[1] The [illegible] Drawings by A. Chevallier Tayler, with Bio[illegible] W. Beldam. Published for the Fine Art Soci[illegible] and Ward, Farringdon Avenue, E.C. In 16 parts. Price, each part, 1s. net.

THE ROYAL SANITARY INSTITUTE

ON Friday, June 16th, at 4 30 P M , a discussion will be opened at the Parkes Museum, Margaret street, London, W , by Mr Edwin T Hall, F R I B A , on Sanatoria for Consumption Design and Location Among the speakers who have already signified their intention of being present are Mr H Percy Adams, F R I B A , Mr T W Aldwinckle, F R I B A , Mr T W Cutler, F R I B A , Dr C E Reinhardt, Mr A C Scovell (chairman of the Metropolitan Asylums Board), Dr J E Squire, Dr F R Walters, and Dr C Theodore Williams Major General the Right Hon Lord Cheylesmore will preside Tickets for the admission of visitors who are invited to take part in the discussion, may be obtained from the secretary On the following day a visit will be made to the Heatherside Sanatorium, Frimley, the country branch of the Brompton Hospital, conducted by Mr E T Hall, the architect of the sanatorium Luncheon will be provided for members of the institute and special arrangements have been made by which return tickets can be obtained at reduced rates, a first class ticket costing 7*s* 4*d* , a second class 4*s* 7*d* , and a third class 3*s* 8*d* Frimley is distant about two and a half miles from Camberley, the nearest railway station, but conveyances will be provided for visitors at the cost of 3*s* each person The train will leave Waterloo for Camberley at 11 50 A M There are three return trains at intervals of about an hour, the first arriving at Waterloo at 6 55 P M Application for tickets should be made to the secretary of the institute

TRACHOMA AMONG ALIENS

AN important report has just been issued by Dr A K Chalmers, the medical officer of health of Glasgow, upon cases of trachoma which have been treated in the ophthalmic dispensaries of the city and the subjects of which have been aliens These aliens are described as consisting of two or more classes, distinguished from each other by the intended duration of their stay in Scotland At one end is the alien who is also a transmigrant, Glasgow being only a stage in his journey , at the other is the alien who, for a variable period, has become incorporated with the industrial life of the West of Scotland, chiefly as an iron or coal worker, but who in time offers himself at one of the emigration offices for shipment to America It is further said that the medical inspection of emigrants at the original port of embarkation on the Continent is stringent for the direct transmigrant and quite illusory for those who book only to a port in this country Dr Chalmers does not treat the question very seriously, saying that "in its earlier stages trachoma is easily amenable to treatment," that it is not "a disease of fulminating activity," and that "the introduction of a few cases into a district is not, without certain conditions, sufficient to insure a wide extension of the malady " These statements, in view of the past history of the disease, and of its epidemic prevalencies from time to time can only be accepted with much reserve Like many other maladies trachoma probably *confers a certain degree of immunity* upon populations among which its milder forms have long been frequent, but, under certain conditions, it assumes terrible activity, and we have no precise knowledge of what these conditions are It was first introduced into Europe by the army of the first Napoleon on its return from Egypt, and it raged as a veritable pestilence, destroying the sight of a very large proportion of those who were attacked It next made its way into Ireland where it produced equally disastrous consequences Of late years, in England, it has chiefly been known in workhouse schools and from these it has only been eradicated by infinite trouble It is quite conceivable that the secretion of the trachoma which is brought into this country by aliens may be more virulent than that of the home grown disease and that *the importation, after a period of smouldering, may* assume a very formidable character It should, we think, be an instruction to the port authorities under the expected Aliens Act that all persons suffering from the disease should be refused permission to land and that information as to the prohibition should be widely circulated

THE ASYLUM WORKERS' ASSOCIATION

THIS association was founded for the benefit of the rank and file of asylum workers, in whose interests a large amount of honorary work is done by medical men and others concerned with the care of the insane From correspondence in the *Asylum News* which is the journal of the association, and from the annual report of the latter for 1904 it is clear that those concerned with nursing amongst the insane are alive to the importance of safeguarding their interests in the matter of the State registration of nurses, which is at present engaging the attention of a select committee of the House of Commons The association is in this matter cooperating with the Medico Psychological Association, which as the body responsible for the certification of mental nurses may be trusted to take adequate measures to protect the interests of the holders of its certificates We gather from the report referred to that the case of the mental nurse is kept in view in one of the Bills before Parliament on the subject of State registration In this, the eighth annual report the executive committee is able to notify a satisfactory condition of the finances of the association, but it is nevertheless the case that the roll of ordinary members, which is composed of the rank and file of asylum workers, shows a falling off of no less than 486 from the numbers in 1903 The roll now stands at 2910 It is not unlikely that local considerations at the various asylums such as will suggest themselves to those acquainted with these institutions are responsible for considerable fluctuations from time to time in the numbers of an association such as this The report notes the improbability of legislation comprising the settlement of the question of pensions in public asylums during the life of the present Parliament There are, in fact, no signs that the power vested in, and the latitude allowed to, asylum committees and their parent councils in England and Wales in the matter of superannuation of their employés will be in any way modified by the central authority The present conditions do not make for united action on the part of asylum workers on this question, for whereas some have cause to be satisfied with their prospects and would probably deprecate alteration others, possibly their neighbours in an adjoining county, are confronted with a deplorable uncertainty in the matter of superannuation, and even in some instances are aware that they will receive no pension The report further states that attention is being given by the executive committee to the matter of provision of facilities for the training of male attendants in the details of general hospital nursing. The case of the female attendants is not mentioned, from which it might be inferred that they are not in need, or not in equal need, of such training. We do not know, however, that this inference would be at all a sound one in respect of the bulk of asylums in the kingdom.

BARNWOOD HOUSE HOSPITAL FOR THE INSANE, NEAR GLOUCESTER.

FROM the forty-fifth annual report for the year 1904 of the medical superintendent, Dr. J. Greig Soutar, it appears that the average number of patients resident during the year was 146, the admissions were 38, and 18 were discharged recovered (47·3 per cent. on the admissions, but if transfers from other institutions are excluded, as is usually done, 64·2 per cent. on the admissions). Only four deaths occurred. Family predisposition to mental disease was ascertained in 55 per cent. of the admissions. Dr. Soutar states that whereas some years ago the majority of the recent cases were of the maniacal type, acute melancholia is now the prevailing form of disorder and has been of late years. He is unable to suggest any explanation for this change in type. The report of the committee refers to charitable work done by the institution during the year, five patients having been maintained gratuitously and 66 for payments below the average cost of maintenance. It is found that most patients prefer the hospital itself, with its occupations, amusements, and interests, to the separate houses which are also provided, in which experience this institution is not alone. The Commissioners in Lunacy report that this hospital discharges its curative functions with great efficiency.

PHYSICAL EDUCATION.

IN THE LANCET of August 13th, 1904 (p. 487), we published a letter from Sir Lauder Brunton announcing a proposed national league for physical education. The inception of the league practically dates back to July 20th, 1903, when a number of medical men and others interested in the matter were present at a dinner given at the Athenæum Club to discuss the question. The movement has now advanced to the point of being made the subject of a Mansion House meeting at which the matter will be brought more prominently before the public than has hitherto been the case. The meeting will be held at the Mansion House, under the presidency of the Lord Mayor, on June 28th, at 4.15 P.M., for the purpose of inaugurating this association. The following have promised to speak: the Bishop of Ripon, the Lord Chief Justice, Sir William Broadbent, Bart., Sir James Crichton-Browne, Mrs. Bramwell Booth, Alderman and Sheriff Strong, and Mr. J. Compton Rickett, M.P. The objects of this movement may be summed up as—

1. The stimulating of public interest in the various societies which make the improvement of the physical condition of the people their special care.
2. The bringing into close association, and if possible the *federation*, of such societies, so that they may have increased strength, financial and otherwise.
3. The encouragement of and the advising of societies which find it difficult to hold their own under present conditions.
4. Assistance towards the starting of organisations for the benefit of physical health and well-being in remote or poor districts.

The movement has received such general promises of support from all orders, professions, and institutions, and from distinguished men and women of science, medicine, education, and law, and also from individual peers, Members of Parliament, athletes, and others, that there is no doubt that it will supply a great need and will enable much more forcible work to be done in regard to physical well-being than has been possible up to the present. The organising secretary *pro tem.* is Lieutenant-Colonel V. Mellor (Twentieth Century League), 28, Victoria-street, London, S.W. The official title of the movement has not yet been finally decided upon, but it is hoped to announce it a day or two after the Mansion House meeting. The meeting on June 28th will be only of a preliminary nature and we believe that another will be held shortly afterwards.

PASTEUR AND LISTER.

IN the *Echo de Paris* of May 15th there appears an interesting article by Dr. Raoul Blondel upon Pasteur and Lister. After referring to British science and remarking how this country does not, as do some other countries, subordinate science to commercial necessities, he goes on to say that the Briton has respect for science and that this is all the more meritorious of him seeing that in other respects he is by no means a bad man of business. Thus the scientific union between England and France is rendered easy. England practically gave to the world two great discoveries—chloroform and antisepsis; but both of these were in a measure French discoveries before their application by Britons. Soubeiran discovered chloroform in 1831, independently of, though almost simultaneously with, Liebig, although Simpson was the first to employ it in surgery, and no one is more ready than Lister to allow that it was the researches of Pasteur which first led him to evolve the theory of antisepsis and asepsis. Even these two great men had their predecessors. Davaine and Bassi had discovered the bacteriology of anthrax and that of silkworm disease before Pasteur, while Guerin had employed dressings of cotton-wool to filter the air; moreover, Lemaire, Maissonneuve, and others had directed attention to the antiseptic qualities of carbolic acid before Lister. But it was Pasteur and Lister who, by patient work founded on their own labours and those of others, built up an enduring edifice. Their two names will live for ever together and to them may well be applied the saying of Buffon: "Le genie n'est qu'une longue patience.'

A PLEA FOR THE MORE GENERAL USE OF TUBERCULIN.

THE subject of the treatment of tuberculosis of the lungs by tuberculin has recently been dealt with by Dr. H. Batty Shaw in our columns,[1] but Professor McCall Anderson has done good service in calling attention to the value of tuberculin in the diagnosis and treatment of tuberculosis cutis in the annual address which he delivered on May 24th before the Dermatological Society of Great Britain and Ireland. When first introduced by Koch great eagerness was displayed to obtain the preparation, and its indiscriminate and injudicious use undoubtedly did harm in some instances. There were, however, observers who, like Professor Anderson, preserved a firm belief in the remedy, and he laid before his hearers an array of facts pointing to its value in the diagnosis and treatment of tuberculosis in the human subject. He narrated the case of a boy, aged eight years, in whom an obscure chronic peritonitis was not only demonstrated to be of a tuberculous nature but was cured by injections of tuberculin, 22 of which were given between July 9th and Oct. 4th. Other cases were also mentioned in which unsuspected foci of disease in the lungs and elsewhere in persons who were the subjects of tuberculosis of the skin were revealed and relieved by the same means. The efficacy of injections of tuberculin in the treatment of lupus vulgaris and other forms of tuberculosis cutis was particularly brought out by a valuable series of cases, the charts and the photographs of which before and after treatment were shown at the meeting. Without wishing to deny that the x ray and, above all, the Finsen light treatment had yielded admirable results and constitute a valuable addition to our therapeutic measures, Professor Anderson pointed out that there were many cases in which the situation or the extent of the lesion rendered these measures unsuitable. He had used the tuberculin treatment continuously since its discovery and had met with no untoward results. Most cases under his care had been benefited and in many the manifestations had entirely disappeared. The preparation used was Koch's old tuberculin and the initial dose for an adult consisted of from a quarter to a half cubic centimetre of a 1 in 1000 solution. This dose was gradually increased according to the constitutional reaction obtained up to as much as one cubic centimetre of pure tuberculin and was administered every third or fourth day, the treatment extending in many cases over a period of six, seven, or more months. At the discussion which followed some of the members stated that they had used the new tuberculin (which is followed by less constitutional reaction and which is prepared in England by Dr. A. E. Wright by heating and triturating cultures of the bacillus tuberculosis) with similarly favourable results and that the process of recovery had been less tedious in some cases than under the light or the x ray treatment. Now that the initial excitement created by Koch's discovery has passed away the subject requires careful consideration and re-investigation at the hands of the profession and Professor Anderson has done well to bring forward so valuable a contribution to the subject.

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[1] THE LANCET, April 8th, 1905, p. 923.

THE VENTILATION OF TUBE RAILWAYS

WE have little doubt that several schemes have been suggested for the ventilation of tube railways but the plan brought forward by Mr. R. J. Russell, who has sent us a full description of his invention, has at least the merit of simplicity, and we should imagine of small cost also. It is obviously of advantage to be able to utilise to some extent for the purpose the arrangements that already exist. Mr. Russell proposes to convert every station into a pumping ground on a large scale, each station keeping that section of the line served by it free from vitiated air. In order to expel the foul air he proposes, in a word, to use the lifts and hoistways as pumps. Under the lifts and attached to them he would provide strips of felt, leather, or other suitable material which would slide against the partitions or sides of the hoistway so that the lift in its passage up and down would act as a pump and with the aid of suitable flaps or valves would force out the foul air. For the intake of fresh air he proposes to use the stairway shaft, the structural arrangements being such that the fresh air would be delivered and circulated at the farthest convenient point from where the foul air is withdrawn. It is stated that the work in connexion with the installation of this system could be carried out without any delay or interference with the traffic or business of the day and the cost of the installation would be small in comparison with the benefit resulting from the provision of a constant supply of pure air. We presume that it is taken for granted that so long as the stations are supplied with fresh air the motion of the trains through the tunnels would suffice to draw on this supply for the ventilation of the tunnels and trains. In brief, the principle suggested is that of the air pump, using the lifts for ejecting foul air and the existing stairways as a channel for the supply of fresh air. Of course certain difficulties may arise, as in the case when extremes of temperature prevail, and no passenger would be grateful for a system which succeeded in pumping a London fog into the Tube.

THE EARLY DIAGNOSIS OF GLYCOSURIA

AT the meeting of the Paris Academy of Sciences held on May 8th M. Le Goff gave an account of a method by which he had been enabled to determine the presence of the extremely small quantities of sugar which mark the commencement of diabetes. The test depends upon the decolourisation by glucose of methylene blue in an alkaline medium. One cubic centimetre of the liquid to be tested is placed in a test tube together with one cubic centimetre of distilled water and the same quantity of a 10 per cent. solution of potassium hydrate. A film of xylol is placed on the top and the contents of the tube are then warmed by placing the tube in boiling water. A solution of methylene blue of a strength of 1 in 5000 is then added until the blue colour just persists. The amount read off is then divided by seven, which gives the quantity of sugar in grammes per litre. M. Le Goff also applies this method to the estimation of the other reducing substances in the urine of which sugar is not the only one. There are, in addition to the colouring matters of the urine, acetone, certain phenyl bodies and carbohydrates, together with glycosuric acid and its analogues. On the other hand, uric acid, creatinine, albumin, chlorides, and phosphates have no reducing action on methylene blue. It is thus possible to estimate accurately the total reducing power of the urine by means of methylene blue. Methylene blue is not a new reagent in the analysis of urine, but the particular manner in which it is employed in this case is novel and probably an improvement on previous devices.

CONGENITAL WORD BLINDNESS AND CONGENITAL WORD DEAFNESS.

WE have received a reprint of a paper by Dr. C. J. Thomas, assistant medical officer (Education Department) of the London County Council, published in the *Internationales Archiv für Schulhygiene*, Band 1., Heft 2, 1905, drawing attention to the importance from an educational point of view of some forms of congenital aphasia, more especially those of partial character. Dr. Thomas draws attention to the fact that, in spite of the knowledge acquired by physiologists and psychologists of the nature of the nervous mechanism of speech functions, very little application of that knowledge to the practical problems of education has yet taken place and education is still very largely empirical in its methods. For example, no cognisance is taken of the fact, well recognised though it now is, that memories differ in different individuals, in some being largely visual, in others auditory, and in a third group mainly kinæsthetic. As an illustration of the importance of careful study of the processes of memory, especially in those in whom it is defective, Dr. Thomas records in his paper a series of cases of congenital word blindness, a condition which he states to be not at all uncommon, 50 cases having come under his own personal notice. In cases of this type vision is normal as a rule, other memory processes are good and may even be above the average, but there is a defect in the faculty of storing up memories of the meanings of written or printed word symbols. Even the learning of the letters is a matter of great difficulty, although that is usually successfully accomplished after a long struggle, but the learning of words is in most cases an almost insuperable difficulty and yet the child can recognise the word when his kinæsthetic memories are evoked as in spelling it out with voice and lips. The defect is to be attributed to a deficiency or "congenital poverty" of structural elements in the angular gyrus which is the storehouse for visual word memories. A peculiar fact is that in practically all the cases the power of learning Arabic numerals is normal which suggests that the visual memories of numerals are stored in a different area, as is also probably the case with the symbols of musical notation. Dr. Thomas also records a few cases of congenital word deafness in which although the subject hears words he does not understand them. Such children can, however, be taught lip reading and so enabled to follow conversation and also can be taught to speak, when their articulation is usually quite natural. It is easy to see that such cases, apart from such special investigation and training, are apt to be regarded as imbeciles since though they can hear they do not understand. Dr. Thomas gives the bibliography of his subject which is a very short one, very few cases being as yet recorded; in fact, until now only three cases of congenital word deafness are on record, while only a comparatively small number of cases of congenital word blindness have hitherto been published. The subject is one of great importance, especially to medical officers of schools and educational authorities, since it is essential that in such cases of partial defect appropriate measures shall be taken to educate the children and this is only possible when the defect is properly recognised and classified. Dr. Thomas's paper forms an interesting and highly suggestive contribution to a subject hitherto neglected.

THE DANGERS OF BLAST FURNACE GAS.

AT a recent meeting of the Iron and Steel Institute Mr. D. H. Thwaite communicated an interesting and practical paper on accidents due to the asphyxiation of blast furnace workmen. As is well known, the chief valuable thermal constituent of blast furnace gas is carbon monoxide which, however, is unfortunately very poisonous. Mr. Thwaite has had experience of fatalities which were due to the permeation of gas through the subsoil. In one instance the ground was comparatively moist outside the building but it was still permeable. When the subsoil is dried by proximity to a flue it becomes as permeable as a sieve and on examining the subsoil gas in proximity to a flue in which the gas is slightly under pressure poisonous gas will readily be found. Moreover, crude furnace gas in flowing through the subsoil becomes richer in carbon monoxide and is therefore more dangerous. Also, the gas will find its way into any habitable structure overhead unless the upper ground surface is asphalted or cemented. The subsoil immediately beneath any habitable place will obviously be drier, generally speaking, than that of exposed open-air places and furnace gas escaping from a gas flue will, of course, follow the direction of least resistance. Incidentally Mr. Thwaite describes an apparatus designed for the rapid detection of carbon monoxide in the air. It depends upon the production of a black precipitate in the solution which consists of reduced palladium and not of carbon as stated by Mr. Thwaite. In testing for leakage in an underground furnace gas main he employs acetylene gas which is introduced into the gas main under slight pressure, its peculiar odour being easily identified should any escape occur through the subsoil. Finally he has drawn up the following suggestions with a view of securing a minimum of fatalities from the causes indicated. Where practicable all gas flues and gas pipes should be placed above the ground and, if possible, above breathing level. If the gas flues are underground they should be built of blue bricks set in cement Gas-flue manholes should be equipped with lids which will prevent leakage of the gas. All habitable buildings should be thoroughly ventilated. The ground surface below the building should be covered with a layer of cement and an open-air space should be formed between the cemented surface and the floor boards of the building. Forced ventilation should be the principle adopted for all occupied buildings in iron and steel works. An air-supply tapped from the cold blast main may be found useful in this connexion. The gas engine exhaust pipes should terminate at a considerable altitude above the work floors and part of the air drawn into the air tube of the blowing engine should be supplied from the engine house. Especial precautions should be taken during the cleaning of flues and stoves. Enamel-lettered warning notices should be prominently posted throughout the works. Fines should be imposed on workmen for careless conduct. A paid ambulance corps should be established. During the blow-out period of slag-tapping operations the men should be withdrawn from the zone of escaping gas. The time allowed to be occupied in poking the fuel in the gas producer for individual men should be limited to three minutes. The reversing valve-pits of gas-fired furnaces should be well ventilated. Roll-call checks of labour employed in gas-flue and stove-cleaning operations should be established. If power gas-pipes have to be placed underground, they should be placed in grate-covered open trenches and the pipe flanges should be planed.

THE DETENTION OF LUNATICS IN WORKHOUSES.

IT might reasonably be supposed that the procedure for the detention of a lunatic in a workhouse under the Lunacy Act, 1890, was by this time sufficiently clearly defined. A question as to the construction of the section of the Act dealing with this matter has, however, recently been referred to the Commissioners in Lunacy and they have thought the point raised one calling for an expression of opinion by the law officers of the Crown. A note of the issue dealt with, and of the views held by, the law officers in regard to it may prove of service to such of our readers as are concerned with the administration of the Poor-law. Acting under Section 24, Subsection 4 of the statute mentioned, a justice may, on the strength of two medical certificates in the forms numbered 8 and 10 in the schedule to the Act, make an order for the detention of a lunatic in a workhouse. The order is in Form 11, is addressed to the master of the workhouse, and contains the following passage.

> I —— hereby authorise you to take charge of and, if the workhouse medical officer shall certify it to be necessary, to detain ——.

The workhouse medical officer has already, in Form 10, certified that detention is necessary but this certificate antedates the order. Is a further certificate required and, if so, at what stage is it to be given? The schedule supplies no form for such further certificate and makes no provision for the payment of a fee in respect of it, though this latter omission is, unfortunately, not inconsistent with the spirit of the Act as elsewhere displayed. The opinion of the law officers of the Crown is given in the following words:—

> As a matter of law it is not necessary that the certificate mentioned in Form 11 should be signed at, or immediately after, the making of the order. It must, however, be pointed out that the certificate must be obtained before any detention against the will of the patient takes place. Therefore, whenever the case is such that the power of detention is necessary the certificate should be obtained at once in order that the detention may be justified. Detention may become necessary under circumstances which would not leave time for obtaining the certificates if that should be postponed until the event occurs.

It appears, then, that the detention of a lunatic in a workhouse is an even more complicated business than is generally supposed and that not two but three medical certificates are called for.

CASE OF MYASTHENIA GRAVIS WITH PERSISTENT AND DISEASED THYMUS.

IN the *Journal of Nervous and Mental Disease* for March Dr. Charles W. Burr records a case of myasthenia gravis, with necropsy, which is of interest as adding another to the recorded cases of this disease in which the thymus was either persistent in the adult or persistent and diseased and in which there was lymphoid infiltration of the muscles. The patient was a male, unmarried, aged 30 years, and had always been robust. There was no history of syphilis. After suffering much from headache for some two months he noticed that the right eye began to droop and the muscles of the jaw to grow weak. This weakness then spread to the shoulders and arms. The subsequent symptoms may be summarised as follows: slow speech with weak voice and fatigue in talking, difficulty in swallowing, and increasing general weakness. Within eight weeks from the appearance of the drooping of the eye he could scarcely get out of bed. All movements had become very weak with the exception of those of the tongue. The face was mask-like.

There was no muscular wasting. Sensibility to touch, pain, and *temperature was normal* There was no fever The patient died, mentally clear, about two months after the earliest motor symptoms were noticed In addition to the above, there were visual symptoms not reported, Dr Burr states, in previous cases—namely, contraction of the visual fields, partial reversal of the red and blue fields, and later colour confusion These symptoms, it is suggested, may have been merely coincidental The noteworthy conditions found at the necropsy were as follows the thymus was prominent and weighed 22 grammes, it contained a chronic abscess, the nervous system was normal to the naked eye and microscopically In the muscles were found areas of round cell ("lymphoid") infiltration between the fasciculi Reference is made to previous cases of myasthenia published by others, including Weigert's original case reported in 1901, and to a good bibliography by Hun [1]

THE UNBURIED CHILD AND THE GUARDIANS OF THE POOR OF SOUTHWARK

THE story told by a poor woman, named Campbell, at the Tower Bridge police court on May 27th has been so widely commented upon in the newspapers that the facts disclosed by her need only be recapitulated briefly On May 16th her child died in the Evelina Hospital for Children On the 17th she applied with the death certificate to a relieving officer for an order for burial and was told that her husband was the proper person to make the application On the 18th they went together to the relieving station and were told that they must attend before the committee of the guardians on the 24th On the 24th they attended as directed and the father was informed that before he could be granted the burial order he would have to break stones for the guardians for two days and that then after the order was granted he would have to pay 1*s* weekly until the burial was paid for The father accordingly worked for the guardians on the 25th and the 26th, the money that he earned being retained by them, and on the night of the 26th he received the burial order He afterwards learnt from the undertaker that the funeral could not take place until the 31st, more than a fortnight after the child's death During *the period* which had elapsed *the body had been lying* uncoffined at the hospital If in the whole of the recent history of Bumbledom a more disgraceful story has been told we have failed to observe it Looking at it from the point of view of the hospitals and of those who in sympathy with the efforts of the hospitals by their generosity enable them to relieve the sufferings of the poor in sickness we would ask the Southwark board of guardians to remember that a charitable institution relieved them of the care of the child when sick and that if they could feel no sympathy with the parents they should at least have considered their duty to the community which does not pay rates in order that bodies may be left unburied for a fortnight in summer weather We frequently refer, when dealing with the question *of the support of hospitals by charitable* contributions, to the alternative of causing them to be maintained out of local funds administered by local governing bodies If this would mean making them subservient to such persons as compose the Southwark board of guardians and subjecting the relatives of those bringing the sick to them to conditions similar to those prevailing at Southwark in the case of the burial of the deceased children of the very poor the humbler classes of the community would not be likely to benefit by the change And yet in justice the hospital supported by the rates would either have to be open to all ratepayers or its aid would have to be subject to some such rules and limitations as those which now apply in the case of Poor law relief, with the risk of cases of hardship and of misused discretion such as that described

CORONER'S INQUESTS IN LIVERPOOL

IN an annotation last week under this heading we alluded to the coroner with whose attitude we were compelled to find fault as the Liverpool coroner. This was a slip of the pen The inquest did not take place in Liverpool but in Earlstown, a neighbouring Lancashire town, the coroner being one of the district or divisional county coroners and not the coroner for the city and county borough of Liverpool The relations between the Liverpool city and county borough coroner, Mr T E Sampson, and the medical profession have always been absolutely cordial and we regret to have so worded our article as to make it appear that we were criticising his conduct

THE medical officer of health of the Cape Colony states that for the week ending May 6th the condition of the colony as regards plague was as follows at Port Elizabeth 1 case, that of a European male, was discovered, at East London 1 case, that of a European male, was discovered, at King William's Town 2 cases, the one an Indian male and the other a native male, were discovered, at Fort Beaufort 2 cases, both native males who had just arrived from East London, were discovered Plague infected rodents were found at Port Elizabeth, Uitenhage, King William's Town, and at East London In the last named town one plague-infected cat was also found In other districts of the colony no case of plague in man or other animal was found At Brisbane, for the period April 15th to 20th inclusive, no case of plague occurred The last reported case, that of April 1st, was discharged on April 20th and the plague hospital was closed The last infected rat was found on April 15th As regards Hong Kong, a telegram from the Governor received at the Colonial Office on May 29th states that for the week ending May 27th there were 20 cases of plague and 19 deaths from the disease

THE Colonial Nursing Association will hold its annual meeting on Wednesday next, June 7th, at 3 30 P M, at Sunderland House, Curzon street, London, W, by the invitation of the Duke and Duchess of Marlborough H R H Princess Henry of Battenberg has expressed her intention of being present The Earl of Westmeath will preside and *the speakers* will include the Right Hon Alfred Lyttelton (the Colonial Secretary), Lady Balfour of Burleigh, the Right Hon R B Haldane, K C, M P, Sir Patrick Manson, and Sir John Rodger

THE annual meeting of supporters of the Friedenheim Hospital will be held to-day, June 3rd, at 3 P M, in the Hampstead Conservatoire, Eton avenue N.W, and will be addressed by the Bishop of London and the Duchess of Montrose The chair will be taken by Mr John Langton, chairman of the council

THE forty-fifth annual dinner of King's College, London, will be held at the Hotel Cecil on Monday, June 26th, when Colonel Richard H Jelf, C M G, will take the chair All communications should be addressed to Mr John Chapman, honorary secretary of committee, at the College

A CONFERENCE of imperial, county, and municipal representatives, of medical men and nurses, ministers of religion and district visitors, philanthropists and social workers, will be held at the Town Hall, Pancras road, N W, at 3 30 P M, on Monday next, June 5th

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[1] Albany Medical Annals January 1904

SANITATION AND THE PANAMA CANAL.

THE SOLUTION OF CERTAIN CLIMATIC AND HYGIENIC PROBLEMS.

BY JOHN GEORGE LEIGH.

I.

THE existence of the Pacific Ocean first became known to Europeans through Columbus, who received certain vague accounts of it from natives whom he encountered during the course of his third transatlantic expedition near the mouths of the Orinoco. Heretofore, the great discoverer had believed that by sailing westward he would reach the Indies and the legendary land of Cathay, and this faith and ambition yet stirred him when in May, 1502, he once more, and for the last time, set sail from Spain for the, until recently, unknown New World. He supposed then, and, indeed to the moment of his death, four years later, that the lands which he had discovered were but outposts or a prolongation of the eastern shores of Asia, and it was to reach the Asian mainland through a passage which he imagined lay between the Gulf of Paria, behind Trinidad, and Honduras, that his final voyage was planned. It was not until Balboa, in 1513, crossed the Darien Isthmus and immortalised himself as the first European to set eyes on the "Great South Sea" that navigators recognised that a new continent had been found, and eight more years elapsed before Magellan traversed the wide expanse of the Pacific and determined the geographical relations of Asia and America. From these times to the present there has been scarcely a generation which has not hoped and believed that it would witness, by an engineering feat, a junction of the waters of the Atlantic and Pacific oceans and the creation of a navigable short cut westward to the Orient. During these four centuries, in various parts of the world, many seemingly more difficult enterprises have been attempted with fortunate issue. The same period has seen the development of many more or less promising ventures to achieve an American trans-isthmian canal; but, until to-day, despite great sacrifice of life and lavish expenditure of treasure, no scheme to this end could with assurance be regarded as the precursor of success.

Needless to say, the project has been much discussed from many and conflicting points of view; and even now there appears great diversity of opinion as to the value of the future ocean highway to commerce and its importance as a political and economic factor. With these questions, of course, a medical journal such as THE LANCET has comparatively little concern, and the same remark applies, but with less force, to the impending definite choice of design and manner of construction. There is, however, one aspect of the question—until recently treated with peculiar neglect—which must very closely appeal to all persons interested in sanitary science and the protection of public health, and it is to a consideration of this that the present paper will primarily be devoted. The author is among those who believe that the Panama Canal during the later stages of construction will prove the most striking object lesson ever offered of the benefits to be derived from a well-armed sanitary organisation associated with a great public work, and that it will, when completed, be a potent factor in revolutionising existing trade routes and in bringing about other political and economic changes, not less startling because they are as yet but dimly foreshadowed. The fiats or humours of politicians or engineers may do much to strengthen or to modify these influences but even more powerful will be the effect of the replies to the following questions:—

1. Can the health conditions of the Isthmus be so ameliorated as to prevent, during the period of canal construction, a recurrence of the appalling mortality among the labourers which accompanied the building of the Panama railroad and the work of excavation along the canal route in the days of the de Lesseps Company?

2. What part is the completed canal likely to play in promoting or endangering public health?

To Great Britain these questions should appeal with special force—the first, because it is hoped by the American authorities that much of the labour to be employed in the construction of the canal and its auxiliary works will be drawn from Jamaica and other British West Indian islands; the second, because of the propinquity of the canal to these islands and the possibility that, in default of necessary precautions, the canal may become even more conspicuous as a focus of disease than of commerce. In the latter event the world would lose rather than gain by the success of the enterprise; ports of already doubtful hygienic reputation would be brought nearer and into closer relations, and intercourse between the nations would be seriously interfered with owing to the necessity imposed upon all healthy ports of exercising a strict quarantine against vessels passing the Isthmus.

For convenience, it may be desirable to recall, in as few words as possible, some of the more salient episodes in the history of the Isthmus and of the long-proposed interoceanic canal which bear upon the questions immediately before us. Boundless as was Spanish dominion in the New World, it contained, from the very beginning, the seeds of ultimate and irretrievable decay. The colonists were for the most part mere hunters after the precious metals and disdainful of steady industry; while the mother country, by rigorously excluding from public employment all but its own actual natives, did nothing to prepare the dependencies for eventual freedom. Over the narrow neck of land between Panama Bay and the Caribbean Sea there flowed during many generations an almost continuous stream of wealth destined to enrich Europe or to be the prey of the robbers of the sea. To-day, however, the only reminders of this period visible in the Isthmus are the ruins of Old Panama, six miles north-east of the present city; the remains of some paved roads, over which the treasure-seekers passed and their spoil was carried eastward; a few dilapidated churches; and a slothful and poverty- and often disease-stricken people. After the eighteenth century the old transit routes fell into disuse and Spanish intercourse with the western ports of America was maintained almost entirely by way of Cape Horn and the Cape of Good Hope. Indeed, it was not until 1848 that the Isthmus again became much frequented by foreigners. Following the cession of California to the United States and the gold discoveries beyond the Rocky Mountains, many thousands of people passed through Panama on their way to San Francisco or to Oregon. To take advantage of this movement an American company pushed on with feverish activity the construction of the Panama railroad, which was opened to public use in 1855; and thenceforward, it is not too much to say, the completion and ownership by the United States of an interoceanic canal become an article of political faith and a question merely of years.

It is unnecessary more than to refer to Baron Ferdinand de Lesseps's ill-starred enterprise, to the crash of January, 1889, and the mass of unsavoury facts brought to light during the course of the consequent liquidation. In October, 1894, a new company was organised to keep clear as far as practicable the line of the canal, already in large degree obliterated by the rank and luxuriant tropical vegetation, to preserve from irreparable decay the plant and buildings of its predecessor, and to obtain an authoritative and independent opinion concerning the feasibility—at that time much doubted—of the completion of the canal. Notable success, far greater, indeed, than had been anticipated, attended the performance of these duties. Towards the close of 1898, after investigations extending over two and a half years, an advisory committee of engineers representing France, England, Germany, and the United States, united in a report, which has since been admitted to be conclusive, demonstrating the practicability of a canal with locks and the possibility—attended, however, with greater difficulties—of a channel level with the oceans. Public opinion in the United States had, up to this time, almost unanimously favoured what is known as the Nicaragua route. The Administration, however, wisely refused to ignore the report to which reference has been made, and in 1899 nominated a commission to investigate "all possible routes. [illegible] first instance, reported favourably to [illegible] but immediately reversed its finding [illegible] that the New Panama Canal Company was ready to transfer to the United States for £8,000,000 all its properties and concessions, the whole representing a capital expenditure up to that date of more than £60,000,000. Many difficulties, however, called for settlement before this advantageous offer could be definitely accepted. In Congress the necessary legislation was for a long time obstructed by those who honestly believed the Nicaragua to be the better route and by others who, in the interests of the transcontinental railways, found the evil climatic reputation of Panama a welcome excuse for staying the progress of any potential competitive canal Then followed opposition from the Colombian Senate, actuated by belief that better financial terms might be squeezed out of the wealthy United States—a hope rudely dispelled in November 1903 by the successful revolutionary movement in the Isthmus and the creation of the independent Republic of Panama Between this community and the United States there now exists a compact, to several provisions of which of great interest to the medical profession, I must later make fuller reference

Having completed the purchase of the property of the canal company and handed over to the Republic of Panama the $10,000 000 agreed upon as compensation for the "rights powers and privileges' specified in the treaty the United States Government was enabled early in May, 1904 to enter into full and undisputed possession of what is known as the Canal Zone—viz all land and water extending five miles on each side of the centre line of the future canal and for a distance of three nautical miles from low water mark at the two ocean terminals In anticipation of this event President Roosevelt had nominated a commission of seven members to continue the work of canal construction and exercise governmental powers in the Canal Zone under supervision of the Secretary of War, and it is of interest to note that in his original letter of instructions—and, indeed, in all his references to the canal—the President laid special stress upon the necessity of efficient sanitary administration For instance, on May 9th, 1904, he wrote as follows to Secretary Taft —

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id workmen from the
ie last have been so

Towards the close of last year it became evident that operations in the isthmus were much hampered by friction between members of the Commission and between the latter and several of the departments working under it It was believed, however, until quite recently that the health department had not materially suffered from these differences and that the Commission's record would bear critical examination, so far, at least as improvement of sanitary conditions was concerned Considerable sensation was consequently aroused by the publication in a Chicago medical journal of the report by Dr C A L Reed President of the American Medical Association, to which the New York correspondent of THE LANCET has recently on several occasions referred There was much in this document signed by so distinguished an authority in his profession to excite disquiet and demand investigation Unfortunately however, the report throughout was so disfigured by bias and often personal animus, and the circumstances of its unauthorised publication were so remarkable, even for America, as to deprive it of much weight Mr Taft nevertheless rightly judged it his duty to bring the communication to the attention of the President and to invite such reply from the incriminated commission as the latter might deem desirable To this reply and a subsequent report from Colonel Gorgas M D, the chief sanitary officer in the Canal Zone it will be necessary for me to allude more fully when discussing the work past and future of the American medical authorities in the Isthmus Although the defence offered by the commission may not, perhaps be complete on all points it must be regarded for the time as sufficient reply to Dr Reed's often extreme and somewhat flippant remarks Seldom indeed, has a professional report evoked more severe condemnation than that contained in the following letter from President Roosevelt to the Secretary of War —

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e by the Commission It

so to give it, and until the answer
Commission) was, without your kn

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with the duty of

be a commissioner
ie assumed to make
Secretary of War he
ent on so important
a subject and to observe the proprieties as to its publication

Dr Reed has possibly found some consolation for this official rebuff in the reflection that his revelations hastened by a few days the fall of the Canal Commission which he so roundly condemned It had long been expected that the President would request the resignation of most of the members and that this would be followed by a radical change of *personnel* and rearrangement of duties, and these anticipations were more than realised by an order announced on April 3rd, just as the President was starting on his western trip providing for a complete reorganisation of Isthmian affairs This, to all intents and purposes, reduced the number of commissioners armed with executive powers to three—Mr Theodore P Shonts, the chairman Mr John F Wallace the chief engineer, and Mr Charles E Magoon, the governor of the canal zone and head of a newly created department concerned with the administration of laws and sanitation

More closely connected with the health problem than at first sight appears is the question of the design of the canal The Isthmian Canal Commission of 1899 1901 recommended a plan for the completion of a canal with locks based in large measure upon the project formulated by the committee of technical experts appointed by the second French company It also reported that up to that time there had been excavated about 77 000 000 cubic yards of earth and rock, but that of this total only 39,586 332 cubic yards would be of value in connexion with the new plan The latter would call for the further excavation of nearly 100 000,000 cubic yards and the total cost of completing the canal, irrespective of payments to the French company and the Colombian Government, was estimated at in round figures £29,740 000 Up to a few months ago there seemed little doubt that such a canal would be the limit of American ambition Since then, however many of the engineers prominently associated with the enterprise have strongly urged the advantages of a water way free from the restrictions of locks They have expressed confidence that such progress can be made and such economies effected by the employment of modern excavating plant in what is known as the great Emperador Culebra cutting that the channel through this might be lowered to the sea level more rapidly and at less cost than had heretofore been regarded as within the limits of possibility They have also arrived at the conclusion that the all important problem of controlling—in the interests of the safety of the canal and of navigation—the immense floods which periodically rush into the region of the canal from the Upper Chagres river can be effectively solved by the construction of an immense dam in the neighbourhood of Gamboa and other regulating works Should these representations prove convincing to the advisory board of engineers which has recently been constituted there is little doubt that Congress will be invited early in the ensuing session to sanction the additional expenditure—according to the very lowest and most favourable estimate £5 000 000—required in connexion with the sea level scheme

So far as navigation is concerned, a sea level canal offers obvious advantages not the least being the lesser time required for crossing a country the climate of which must always be regarded as menacing to health The longer period however which must be allowed for the completion of such a canal cannot fail to have a malign influence upon the returns of mortality and sickness among the labourers and in the same connexion it should be remembered that the lower the general level of the canal the more necessity will there be for disturbance of marsh land reeking

canal line and the relative amount of excavation made by the two French companies and that which will require to be done by the United States Government should it be decided to lower the canal throughout its entire length of 49 07 miles between the six fathom curves in the two oceans to the mean level of the latter The earth and rock removed prior to 1892 is indicated in Fig 2 by the heavier printing while the white space below, to the line representing the canal bottom (35 feet below the level of the oceans), suggests the enormous amount of

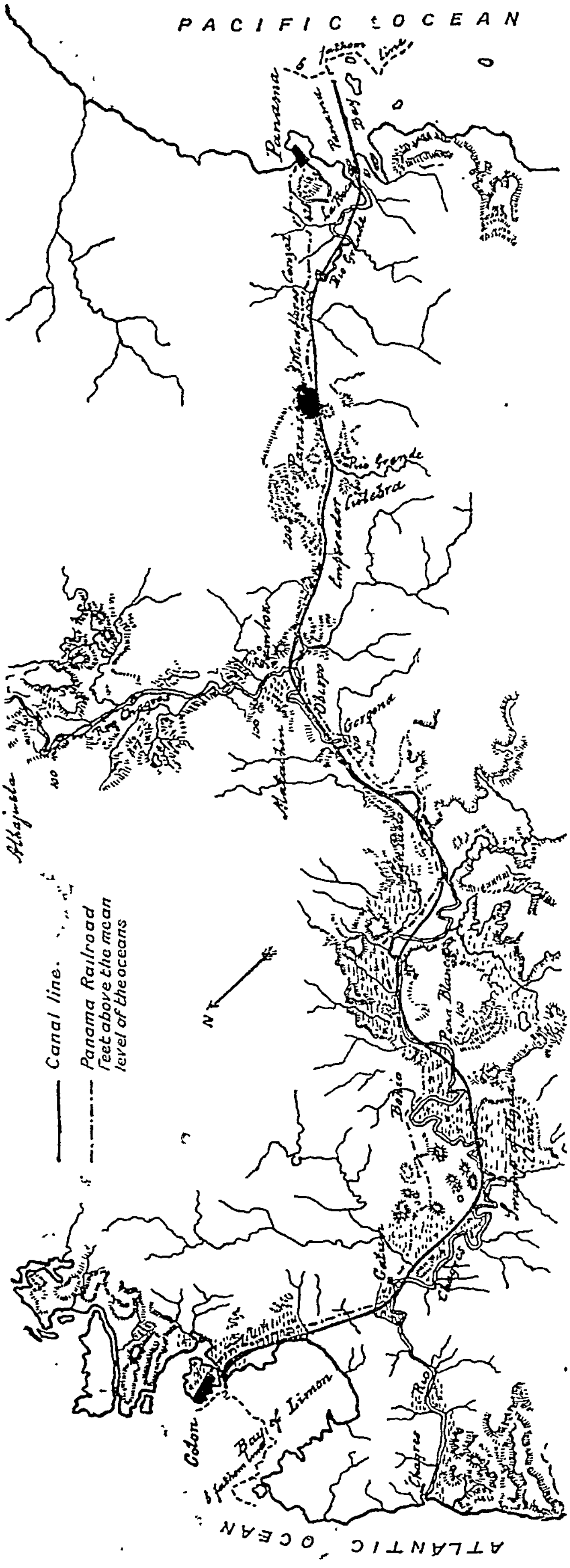

FIG. 1.—General plan of the Panama Canal.

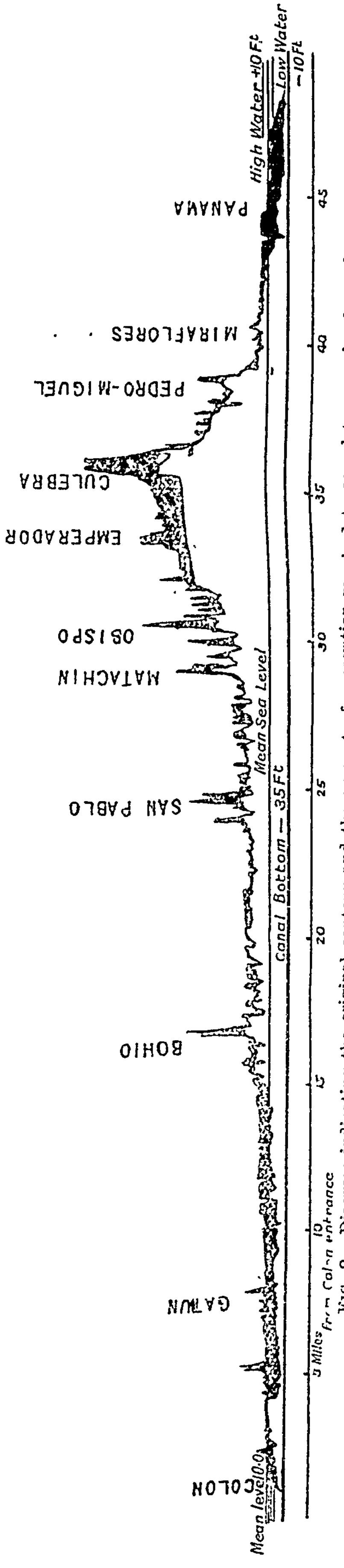

FIG. 2.—Diagram indicating the original contour and the amount of excavation required to complete a sea-level canal.

excavation—most of it in harder material—still required. It should also be noted that the semi-completed sections of the canal as left by the French must first be cleared and then be considerably deepened and widened to realise the standard dimensions demanded by the American engineers—namely, a minimum depth of water of 35 feet, a bottom width of 150 feet, and a top width of 269 feet. The amount of excavation still required in the mountain cutting alone in the case of a tide-level canal will be not less than 186,000,000 cubic yards, or nearly double the amount for the entire heretofore-favoured lock canal. This project contemplated that the limit of excavation in the summit level—i.e., the section between Obispo and the proposed lock at Pedro-Miguel (see Fig. 2)—would be 60 feet above mean sea-level and that by the construction of a dam at Bohio the flood waters of the Chagres would be impounded and create a deep lake extending from the Bohio locks to Obispo—the level of which would be identical with that of the channel through the mountain cutting. Thus, to all intents and purposes there would be effected, as against the sea-level project, a saving of from 12 to 13 miles of excavation, which owing to climatic and topographical conditions threaten danger to health not only during the period of construction but even perhaps after the opening of the canal.

Various estimates have been made as to the time required to complete the Panama Canal. The most sanguine suggest that a channel might, if the high-level and lock design were adopted, be opened to navigation in between eight and nine years from the present time and that a period half as long again would be demanded in the case of a sea-level canal. This difference, admitted by engineers who favour the last-mentioned scheme, calls for the serious consideration of American medical men who, having knowledge of the Isthmian climate, have hitherto refrained from pressing their views upon the Administration and Legislature. I have great faith that, under the direction of such authorities as Dr. Gorgas, Dr. John W. Ross, Dr. H. R. Carter, Dr. Louis A. La Garde, Dr. L. W. Spratling, and others whose names and duties will call for mention later, we may look forward to a very remarkable diminution of sickness and mortality among the workers along the canal route, as compared with the period of earlier excavation; and it is quite possible that the notable advances which have been made in tropical [illegible] gard to the [illegible] be instru- [illegible] e Isthmus. It is obvious, however, that the longer the time devoted to the work of construction the greater must be the risk of abnormal mortality among the labourers and supervisors of their work and this despite compensations resulting from [illegible] to which I shall more definitely [illegible] le. This being so it seems not [illegible], before the fateful decision, the last word should be spoken, not by the aspiring engineer but by the profession which will be held mainly responsible should the prophecies of ill be justified by events.

[illegible] te, which I [illegible], perhaps, be [illegible] the canal re[illegible] ring upon the climate is the absence [illegible] so-called. East and west of [illegible] is a noticeable break in the m[illegible] America as the Cordillera—which, under various names and aspects, stretches from the extremity of South America to almost the mouth of the Mackenzie River and the Arctic Ocean. Adjacent to the canal line its place is occupied by a series of more or less isolated peaks (*cerros*) of no great altitude which, although composed for the most part of volcanic rocks, are obviously not of volcanic origin. From Colon to Gatun the alluvial plain of the Chagres is bordered by the Mindi Hills and Sierra Quebrancha, the extreme height of which is 200 feet above mean sea level, and these, as well as the adjacent Monkey, Lion, and Tiger Hills still show signs of erosion by the sea. It is only after passing San Pablo that the canal enters what may be described as a mountainous region, heralded, as it were, by hills at Mamei, Juan Grande, and Matachin, and culminating in the so called continental divide, which includes the Emperador and Culebra peaks. Even here the elevation is little more than 300 feet above sea level, with hills on either side rising to about 650 feet. From Pedro-Miguel to the valley of the Rio Grande the descent is comparatively sharp, the most noteworthy elevation on the Pacific slope being the Cerro d'Ancon (420 feet) in the immediate neighbourhood of the city of Panama.

(To be continued.)

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XIV.[1]

THE PRESENT STATE OF MEDICAL EDUCATION—(*Continued*).

The General Medical Council and the Final Examinations.

THE fact that the medical education of the country is, speaking a little generally, all arranged upon the same plan enables the General Medical Council, as the supreme educational authority under the Privy Council, to adopt one simple process of inspection for each of the qualifying centres, a system as simple as it is drastic. The General Medical Council deputes a visitor, a member of the Council, and an inspector, not a member of the Council, who attend from time to time as the Council directs at the qualifying examinations of the body in question. The visitor and inspector can attend together or separately as they are instructed, and can make joint or several reports. They read some of the candidates' papers and make their own marks upon them, which they afterwards compare with the marks made by the examiners. They listen to the clinical and oral examinations of the candidates and take note of the style of questions that are asked and the style of answer that is accepted. They observe the facilities provided for convenient examination of the candidates, the supply of instruments and pathological specimens, the precautions against copying, the amount of time allotted to the examination *vivâ voce* of a candidate or the answering of a written question. And finally, they attend at the adjudication of the examiners upon the candidates' merits. In this thorough way they can see if the examination is kept at a proper standard and if the student obtains fair play, and there is no doubt that the criticisms of the Council's delegates, though sometimes resented by the criticised educational body, have bee[illegible] a high general standard of [illegible] the last observations made by [illegible] sitors of the General Medical Council in regard to the final examinations of all the qualifying bodies which now follows merits careful attention, for we can see that the supervision of the Council is very real and minute. The strictures which have been passed in some directions show that all qualifying bodies, whatever their position, are treated with the same respect, while the value of the work is proved by the fact that an indifferent report on one occasion is observed to be followed by a good report on the next occasion.

UNIVERSITY OF OXFORD.—The final medical examination of the University of Oxford was reported upon to the Council in 1902, to the surprise of everyone, as not being a sufficiently rigid test of medical knowledge. A further visitation and inspection was arranged for and took place at the end of 1904, with the result that the previous condemnatory verdict was practically reversed. The arrangements were found to be generally good; the standard of pathology was high and the candidates were not too liberally marked; the written and clinical examinations in medicine were satisfactory; the material brought together for the *vivâ-voce* examination in clinical surgery was especially noted as excellen[illegible] ination in practical surgery was found t[illegible] omments upon the tests in [illegible] quite so cordial, the replies of the candidates showing hardly so high a standard of knowledge as had been displayed in medicine and surgery, but the examinations were found by the inspector and visitor to be "as a whole as satisfactory as any examinations we have visited," so that the stigma has been definitely removed from the most ancient of our Universities of providing an inadequate trial of knowledge before granting one of its highest degrees.

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[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., and XIII. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), 22nd (p. 1089), and 29th (p. 1151), and May 6th (p. 1218), 13th (p. 1287), 20th (p. 1375), and 27th (p. 1449), 1905, respectively.

UNIVERSITY OF CAMBRIDGE.—The report of the inspector and visitor was quite satisfactory. The examination in pathology, in both parts, was commended particularly. In Part I. the examination in pharmacology was a practical and useful one. A separate paper in therapeutics and prescription writing was held to be an important innovation in the clinical examination in medicine. This consisted of a written report on a case in the wards, with subsequent oral examination thereon, supplemented by an examination of each candidate by two examiners on out-patients, and the inspector and visitor reported that "it was a very complete and satisfactory test." In surgery the examination was considered well arranged but the absence of a separate examination in ophthalmology came in for notice. Also, it was found that the marks obtainable for the written and oral examinations in medicine and surgery at the final examination exceeded those for the clinical and practical portion of the examination, a circumstance which the General Medical Council and all practical educationists think should not occur. But no serious fault was found with the final examinations for medical and surgical degrees at Cambridge.

UNIVERSITY OF LONDON.—The final medical examinations of the University of London were reported upon to the Council in 1903 in not wholly favourable terms, the chief insufficiencies noted being the unpractical character of the tests as shown by the system of marking and the low level of the examination in surgery. A further inspection and visitation was arranged for at an early date and the resulting report was presented to the Council on Saturday last. As in the case of Oxford, the previous adverse verdict was changed. All the plans for the written papers were found to be satisfactory and although there was a hitch in the arrangements for the examination in clinical medicine at one of the hospitals the circumstances were peculiar and allowance was made for them. The tests in written and clinical medicine were found to be, as on the previous occasion, quite satisfactory and well responded to by the condidates, who also acquitted themselves well at a thorough *vivâ-voce* examination. The questions set in systematic surgery were considered practical and those answers read by the inspector were creditable to the student; while it was specially stated that the standard of the examination in clinical surgery was high. In the third examination, the full marks being 150 and the pass mark 75, ten candidates out of 18 obtained more than 100 and four received about 75, so that the quality of the examined was clearly good. The practical examinations in pathology and forensic medicine were described as searching and those in midwifery and gynæcology as very full and practical, from which it may be gathered that the General Medical Council is perfectly certain now that the medical degree, universally believed to be the hardest of attainment in the kingdom, is a guarantee that its possessor is a thoroughly good all-round man.

UNIVERSITY OF DURHAM.—The inspector and visitor reported the final examination as satisfactory, pointing out that provision had been made for practical examinations in diseases of the skin and of the eye. The absence of similar provision in the matter of otology was noticed. The marks awarded for the written, oral, and clinical portions of the examinations were found to be each valued at 100 per cent., but a candidate who failed to obtain 50 per cent. either in clinical medicine or in clinical surgery was rejected, a provision which meets the defect. The general conclusion arrived at was that "the final examinations for degrees in medicine and surgery of the University of Durham are of a high standard."

VICTORIA UNIVERSITY.—The examinations were passed as "of a most satisfactory character—comprehensive in their scope and systematically and efficiently conducted." But there was again no examination in ophthalmic surgery while too much stress was laid upon chemical toxicology.

UNIVERSITY OF BIRMINGHAM.—The examination for the degrees of M.B. and B.Ch. was, in the opinion of the inspector and visitor, a practical examination of a high standard, well planned and well carried out. The absence of examination in hygiene was commented upon but the practical testing of the candidates in pathology and in forensic medicine was commended. The marks both in medicine and in surgery for the written and the oral examinations exceeded those given for the clinical parts of the examination, this being the only stricture passed by the inspector and visitor.

The final examinations at the universities of Scotland had not undergone visitation and inspection at the hands of the General Medical Council for some time until the autumn of 1904, and the resulting reports were not as favourable as might have been expected. The University of Edinburgh in particular came in for a considerable amount of criticism, while by an error of arrangement in printing certain comments which were intended apparently to apply to the University of Edinburgh only were made to apply to the other Scottish universities.

UNIVERSITY OF EDINBURGH.—With regard to the oral examinations the inspector and visitor made no objections, finding that in medicine "well adapted to elicit the knowledge and attainments of the candidates" and that in midwifery "excellent." But the clinical examinations, which were especially commended by the delegates of the General Medical Council some ten years ago as being a higher order of test than was laid down by other examining bodies, did not escape comment, the clinical examination in surgery being condemned as not practical and the method of its conduct being censured. This report gave rise to an acrimonious debate at the General Medical Council, the inspector and visitor being accused of having exceeded their duties. The justice of a substantial portion of their strictures was, however, directly or indirectly admitted and the spirit of antagonism that was roused by a manifestly honest report did not find much favour outside the Council chamber.

UNIVERSITY OF GLASGOW.—The visitor and inspector expressed themselves as much pleased with the final examinations of this university, reporting the examinations in medicine and midwifery as most satisfactory and those in clinical, oral, and practical surgery as having "reached a standard that can hardly be beaten."

UNIVERSITY OF ABERDEEN.—The reporter for the Council found the examination "a good one and in some points an excellent one," the criticism only amounting to remarks upon detail, concerning which the reporter said that the standard for the whole examination could easily be brought up to the same level as that which characterised the greater part.

UNIVERSITY OF ST. ANDREWS.—The visitor and inspector reported the final examinations as "sufficient." The written and oral examinations were all found satisfactory but the clinical examinations in medicine and surgery were too limited. In the inspection of these examinations the possibility of a student having had access in the hospital to patients upon whose clinical condition he might afterwards have to report was mooted, but those responsible for the conduct of the examination warmly resented the suggestion.

UNIVERSITY OF DUBLIN (TRINITY COLLEGE).—The inspector and visitor reported that there was an excellent oral examination in medicine, as well as a practical and oral one in pathology, the absence of *vivâ voce* testing having been previously noticed. But all the oral examinations in the University of Dublin were conducted by a single examiner. A separate examination in ophthalmic surgery was recommended and the inspector and visitor were of the general opinion that the final examinations of the University of Dublin were good tests.

ROYAL UNIVERSITY OF IRELAND.—Here the inspector and visitor found that too many candidates were examined simultaneously to admit of efficient personal surveillance. At each part of the surgical examination candidates were examined separately by one examiner only. The percentage of marks for clinical surgery seemed insufficient but the examiners in pathology, midwifery, and gynæcology gave an excellent practical examination. The conclusion of the inspector and visitor was that the final examination of the Royal University of Ireland was adequate but they thought that the details of the examination might with advantage be systematised.

CONJOINT BOARD OF ENGLAND.—The arrangements for the different parts of the examination were found excellent. There was no hitch or delay in any part and, considering the large number of candidates, the organisation was looked upon as perfect. The system of marking came in for criticism, inasmuch as it is still possible for a candidate who has done badly in his clinical examination to recoup himself *viva voce* The oral and practical examinations in medicine were considered satisfactory, but attention was called to the *absence of special examinations in ophthalmic and aural* surgery There was no examination in operative surgery on the cadaver, for it was not possible to obtain a sufficient supply of subjects The examination as a whole was well reported upon.

CONJOINT BOARD OF SCOTLAND —The percentage of candidates who passed the examination at Edinburgh and Glasgow was almost identical, being 44 8 and 45 0 per cent respectively There were defects in spelling and in composition in the papers of some of the candidates and, as showing the important bearing of general upon medical education, it was added that the majority of the ill-educated candidates did not pass the examination Differences existed between the clinical examinations in medicine and in surgery as conducted at Edinburgh and at Glasgow but in both places there was no examination in operative surgery on the dead subject and no clinical examination in ophthalmic surgery No questions relating to ophthalmic or aural affections were put at the written examination at either place, nor were questions asked upon the ordinary injuries and diseases of the eye and ear At Edinburgh one case only was given at the surgical clinical examination An arrangement by which pathology and materia medica and pharmacy were made the subjects of a separate examination was commended but it was pointed out that morbid anatomy should also be recognised at the examination in medicine and surgery At this examination it was noted that the examiners were in a hurry and that some of the papers were overmarked, with the result that a bad clinical examination might be counterbalanced The plan of sending round a schedule was also criticised, as it might induce charitable examiners to stretch a point in favour of candidates who could be seen by the schedule to have nearly reached the pass mark *Despite these objections the inspector and* visitor came to the conclusion that the examination answered its purpose as a sufficient final test, though they added, "We think that the arrangements and system of marking at the written examination might be with advantage revised "

CONJOINT BOARD OF IRELAND —The main criticism of the inspector and visitor of the final examination of this Board was that the Irish Royal Colleges allowed candidates at their final examination to pass "piecemeal " If a candidate was referred only on those subjects in which he failed they would put forward the recommendation of the General Medical Council that "a percentage of not less than 60 per cent —supposing that the pass requirement be 50 per cent —should exempt from re examination in such subject " The same pass standard—60 per cent —might also advantageously be laid down for candidates who presented themselves for examination in a single subject only The inspector and visitor commented upon the utility or inutility of including mental disease as a special subject in the final of an exa*mination for general practitioners and alluded to the absence* of systematic examination in urine testing and the dearth of questions in anatomy in an otherwise well conducted examination in operative surgery The visitor and inspector appear to have thought that the oral examinations in midwifery, forensic medicine, and hygiene were not of a sufficiently demonstrative or practical character and expressed also their views as regards the examination of foreign candidates They saw no objection to their being allowed if necessary, the use of a dictionary at the written examination but considered that to permit a foreigner to write his answers to the papers in his own language and to have them translated into English by an interpreter and to admit an interpreter to the clinical examinations might give rise to an objectionable precedent. Viewing the examination as a whole they were of opinion that it was a fair and carefully conducted one, fulfilling its purpose as a test of medical knowledge

SOCIETY OF APOTHECARIES OF LONDON —The report of the visitor and inspector was brief and satisfactory They testified to the great care and thoroughness with which the whole examination was conducted but pointed out that there was no special examination in ophthalmic surgery and that the art of prescribing should have more attention at an examination instituted by the Society of Apothecaries

APOTHECARIES HALL OF IRELAND —The arrangements for the examination were considered satisfactory The preliminary education of the candidates, only two, appeared very defective A further inspection again found the examination satisfactory but the candidates of very poor quality

It will be realised from these reports that in its duty of maintaining the medical education of the country at a high standard the General Medical Council spares no pains and favours no persons The Universities of Oxford, London, and Edinburgh have been called to order as freely as any corporation The precautions [illegible] examinations are all directed [illegible] towards eliminating the elemer [illegible] from the results—concerning this point more will have to be said—and towards the practical equipment of the medical man for his public duties Notice, for example, the stress that is laid on the absence of attention to ophthalmology, which is a pertinent comment on the widespread usurpation by opticians of medical duties

(*To be continued*)

THE OPTICAL CONVENTION

IN accordance with an announcement in our issue last week the Optical Convention was commenced on May 30th at the Northampton Institute, Clerkenwell, E C, when the President, Dr R T Glazebrook, F R S, Director of the National Physical Laboratory, opened the proceedings with an interesting address on the objects of the meeting and on the growth of optical science The growth of the science at the end of the seventeenth century, he said, was due to two men—Christian Huyghens and Isaac Newton Each appears to have been directed to theoretical optics from a desire to improve the telescope for astronomical purposes Each was in his own way a mechanic—Huyghens built telescopes and clocks, Newton at the beginning of his optical work applied himself to the grinding of optical glasses to figures other than spherical Huyghens and Newton were the authors of the two rival theories of optics which held the field for more than 100 years to the days of *Young and Fresnel* That period was *not very fruitful* either in theory or practice, but Fresnel by his work established Huyghens s theory, and though he did not directly add much to practical optics he entirely changed the position from which the theory of optical instruments has to be regarded Recent progress in the theory of the telescope, the microscope, and the spectroscope is based on his work The work of the two Herschels and Airy at the early part of the last century was alluded to and the important part in the development of English optics taken by Messrs Chance through their introduction of optical glass was mentioned It was pointed out however, that by the middle of the century there was a marked separation between the theoretical and practical workers so that when photography was invented by Daguerre, Airy s work on the aberrations of a lens and Hamilton s important theorems on rays were unknown to the lens designers Thus for many years the photographic lens developed empirically Some account of the change in the position due to the work of Ernst Abbe and the development of this work at Jena and [illegible] ead during the meet [illegible] ruments which was [illegible] rce of considerable attraction A number of practical demonstrations was given in the laboratories The members of the organising committee may be congratulated on the excellent and instructive catalogue which they published It contains a preface by Dr Glazebrook in which the object of the convention is defin [illegible] nd cooperation men [illegible] om all sides of the q [illegible]

In the catalogue [illegible] were arranged in classes, each class being preceded by a short introduction giving a general description of the instruments included in the class Special attention was paid to convenience of reference and in addition to a complete table of contents an alphabetical list of exhibitors and an index of instruments were provided In addition to the more strictly optical instruments many other types of scientific apparatus were included, thus one class was devoted to meteorological instruments and thermometers, another to laboratory instruments; mathematical, drawing, and calculating appliances were also shown. In one section, under "Tools and Materials," was to be found a selection of optical glass by the great glass-making and lighthouse firm—Messrs. Chance Brothers, of Birmingham. Messrs. Powell and Sons, of the Whitefriars Glass Works, had an interesting exhibit of thermometer glass and Messrs. George Colver and other firms showed tools and illustrated processes of manufacture. Another section, "Simple Optical Elements," included an exhibit of accurate work in prisms and plates by Messrs. Hilger and diffraction gratings by Lord Blythswood. The two most important classes in which the excellence of the English work was most apparent was perhaps those of surveying instruments and microscopes; these were both well represented and the exhibits were of special interest. "Spectacles and Eyeglasses" was also an important section, including all the best known makers. A fine historical collection was sent by Mr. M. W. Dunscombe of Bristol, and a "projection apparatus" was the exhibit, shown in action, of a complete lighthouse apparatus of the fourth order by Messrs. Chance Brothers.

Of other classes of exhibits may be mentioned "Telescopes and Binoculars," "Photographic Apparatus," "Photometric Apparatus," and "Ophthalmic Instruments and Appliances." In the class devoted to optical measuring instruments some admirable work was exhibited by the Cambridge Scientific Instrument Company and by Messrs. Hilger. Instruments of special interest and novelty were shown by Professor Poynting, Professor Watkin, Mr. Marrow, and Mr. J. R. Milne of Edinburgh.

THE EPIDEMIC OF FAINTING AMONG SCHOOL-GIRLS AT CLOWNE, DERBYSHIRE.

DURING the past three weeks a curious epidemic of fainting has occurred among the girls in the council (elementary) schools at Clowne, a small coal-mining town in Derbyshire. Since last summer holidays the teachers have frequently observed something objectionable about the atmosphere of the class-room in which most of the cases occurred and from time to time solitary cases of fainting were noted. But suddenly a number of cases of fainting occurred, there being no less than 46 cases between May 17th and 22nd. The infants in an adjoining room were not affected. After the first 16 cases an escape of gas was noticed in the lobby. The leakage was stopped but on the next day eight other girls fainted. The school was closed from the Friday till the following Monday, but on resuming school fresh cases occurred. The school was again closed and the county council authorities were notified, with the result that Dr. S. Barwise, the county medical officer, went to Clowne and made an extensive investigation. The fainting fits lasted for a quarter to half an hour and were accompanied by shivers, spasms, and rigidity. The patients were left in a weak condition and many required to be assisted or to be carried home. We are indebted to Dr. Ferris of Clowne, a manager of the schools, for a copy of Dr. Barwise's first report.

County Offices, St. Mary's Gate, Derby, May 24th, 1905.

DEAR SIR,—I went over yesterday to the Clowne schools and examined the class-rooms which were involved in the attacks of fainting in the school. From the symptoms described to me by the teacher, Miss Chambers, and by the medical man who was called in to attend to the children, there can be no doubt that the attacks are either due to poisoning by carbon monoxide or have a nervous origin. If due to carbon monoxide the only cause which I could discover for the presence of this gas would be an escape of coal gas. There have been several minor escapes of coal gas through the school pipes but they were not, in my opinion, sufficient to cause the trouble. It is, however, possible that there is a leaky main in the street and that coal gas finds its way into the school through the foundations. I pointed this out to Mr. Elson, the surface manager of the Shire Oaks Colliery Company, who are the owners of the gas-supply, and he promised me that he would have the main examined. Mr. Elson also informed me that no water gas was mixed with the gas. I examined the heating apparatus and am of opinion that this is not to blame, although it requires some attention. I made the tests recommended by the Home Office for the presence of carbon monoxide but failed to find it. I have, however, left some mice exposed to the air and I will have their blood examined.

I found that the open fireplaces throughout the school have been stopped up. These should all be opened forthwith. I recommend that the class-rooms involved should be opened again as soon as the chimneys have been swept and the fires have been lighted. I would also suggest that the particular class room involved should be used for boys who are not so amenable to suggestive influence as girls. Pending the result of the examination of the mice which have been exposed to the atmosphere in the schools I recommend: (1) that the open fires should for the present be kept constantly burning while the children are in school; (2) that windows should be kept open; (3) that gas should be turned off at the meter; and (4) the hot-water apparatus should not be used.

It will not be necessary to use it while there are open fires. I find that the floor space has not been concreted and that the hot-water pipes are below the floor boards on one side of the room. The space under the school should certainly be concreted all over and the water pipes brought above the level of the floor. This is a matter, however, which need not be gone into until the summer holidays.

Yours faithfully,
SIDNEY BARWISE.

E. A. Hall, Esq., Solicitor,
Clerk to the Clowne Council Schools, Eckington.

Mr. G. L. Godwin has been ill during the course of the epidemic, but he was kind enough to give our representative such information as was known. It appears that the mice were quite unaffected by the atmosphere of the class-room and Dr. Barwise has found no carbon monoxide in their blood. A test for excess of carbon dioxide in the atmosphere of the room gave a negative result. The floor was taken up and the gas-pipes were carefully examined but no leakage was discovered. The interesting experiment was tried of putting a class of boys into the room in question, but after three days no case of fainting occurred. Mr. Godwin is personally acquainted with each child that has been affected and is of opinion that most of the girls affected were among the poorest of the scholars who perhaps were not sufficiently fed. He considers that many of the girls were genuinely affected but that later other girls followed suit, either in imitation or from sympathy. It should be stated that the Clowne sanitary inspector, Mr. Bradley, has carefully examined the drains and so far has not detected anything wrong with the sewage arrangements. Some of the old people of the town have advanced a theory, based on their previous mining experience, that the epidemic may be due to "after-damp." It is a fact that a "fault" runs through the ground under the school and as the recent earthquake was distinctly felt in Clowne there is a possibility that there may be a leakage of "after-damp" due to this geological disturbance.

THE GERMAN SURGICAL CONGRESS.[1]

(Concluded from p. 1456.)

The Significance of Cryoscopy in Disease of the Kidneys.

Professor ROVSING (Copenhagen) expressed the opinion that the usefulness of cryoscopy had been overrated as a means of ascertaining the functional competence of the kidneys. The kidneys might be healthy even when the freezing point of the blood was from $-0\cdot60$ to $-0\cdot67^\circ$C., and might act imperfectly when the freezing point was normal. The surest diagnostic method was, in his opinion, the estimation of the quantity of urea. When the quantity of urea was normal the kidney was healthy but it was not to be concluded from a reduction of the urea that the other kidney was disabled. The case was the same with the phloridzin test; all these tests were valuable when the indications were positive but were worthless when the indications were negative. Death from uræmia was according to his experience rather rare. Of 52 patients on whom nephrectomy was performed up to the year 1901 he had lost seven and of 60 operated on after 1901 he had lost only two, of whom one died from sepsis and the other from hæmorrhage. Tuberculosis of the generative organs and of the bladder was not a contra-indication against nephrectomy. In tuberculosis of the bladder he recommended irrigation by a solution of carbolic acid of 5 per cent. strength, which gave very good results. Ureteral catheterism should always be carried out for the purpose of confirming the diagnosis.

Professor ISRAEL (Berlin) agreed generally with Dr. Rovsing, saying that cryoscopy was not trustworthy because of the many exceptions to the inferences drawn from it. A considerable proportion of his patients would have died if he had abstained from any operation, deterred by the result of cryoscopic observations. The same was the case with the phloridzin test. The authors of these methods failed to distinguish between the essential competence of the kidney and a temporary impairment of its functions. He said that previously to the year 1901 the mortality among the cases under his care was 25 per cent., but since 1901 it had been 10 per cent., the cause of the difference being that the indications for operation were recently modified. Tuberculous cases in an early stage were now operated on as soon as possible but surgical interference was avoided in advanced cases.

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[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

Dr. CASPER (Berlin) opposed Professor Israel's views. He said that in order to obtain as uniform results as possible he was in the habit of making his cryoscopic examination two hours after a test breakfast.

Professor KÜMMELL (Hamburg) recommended that cryoscopy should be combined with ureteral catheterism.

Dr. KAPSAMER (Vienna) said that he preferred the phloridzin test to cryoscopy and the indigo-carmine reaction. The time required for sugar to make its appearance in the urine was of importance.

Dr. GOZEL (Prague) reported that he was able to ascertain the presence of tuberculosis of the kidney by conveying the disease to guinea-pigs by inoculation of the suspected urine.

Prostatic Enlargement.

Professor CZERNY (Heidelberg) said that he did not consider early operation to be advisable in prostatic hypertrophy. The question whether the transvesical or the perineal method was the more trustworthy was rather doubtful. The perineal method, which often produced impotence, should be employed only in very advanced life.

Professor KÜMMELL said that he had tried all the operations recommended for the treatment of prostatic enlargement. He had performed Bottini's operation in 51 cases with two deaths immediately and nine deaths afterwards as a sequel to the operation; five patients were left unimproved, three were improved, and the remainder recovered. In 26 cases he had performed castration, the result being that two patients died, two were unimproved, two were improved, and the remainder recovered permanently. He now used the median or high incision by which the prostate was easily made accessible. When the perineal method was chosen the urethra must be opened, the bladder closed by sutures, and a catheter tied in.

Professor ISRAEL was opposed to suturing the bladder and recommended drainage through the perineum.

Dr. FREUDENBERG (Berlin) advocated Bottini's method as the surest and the least dangerous for the patient.

Dr. FRANK (Berlin) said that after Bottini's operation the edges of the prostatic flaps often united so that the result became doubtful.

Growths of the Bladder.

Professor REHN (Frankfort) reported a series of cases of cancer of the bladder occurring among operatives employed in aniline factories and especially one case in which metatases were present in the right ureter and the right kidney.

Dr. SCHWERIN, chief surgeon to the Hoechster Farbwerke, said that he had operated on four cases of cancer of the bladder in workmen of that factory but only one did not relapse. The post-mortem examinations did not show any alteration of the kidneys.

Dr. WEINRICH (Berlin) spoke in favour of the endo-vesical operation for growths of the bladder, malignant growths, of course, excepted. This method was especially suitable for papilloma. If the hæmorrhage was too profuse the operation must be interrupted and resumed at a later period.

Dr. STRAUSS (Frankfort) said that this method was not trustworthy because a papilloma might possibly have a cancerous basis.

Dr. KAPSAMER recommended the galvano-caustic operation for ulcerations of the bladder; in cancers of small size an endo-vesical operation might be performed.

Lipoma of the Fatty Capsule of the Kidney.

Dr. NEUMANN (Berlin) showed a retro-peritoneal lipoma of the fatty capsule of the kidney weighing 3·5 kilogrammes which he had removed from a boy three and a half years of age. After the removal of the growth, which weighed one-third as much as the patient's whole body, the descending colon was deprived of all its blood-vessels and accordingly was resected; the patient has recovered.

Injuries of the Lungs.

Professor GARRÉ (Königsberg) recommended the suture of pulmonary wounds for the purpose of obtaining quicker healing and avoiding infection. The lung must be made accessible by drawing it out through the wound and the divided edges were then brought together with deep sutures. Wounds in the neighbourhood of the hilus must be plugged. A loose plugging of the wounds was afterwards advisable, with deep drainage if required.

Professor KÖNIG (Jena) said that wounds of the lungs had a marked tendency to heal even without operative treatment.

Operations on the Skull.

Dr. STIEDA (Halle) gave a report of the examination of 31 patients operated on for fracture of the skull. In the clinic at Halle the opening in the skull was always closed as soon as possible, the result being an excellent one. The patients in whom primary implantation had been performed were all in good health, and so also were those who had been treated by Muller and König's osteoplastic operation. Epilepsy had developed in only one case. In secondary implantation the results were less satisfactory.

Professor KÜMMELL said that he had obtained good results by trephining in a case of purulent meningitis occurring after a fall from an electric street car. This was of importance, especially for the present epidemic of cerebro-spinal meningitis, as some cases might perhaps be saved by surgical intervention.

Professor FRIEDRICH (Greifswald) said that he had cured epilepsy by trephining. He was of opinion that the brain of epileptics was favourably influenced by Kocher's operation. He showed a patient who had suffered from dementia but had recovered after removal of a cerebral tumour.

Professor W. KORTE (Berlin) was elected President of the next Congress.

MEDICINE AND THE LAW.

A Question under the Diseases of Animals Act, 1894.

AT Stratford on May 27th a man named Lungley was fined £10 and costs for failing to give notice of a case of farcy glanders in the stables of a firm of builders' merchants, his employers. He had called in Mr. J. P. Lee, M.R.C.V.S., to inspect a horse suffering from a sore on the leg. Mr. Lee after examining the horse ordered that it should not be moved and two days later in the presence of Lungley and of another man, also summoned before the magistrates, applied the test for farcy glanders and found the case to be one of glanders. On the next day he called to confirm this decision and was informed that the horse had been slaughtered and the carcass removed. He at once communicated with the London County Council and with an inspector called upon the horse slaughterers implicated and at their premises identified the hide after some delay in obtaining inspection of it. Examination of the head and portions of the carcass by another veterinary surgeon established the case as one of farcy glanders. At the police court the fine inflicted upon the defendant named above was, as has been stated, for failing to notify the disease. The other man employed by the owners of the horse and two men named Orrocks, horse slaughterers, were charged with offences under the Act involved in the removal of the carcass and on their behalf defences were raised based upon the question of whether there was evidence that they knew what the horse had been suffering from and upon other matters which cannot be discussed while they are still under the consideration of the bench. The questions involved are of great importance from the point of view of the public health and it is to be hoped that they will be determined without delay so that if the law is defective it may be strengthened. Otherwise, apparently, a diseased animal can be removed, slaughtered, and its flesh distributed without interference from anyone in the interval which must necessarily elapse in any obscure case between the first onset of the disease when the veterinary surgeon may reasonably ask to be allowed to watch its development and the point at which the matter is formally placed on record as beyond doubt.

Christian Science and the Death of a Child.

An inquest was held recently at Twickenham upon the body of a child eight months old who had been allowed to die by her parents through the influence of Christian [illegible] encouragement afforded by a lady [illegible] her own evidence, had been [illegible] eight years and was in the habit of receiving a guinea a week for her ministrations. A curious feature of the case and one which renders the conduct of the parents more inexcusable lay in the fact that they at first summoned a medical practitioner, Dr. W. F. MacDonogh, who told them that their child was suffering from bronchial pneumonia, gave them directions as to treatment, prescribed, and when the father did not call at his surgery for the medicine offered to send it to the house. The mother apparently was chiefly instrumental in preventing this from being done. A lady, named King, who said that she was licensed to practise medicine in three States in America, was also summoned by the parents later when the child had become hopelessly ill, and she gave evidence to that effect. The father at the inquest professed his belief in Christian Science, and Miss Wilkins stated that she thought that death supervened because she had not sufficient faith in God and because she did not have the case entirely in her hands. This last reason presumably referred to the intervention of Dr. MacDonogh, some part of whose directions seem to have been followed. The jury returned a verdict in accordance with the medical evidence and requested the coroner to censure the father. In such cases when the possible verdict of manslaughter is not returned it is because the evidence is not conclusive as to death being due to the neglect of medical aid and as the parents may still be charged with a minor offence under the Prevention of Cruelty to Children Acts further comment would be out of place.

The Medical Man, the Coroner, and the Pathologist.

An inquest at Wandsworth, adjourned to May 29th from May 2nd by Mr. Troutbeck, has served to show in a somewhat marked manner the very undesirable results which may ensue from the policy adopted by this coroner, apparently without the concurrence of his colleagues, with regard to the making of post-mortem examinations within its jurisdiction. In the case in question a child, aged 17 months, had been taken by her mother, the wife of a labourer, to a medical man who had handed her a bottle of medicine. On the following day the child became very ill and the mother called in another medical practitioner, who came twice during the afternoon, and at 6.45 the child died. Neither of the two medical men who had seen the child during her illness was ordered to make the post-mortem examination, which, as usual, was intrusted to Dr. L. Freyberger. At the inquest the evidence of the second medical man showed that his opinion of the case from his observation immediately before the child died was that it was due to morphine poisoning and this was corroborated to the extent that the first medical man said that the medicine which he had prescribed contained morphine, although the dose he had ordered would have involved the taking of an infinitesimal quantity; but Dr. Freyberger knew nothing of the previous history of the case; he had not attended during life and the gentlemen who had done so, and one of whom according to law should have made the post-mortem examination, were under no obligation either to be present at the necropsy or to inform him upon the subject. Dr. Freyberger's evidence was to the effect that he had not detected any signs of morphine; whether he had made any special effort to do so does not appear from the report before us. Clearly, however, a medical practitioner making a post-mortem examination entirely in the dark as to the history of the deceased's last illness is at a considerable disadvantage. He is likely to be free from such influence as a preconceived opinion may exert; but is this of importance? No medical man in such a case, if his original diagnosis was not borne out by his examination of the body after death, would hesitate, or would have any reason to hesitate, in saying so. On the other hand, in some cases post-mortem observation alone may give the pathologist no clue which will lead him to form a correct opinion. In circumstances not difficult to imagine the natural refusal of the medical men of his district to support Mr. Troutbeck in his unusual, if not unique, position, may lead to a serious failure of justice. Meanwhile unpleasant and undesirable scenes take place and the coroner is betrayed into utterances which in calmer moments he probably regrets. Towards the close of the adjourned inquest under comment he is reported to have said that "It ought to be clearly understood that England was not going to be the only country in which pathologists were not employed." Does this mean that Mr. Troutbeck intends to reform England and to amend its Coroners Act without the aid of Parliament? The utterance quoted makes no reference to legislative interference. Has any-one ever suggested that pathologists should not be employed or, indeed, that they are not employed already where it is desirable that they should be? It has been said many times in the columns of THE LANCET that their employment, as Mr. Troutbeck employs them, is not sanctioned by the Act of Parliament under which he exercises his powers and by which alone he has authority to offer the payment of fees to witnesses at inquests. It has also been said that any alteration which may be made in the existing system must be made by the legislature, after the views of those who can speak with authority from a medical point of view have been heard and not by the act of a coroner or of a county council deliberately ignoring the law.

Liquozone.

Dr. W. Wynn Westcott, coroner for the North-Eastern district of the County of London, held an inquiry at Stoke Newington on May 26th into the death of an infant who had been dosed with liquozone. The father of the child said that his wife obtained a free bottle of liquozone, and that the deceased child having had half a teaspoonful out of it on Thursday, Friday, Saturday, and Sunday died at noon on Tuesday. Dr. F. J. Smith gave evidence that the child had come to his death through taking liquozone and the inquiry, which was adjourned until next Monday, June 5th, was described by a solicitor on behalf of the British Liquozone Company as being of vital importance to that company. We should think it was, especially as a second child who had been similarly treated has, we understand, since died. Liquozone, as our readers should know,[1] is a solution of sulphurous acid and if the British Liquozone Company recommends its imbibition for diseases of all sorts the company will have a good deal to answer for.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bath Urban District.—Dr. W. H. Symons thinks that pulmonary tuberculosis should be compulsorily notifiable but that the notification should be confidential. He suggests, however, that sufferers from this malady should be exempt from the operations of the Infectious Diseases (Prevention) Act. In our view it is of more importance that this disease should, if notifiable, be exempt from the penal clauses of the Public Health Act, 1875, and it was, we believe, only under these conditions that Parliament allowed the proposal for compulsory notification in Sheffield to become law. Section 45 of the Sheffield Corporation Act, 1903, provides that "no provisions contained in any general or local Act of Parliament relating to infectious disease shall apply to tuberculosis of the lungs or proceedings relating thereto under this section." Dr. Symons gives some interesting particulars relative to the open-air treatment provided by the board of guardians at Bath. He states: "Most of the cases notified to me are too far gone to be permanently restored to the ranks of the workers by a few weeks' open-air treatment, but they are taught how to treat themselves and how to live without being centres of infection." He then adds: "Dr. Craddock reporting to board of guardians states that since the open-air treatment was adopted at the workhouse Oct. 15th, 1903, to the present time 67 cases have been admitted. Of these, ten have been discharged cured, 22 had left while under treatment, 14 are still under treatment, and 21 have died; most of those who died were in a hopeless condition when admitted. The average cost of treatment is 15*s.* per week and the average stay in the infirmary 163 days for those who were cured; the average of all cases 60 days."

Borough of Aston Manor.—By way of reducing the chances of "return" cases of scarlet fever in connexion with the borough isolation hospital Mr. F. H. May endeavours to separate the acute and complicated cases from the convalescent and uncomplicated and, moreover, to give to each patient even a greater cubic space than the 2000 feet laid down by the Local Government Board. In addition to these precautions he also recommends the parents "to quarantine" their children on discharge from hospital for a period of at least a month before they are allowed to mix with the rest of the family at home. This appears to us to be somewhat a counsel of perfection and one which in the homes of the poor is not very likely to be carried into effect. If the domestic circumstances were such as to necessitate the removal of the case to hospital in the first instance when the patient would be confined to bed it is extremely unlikely that a healthy child could be properly "quarantined" for a month in the same house. Probably a suggestion that the patient should not at once be put into a bed with a susceptible child would meet the difficulty and this is a practice which has been adopted at the London Fever Hospital for very many years.

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[1] THE LANCET, May 13th, 1905, p. 1309.

County Borough of Blackpool.—Dr. F. J. H. Coutts utters a warning relative to the indiscriminate dispatch of consumptive patients to Blackpool. He observes that although early cases where there is no marked breaking down of lung tissue do well advanced cases with cavities are unable to stand the bracing climate and strong winds of Blackpool and grow rapidly worse. This suggestion as regards the need for discrimination in the selection or tuberculous patients might also with advantage be applied to sanatoriums. Not all patients do well at a sanatorium in an elevated and relatively exposed situation, whereas some patients make progress when sent from those elevated situations to an institution less exposed. Potted shrimps preserved with boric acid appear to have a large sale in Blackpool and in one instance this drug was found in an amount equivalent to 70 grains to a pound, which is much in excess of that necessary to preserve these shrimps, even in very hot weather. It is, indeed, debateable whether it is necessary to add any preservative whatever save in the case of Dutch shrimps which are sold as English. There were three cases of anthrax among cattle in the neighbourhood of Blackpool during 1904 and the circumstances connected with the cases demonstrated how very easy it is under existing conditions to send the meat of animals dead from anthrax to the butchers. In one case it was found that the milk of an infected cow was actually received in Blackpool on the day prior to the death of the animal and in another case the inspector on going to a farm at which a death from anthrax had taken place, or where an animal ill from the disease had been slaughtered, found a cart bearing the name of a Blackpool butcher ready to remove the carcass. On inquiring for the viscera of the animal the spleen was found to be missing and there had apparently been no time to procure another spleen to replace this diseased organ. These cases of anthrax gave rise to the death of a man who had helped to dress one of the carcasses and to an attack of malignant pustule in the case of two persons who had been brought in contact with the diseased tissues.

Borough of Kingston-upon-Thames.—Mr. H. Beale Collins expresses the opinion that with regard to pulmonary tuberculosis the great safeguard is to render the body resistant to the germ by physical training, by an open-air life, by rational food, and, above all, by strict temperance. He advocates, however, the restriction of spitting and the disinfection of houses in which tuberculous patients have died.

Chesterfield Rural District.—Dr. Herbert Peck reports that several cases of lead poisoning were brought to his notice during 1904 and he found on examination that they were genuine cases caused by the "plumbo-solvent" action of the public water-supply. Apparently the water shows no acidity when tested with lacmoid solution but it is clear that the passage of the water through lime does not suffice to counteract its "plumbo-solvency." The addition of sodium carbonate is, as Dr. Peck suggests, clearly indicated.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8641 births and 4371 deaths were registered during the week ending May 27th. The annual rate of mortality in these towns, which had been 15·4, 15·0, and 14·4 per 1000 in the three preceding weeks, rose again to 14·6 per 1000 last week. In London the death-rate was 14·6 per 1000, and it also averaged 14·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·2 in Hornsey, 7·2 in Willesden, 7·5 in King's Norton, 8·8 in West Hartlepool, 9·0 in Walthamstow, and 9·3 in East Ham, in Handsworth (Staffs), and in Cardiff; the highest rates were 18·9 in Liverpool, 19·8 in Merthyr Tydfil, 20·0 in West Bromwich, 20·4 in Rhondda, 20·5 in Wigan, and 20·8 in Smethwick. The 4371 deaths in these towns last week included 413 which were referred to the principal infectious diseases, against 469, 401, and 442 in the three preceding weeks; of these 413 deaths, 152 resulted from measles, 133 from whooping-cough, 38 from diphtheria, 37 from diarrhœa, 30 from scarlet fever, 23 from "fever" (principally enteric), but not any from small-pox. In Croydon, Hornsey, Brighton, Norwich, Rochdale, Burnley, York, Swansea, and in six other smaller towns no death from any of the principal infectious diseases was registered; while the highest death-rates from these diseases were recorded in Hanley, West Bromwich, Smethwick, Coventry, Warrington, Middlesbrough, Stockton-on-Tees, Tynemouth, Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Bristol, West Bromwich, Smethwick, Warrington, Sheffield, Stockton-on-Tees, Rhondda, and Merthyr Tydfil; from whooping-cough in Tottenham, Hanley, Smethwick, Aston Manor, Grimsby, Bradford, Hull, Tynemouth, and Rhondda; and from diarrhœa in Wolverhampton. The mortality from scarlet fever, from diphtheria, and from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week in any of the 76 large towns. The number of small-pox patients remaining under treatment in the Metropolitan Asylums Hospitals, which had been 17, 17, and 15 at the end of the three preceding weeks, had further declined to ten at the end of last week; one new case was admitted during the week, against four, two, and three in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2152, 2177, and 2211 at the end of the three preceding weeks, had declined again to 2200 at the end of last week; 312 new cases were admitted during the week, against 235, 319, and 319 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 256, 251, and 226 in the three preceding weeks, further fell to 218 last week, but were 30 above the number in the corresponding period of last year. The causes of 54, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Bradford, Hull, Newcastle-on-Tyne, and in 43 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Smethwick, Nottingham, Liverpool, Blackburn, Preston, Sheffield, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0, 19·5, and 16·7 per 1000 in the three preceding weeks, rose again to 18·1 per 1000 during the week ending May 27th and was 3·5 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15 4 in Leith and 15·8 in Paisley to 21·0 in Dundee and 21·3 in Perth. The 606 deaths in these towns included 30 which were referred to measles, 24 to whooping-cough, seven to diphtheria, seven to diarrhœa, three to scarlet fever, and three to "fever." In all 74 deaths resulted from these principal infectious diseases last week, against 67, 83, and 76 in the three preceding weeks. These 74 deaths were equal to an annual rate of 2·2 per 1000, which was 0·8 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 16, 32, and 26 in the three preceding weeks, rose again last week to 30, of which 21 occurred in Glasgow and seven in Edinburgh. The deaths from whooping-cough, which had been 30 and 25 in the two preceding weeks, further declined to 24 last week, and included 10 in Glasgow, five in Edinburgh, and four in Greenock. The fatal cases of diphtheria which had been four, six, and three in the three preceding weeks, rose again last week to seven, of which five were registered in Edinburgh and two in Glasgow. The deaths from diarrhœa, which had been 15, nine, and 19 in the three preceding weeks, declined again to seven last week, and included three in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been three, four, and two in the three preceding weeks, rose again last week to three, and included two, one of which was a case of typhus, in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 132, 108, and 83 in the three preceding weeks, rose again last week to 107, and were 22 in excess of the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·0, 23·7, and 19·5 per 1000 in the three preceding weeks, further declined to 18 9 per 1000 during the week ending May 27th. During the past four weeks the death-rate has averaged 21·0 per 1000, the rates during the same period being 14·5 in London and 16·9 in Edinburgh. The 138 deaths of persons belonging to Dublin registered during the week under notice were four below the number in the preceding week and included four which were referred to the principal infectious diseases, against eight, eight, and six in the three preceding weeks; of these, one resulted from measles, one from diphtheria, one from whooping-cough, and one from "fever," but not any from small-pox, scarlet fever, or diarrhœa. These four deaths were equal to an annual rate of 0·6 per 1000, the death-rates last week from the principal infectious diseases being 1·4 in London and 3·1 in Edinburgh. The 138 deaths in Dublin last week included 27 of children under one year of age and 37 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a decline from the respective numbers recorded in the preceding week. Seven inquest cases and five deaths from violence were registered; and 61, or more than two-fifths, of the deaths occurred in public institutions. The causes of seven, or more than 5 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon J. M. France to the *Emerald* to join the *Carnarvon* on relief. Staff Surgeons: H. P. Jones to the *President*, for three months' course at Adelaide Hospital, Dublin; N. I. Smith to the *Hermes;* and R. H. Mornement, to R.M.A. Headquarters, Portsmouth. Surgeons: W. N. Horsfall to the *Ariadne;* P. D. Ramsay to the *Juno;* B. Scribner to the *Shearwater;* and F. F. Mahon to the *Pioneer*.

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet:—Hugh Prideaux Turnbull, Walter Byron Maurice, Sidney Roach, Eustace Arkwright, Walter Kempson Hopkins, Harold Edgar Fryer, Samuel Conner, and Robert Harry Mornement (dated May 25th).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel H. S. McGill is appointed to the Eastern Command for duty.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement from the service of the undermentioned officer:—Colonel Charles Little (dated Feb. 12th, 1905).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Supernumerary Lieutenant (Honorary Lieutenant in the Army) J. W. Hopkins to be Captain and to remain seconded (dated Feb. 26th, 1905).

IMPERIAL YEOMANRY.

Yorkshire Dragoons (Queen's Own): Surgeon-Captain P. B. Mackay to be Surgeon-Major (dated May 27th, 1905).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: Surgeon-Lieutenant N. Davidson resigns his commission (dated May 27th, 1905). *Rifle:* 3rd Lanarkshire: Surgeon-Lieutenant A. Roxburgh to be Surgeon-Captain (dated May 27th, 1905). 1st Surrey (South London): Captain and Honorary Major Charles Joshua Joseph Harris (late the Pembroke Royal Garrison Artillery (Militia)) to be Surgeon-Lieutenant (dated May 27th, 1905). 2nd Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant W. M. Mackay to be Surgeon-Captain (dated May 27th, 1905).

ARMY MEDICAL SERVICE.

An examination of candidates for not less than 40 commissions in the Royal Army Medical Corps will be held on July 27th and following days. Applications to compete should be made to the Secretary, War Office, 68, Victoria-street, London, S.W., not later than July 17th, on which date the list will be closed. Candidates who are over the regulation limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after Oct. 1st, 1899, that they could reckon towards retired pay and gratuity if such deduction will bring them within the age limit. The presence of candidates will be required in London from July 25th.

THE MEMORIAL TO THE ROYAL ARMY MEDICAL CORPS.

As we announced briefly last week, His Majesty the King unveiled the monument to the officers and men of the Royal Army Medical Corps who fell in the Boer war. This ceremony was appropriately performed on Empire Day, May 24th, the anniversary of the birth of Queen Victoria. After witnessing a sham fight, His Majesty, who was accompanied by the Duke of Connaught, drove to the headquarters of the Royal Army Medical Corps at Aldershot, where he was received by Bishop J. Taylor Smith (Chaplain-General), the Rev. P. F. Raymond (Chaplain to the Forces), Surgeon-General A. H. Keogh, C.B. (Director-General of the Army Medical Service), Surgeon-General Sir W. D. Wilson, Colonel A. T. Sloggett, C.M.G., Lieutenant-Colonel G. M. Robinson (commanding the R.A.M.C. Depôt), Lieutenant-Colonel W. Babtie, V.C., C.M.G., Lieutenant-Colonel R. J. S. Simpson, C.M.G., Major F. J. Greig, Major R. J. C. Cottell, Mr. Goscombe John, the sculptor, Mr. Weir Schultz, the architect, Surgeon-General W. H. Macnamara, C.B., C.M.G., Lieutenant-Colonel J. M. Irwin, and Colonel C. E. Heath. The following address was then read by Surgeon-General Keogh: "May it please your Majesty,—The memorial, which your Majesty is graciously about to unveil was erected by the officers, warrant officers, non-commissioned officers, and men of the R.A.M.C. to the memory of their comrades who were killed in action or died of disease in the South African war. In this memorial 21 officers and 293 non-commissioned officers and men are commemorated." Following a prayer, read by the Chaplain-General, the King unveiled the memorial and addressing those present said: "I have had great pleasure to-day in unveiling at your wish this memorial in remembrance of those gallant officers and men of the Royal Army Medical Corps who fell during the recent campaign or by disease. I am well aware of the valuable services which medical officers rendered to their country and to the sick and wounded during that arduous campaign and I feel sure that they will often now and in the future excel, if it is possible, in those duties. It has given me great pleasure, and, I may say, melancholy satisfaction, to unveil this monument to-day."

REGIMENTAL HOMES AT BODMIN.

The foundation stone of two Regimental Cottage Homes for men of the 1st and 2nd Devon and Cornwall Light Infantry has just been laid at Bodmin (Cornwall) by the Bishop of Truro in the presence of a large gathering. The houses, which will accommodate two men of the regiment with their families, will be erected at a cost of £1250, which sum was subscribed during the recent South African war. The site has been given by Viscount Clifden.

THE WAR IN THE FAR EAST.

The attention of the whole civilised world may be said to be concentrated at the present time on the stupendous events that have been taking place in the Korean Straits involving the destruction of the Baltic fleet and a naval disaster on an altogether unprecedented scale to the Russians. It is almost impossible to refrain from making some allusion to Admiral Togo's achievements, but such matters do not come within the purview of the medical journalist. We may all be permitted to hope, however, that an end is approaching to this war, for it is terrible to think of the enormous sacrifice of life and of the millions of money that are lost in a very brief time in a naval battle. Even apart from the marvellous success of the Japanese in this war, which has throughout been planned and conducted by them with what may be rightly termed scientific precision, it may be truly said that there is nothing to compare with the recent growth, progress, and development of Japan in the history of the evolution of nations. It is, of course, hopeless to expect at the present moment any account of the naval medical preparations and arrangements on the part of the belligerent fleets.

As regards the land forces there is nothing important to be chronicled. Continuous heavy rains are reported in Manchuria and serious military operations are stated to be greatly impeded owing to the state of the roads.

Prince Vassiltchikoff, executive officer of the Red Cross Society at the front, telegraphs that the chief want of the society's service is in means of transport and he pleads that all efforts should be directed to supplying two-wheeled carts and horses. He recommends a trial to be made of the carrying system of the Japanese.

The *Army and Navy Gazette* states that the German Emperor has sent to Lieutenant-Colonel W. G. A. Bedford, C.M.G., R.A.M.C., the officer in charge of the Military Hospital at Gibraltar, four pictures representing the several types of the German Cavalry and Infantry in different periods. These pictures are to be hung in the hospital as a souvenir of His Majesty's recent visit to the institution.

Correspondence.

"Audi alteram partem."

THE NATURE OF DIABETES MELLITUS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 27th, p. 1459, Dr. Arnold Lorand replies to one point raised by Dr. W. C. Bosanquet in his interesting Goulstonian lectures on the Nature of Diabetes Mellitus. I have been hoping that someone would discuss some of the more general questions involved, for it seems to me that certain of Dr. Bosanquet's hypotheses present serious difficulties from the physiological standpoint. In discussing alimentary glycosuria he says:[1] "It is fairly established that a certain proportion of starchy food is converted into sugar in the alimentary canal." And further on:[2] "Over-production of sugar may depend on some digestive irregularity whereby more sugar than normal is poured into the blood." Surely the first quotation understates the facts. In what form other than sugar *is* the starchy food absorbed? Is it not the case that the whole of the absorbed carbohydrates (with the possible exception of galactose and lævulose) pass into the portal vein as dextrose? It is difficult to see how some digestive irregularity could increase the normal process of absorption. Even if "it is not impossible that the lungs may act as the mechanism in liphæmia for removing excess of fat from the blood, a process of oxidation taking place within them" (p. 1055), all the evidence we possess is strongly against such a hypothesis. The seat of oxidation is the tissues and not the lung capillaries, as Ehrlich showed by his methylene blue experiment. It is interesting to find that Dr. Bosanquet has noted conditions in which the alveolar structure of the pancreas is lost in certain areas and approximates to that of the cell islets. He concludes this is a post-mortem change but Dale has been able to produce similar changes experimentally by the injection of secretin, which points to their having some definite significance.

Arguing from the inhibition of salivary secretion from fear, Dr. Bosanquet suggests an analogous cause for diabetes from shock in the drying-up of the internal secretion of the pancreas. But in this gland any nervous control for secretion is still to be proved and Bayliss and Starling have shown that its activity can be evoked by purely chemical stimuli under conditions excluding all nervous factors. He reviews the suggestions that have been made as to a joint action of the pancreas with some other organ in the regulation of sugar metabolism. But he does not discuss the muscles, which in view of the importance of carbohydrate as a source of energy might play some part in this. Otto Cohnheim found that whereas pancreatic and muscle extracts separately have no glycolytic action mixtures of such extracts have a powerful action; he concludes that muscle contains a zymogen or inactive ferment which is activated by the internal secretion of the pancreas. We can hardly admit that "the peculiar effect of the secretion of the suprarenal body in producing glycosuria must be attributed to its action on the internal secretion of the pancreas" (p. 1053). Von Mering and Minkowski found that removal of the pancreas in ducks and geese failed to produce diabetes, yet Noel Paton was able to produce glycosuria in these animals by injection of adrenalin.

Perhaps the most novel point in the lectures is the view that fat is the source of the sugar in the urine. Since carbohydrate is a fat-forming food there is certainly no *a priori* reason against the reverse change occurring. But in support of his hypothesis he mentions the liphæmia and the accumulation of fat in the skin, kidneys, and muscles in diabetes. I confess I fail to see how if the fat is rapidly disintegrating into sugar and acetone it can accumulate in the tissues. The definite ratio between the excretion of carbon and nitrogen, which has been observed both in the disease and experimental diabetes, is surely best explained by the origin of sugar from proteid. That proteid can give rise to sugar is shown by the fact that phloridzin will cause glycosuria in starving animals in which there is no fat left. One can quote Dr. Bosanquet against himself on this point: "We must not lightly suppose the existence of two separate chemical reactions leading to one and the same result until it is shown that neither one alone is sufficient to explain the phenomenon." Reversing his question it may be asked: "If some of the sugar is formed from proteid, may not it all be thence derived?" Lépine's statement (uncorroborated so far as I am aware) that the sugar in the urine may be too great to have come from the food or the proteid tissues seems a slender basis on which to build up the contrary hypothesis.

I am, Sirs, yours faithfully,
W. LANGDON BROWN.

Finsbury-square, London, E.C., May 27th, 1905.

THE SANATORIUM TREATMENT OF CONSUMPTION: IS IT WORTH WHILE?

AN ANSWER FROM THE DURHAM COUNTY SANATORIUM.

To the Editors of THE LANCET.

SIRS,—On April 30th last the committee of the above sanatorium instituted its annual inquiry through Dr. J. Gray, its medical officer, as to the condition of all the patients who had been treated in, and discharged from, the sanatorium during the previous five years. The following is a summary of the present condition of the patients.

1. *Cases who had on admission consolidation only of the lungs, i.e., early cases.*—In 1900–01 16 cases were treated; 14 were enabled to return to work; of these 12 are still at work after more than four years and 4 are dead. In 1901–02 30 cases were treated; 23 were restored to work, 17 are now at work and have been so between three to four years, 5 are at home, and 8 are dead. In 1902–03 41 cases were treated and 30 had their working power restored; 23 of these have been following their occupations between two and three years, 4 are at home, and 14 are dead. In 1903–04 59 cases were treated; 46 were restored to work (and have been at work between one and two years), 11 are at home, and 7 are dead. In 1904–05 75 cases were treated; 57 were restored to work (all of these are still at work), 15 are at home, and 3 are dead. Totals: Of 221 early cases treated 170 were restored to the ranks of workers, 150 are still at work, 35 are at home, and 36 are dead.

2. *Advanced or cavity cases.*—In 1900–01 20 cases were treated and 9 returned to work; 3 are, and have been, at work more than four years, 1 is at home, and 16 are dead. In 1901–02, of 25 cases treated 12 were returned to work; 4 of these have been at work between three and four years, 4 are at home, and 17 are dead. In 1902–03, of 38 cases treated 23 were enabled to return to work; 9 have been at work between two and three years, 11 are at home, and 18 are dead. In 1903–04, of 39 cases treated 16 were restored to work; 10 of these have been at work between one and two years, 7 are at home, and 22 are dead. In 1904–05 37 cases were treated and 14 were enabled to work; all of these are still at work, 18 are at home, and 5 are dead. Totals: Of 159 cavity cases 74 were restored to the ranks of workers; 40 are at work, 41 are at home, and 78 are dead.

Remarks.—Practically all the patients (men and women) belong to the working classes. A very large percentage went back to insanitary and poor homes; hence relapses, especially among the advanced cases, are common and to be expected. Almost all the cases had definite physical signs of lung disease, more than half had disease in both lungs, and many were complicated cases; all but a very few were unable to work on admission. Our great difficulty has been to get working-class patients to apply in the initial stage of the disease and to find them suitable work afterwards. The average age of the patients was about 28 years, the average stay in the sanatorium was 15 weeks, the average gain in weight was about 18 pounds, and the average cost per patient per week was approximately 25*s*. Our sanatorium has been practically self-supporting from the beginning and we have enabled the working men of this county to provide for themselves and those over the age of 15 years depending upon them sanatorium treatment, should they require it, at the nominal cost of 1*s*. per year per man. We are fully satisfied with the excellent results obtained.

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[1] THE LANCET, April 8th, 1905, p. 905.

[2] THE LANCET, April 22nd, 1905, p. 1058.

I am, Sirs, yours faithfully,
W. ROBINSON,
Chairman of the Committee.
May 27th, 1905.

MORPHINE AND CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—It has been recognised almost from the introduction of chloroform by those intimate in its administration that patients who were under the immediate influence of morphine or opium required less of the vapour of chloroform and a shorter time than those who were not under its benign influence to produce insensibility. In fact, by some the preliminary administration of morphine has been recommended, and although I am personally adverse to it as a point of routine it is not unreasonable to admit that some patients would be benefited by it. As a matter of experience it is not advisable to give it before the administration of nitrous oxide gas, and any medical man who happens to know that his patient is taking opium at the time of an intended administration should inform the administrator for the sake both of the patient and all concerned. Through this inadvertence one of my patients determined never to have "gas" again.

Some years ago I was requested by the late Dr. J. Braxton Hicks to administer chloroform to a patient who had been cured of the habit of the *piqûre* to the amount of 23 grains of morphine in the day. Although I anticipated some incidental difference there was none and unless I had known I should have classed the case as normal. A little time ago I was asked by Dr. H. H. Murphy of Twickenham to administer chloroform to a patient under cure in a home for the same trouble. It was not known to what extent the poor fellow had used the syringe, but he had been reduced whilst under treatment to 41 grains of morphine in the 24 hours, and it was whilst under this amount that I gave him the vapour of chloroform. There was nothing to observe except, as in the former case, an entire absence of the falsely called "excitement stage" and I was more occupied with the fact that he was fat and therefore might show some abnormality. He suffered from three rather extensive abscesses. The first case, it will be seen, was cured of the habit and the second had been much reduced in quantity. When it is supposed to represent 287 grains of opium, I think the last case deserves recording. I am, Sirs, yours faithfully,

TOM BIRD,
Consulting Anæsthetist to Guy's Hospital.
Brook-street, W., May 23rd, 1905.

GALL-STONES AND CANCER.

To the Editors of THE LANCET.

SIRS,—The late Dr. G. R. Slade, in a paper entitled "Gall-stones and Cancer," and published shortly before his death in THE LANCET of April 22nd, 1905, quoted cases to show that many of the thickened gall-bladders found in association with gall-stones are carcinomatous. The first thickened gall-bladder which I had an opportunity of examining after having read Dr. Slade's interesting paper proved to be carcinomatous. The patient was admitted into this hospital under the care of Mr. Stanley Boyd, to whom I am indebted for permission to record the case. The case is that of a woman, aged 40 years, who had had symptoms suggesting the presence of gall-stones for 12 months. She had lost flesh considerably since her arrival in England from abroad but she states that her visits to England have always been accompanied by loss of weight. At the operation two gall-stones were found impacted in the neck of the gall-bladder which was kinked. The gall-bladder was removed, not because it was thought to be carcinomatous but because cholecystectomy was considered to be the most satisfactory method of dealing with the case. The gall-bladder was uniformly thickened to a moderate degree. The liver showed no sign of secondary growths. Microscopical examination of the wall of the gall-bladder revealed the presence of columnar-celled carcinoma.

I am, Sirs, yours faithfully,
H. A. T. FAIRBANK,
Surgical Registrar.
Charing Cross Hospital, May 31st, 1905.

CANCER BODIES AND REPRODUCTIVE TISSUES.

To the Editors of THE LANCET.

SIRS,—May I draw the attention of Professor J. B. Farmer and his colleagues to the fact that in my Erasmus Wilson lectures on the General Pathology of Tumours,[1] I drew attention to the close resemblance between cancer bodies and the archoplasmic structures found in the spermatocytes of the guinea-pig and at the lectures I showed lantern slides in illustration of this resemblance. My attention was drawn to this subject by the paper by Borrel.[2] I did not publish my observations in more detail at the time because I was hoping to continue my researches on the cytology of tumours and publish them when they were more complete. Unfortunately, I left Leeds soon after I delivered the lectures and have not had time since then to continue my work on the subject. I am, Sirs, yours faithfully,

CHARLES POWELL WHITE.
St. Thomas's Hospital, S.E., May 27th, 1905.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

(FROM ONE OF OUR SPECIAL COMMISSIONERS.)

PRIVATE HOSPITALITY.—THE BRITISH LADIES.—LUNCH TO THE MEDICAL PRESS.

A FEW words yet remain that should be added to the lengthy description already published in THE LANCET of the great reception given in Paris to the British physicians and surgeons. Without attempting to notice the whole series of private receptions held by French medical men in their own homes, it is necessary that fuller mention should be made of the hospitality by the president and the vice-president of the reception committee. The former, Professor Bouchard, being anxious to invite everybody concerned, was compelled to hire a large hall near the Champs-Elysées known as the Salle Washington. Then, as there were many dinner parties on the same evening—namely, May 11th —the reception did not commence until after 10 o'clock. The "*tout Paris*" of medicine was there as was nearly every British guest. The big hall was very crowded by animated, interested, and interesting guests. On the same evening Dr. Lucas-Championnière, the vice-president, had entertained to dinner at his private residence Sir William and Lady Broadbent and a number of other British visitors. On the following day he gave another dinner. The British visitors had thus an opportunity of seeing something of the domestic life and household management which in Paris differs considerably from English customs. But, above all, they had an insight into the artistic refinements of that life which, combined with the presence of unfailing amiability, and the absence of any sort of affectation or stiffness, make Parisian society exceptionally attractive.

In this respect we have been especially requested by several British ladies who accompanied their husbands on this ever-memorable visit to say a few words on their behalf. They are desirous to make known how deeply touched they have been by the extraordinary attention and kindness bestowed upon them by the French ladies. This was not a question merely of parties, dinners, and entertainments, but of daily and indeed hourly watchfulness and friendship; of advice and help or guidance constantly given, however petty the detail or the incident by which it was evoked. It was not so much the brilliant entertainment as the sisterly welcome which the British ladies found awaiting them that has produced so deep an impression and evoked lasting gratitude. The British ladies were never allowed time for a single dull moment. Those among them who could not speak French were allotted lady hostesses who could speak English and were never left alone or without attention. Minute details were not neglected. From the first, and though strangers in a strange land, the British ladies were made to feel thoroughly at home. With unfailing foresight and sisterly concern their French hostesses saw to all their requirements and were ever in attendance ready to escort their British visitors everywhere and at all moments. Then there were all manner of pretty compliments and flowers and the delicate bonbons for which Paris is so renowned forthcoming at propitious moments. Altogether the British ladies who participated in the visit to Paris and the subsequent excursions find it difficult to express their appreciative gratitude and have asked us to help them to give voice to their feelings.

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[1] THE LANCET, Feb. 15th (p. 423) and 22nd (p. 491), 1902.
[2] Annales de l'Institut Pasteur, February, 1901.

Another private entertainment to which allusion may be made was the lunch given on May 13th by Dr. R. Blondel in honour of the medical press. On this occasion the English custom of toasts was introduced and Dr. Blondel rose at dessert time to propose "The Representatives of the Medical Press" which had so largely contributed to bring about the *entente cordiale* between France and England. He referred especially to THE LANCET and the *British Medical Journal* and regretted that the editors of those journals were unfortunately unable to be present that evening. He desired to thank them for having helped in the work of organising the International Association of the Medical Press. The British medical press owed its strength to the fact that it consisted of so few journals, whereas in other countries the influence of the medical press was weakened through being scattered over so many and therefore necessarily smaller publications. However, all had alike contributed to the work of [illegible] fore raised his glass and drank to the medical press and to the long continuance of friendship between the two countries. Mr. Adolphe Smith responded. He pointed out how in politics the cause of peace and in literature the cause of science were indebted to Dr. Blondel. To-day much was said about the closer and more friendly relations existing between England and France; but Dr. Blondel was drawing together all the civilised nations of the world by uniting in one vast organisation the medical press not only of England and France but of all countries. By association a better understood and more generally accepted sense of what was right and honourable would be engendered and cultivated. A very great debt of gratitude, therefore, was due to Dr. Blondel for the initiative he had taken and also to Madame Blondel for the way in which she had helped in the good work, rendering her husband's task more easy by the gracious welcome which she gave to all his friends and co-workers. He therefore drank to Dr. Blondel, the general secretary of the International Association of the Medical Press, and to Madame Blondel.

Dr. G. H. F. Nuttall, editor of the *Journal of Hygiene*, said a few words concerning the wonderfully hearty reception which the British visitors had received. Then he alluded to the forthcoming International Congress on Tuberculosis and expressed the hope that there would be a strong British contingent. He was pleased to think that the press had helped to bring about cordial friendship between the two peoples.

Mr. L. E. Creasy, editor of the *Clinical Journal*, and Dr. Leonard Williams, editor of the *Journal of Balneology and* [illegible] s. Several Frenc[illegible] meet their Britis[illegible] bert Robin, edito[illegible] Dr. Emile Boix, editor of the *Archives Générales de Médecine*, a journal that is junior to THE LANCET by only two years; Dr. F. Galezowski of the *Recueil d'Ophthalmologie*; and Monsieur F. Alcan, the medical publisher.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

THE Lord Chancellor this year accepted the invitation of the Guild of Undergraduates to become its warden. He attended a fortnight ago to deliver his address which was listened to by a large [illegible] the Chancellor of th[illegible] Exchequer, Lord Aveb[illegible] M.P. After paying a [illegible] after saying how fort[illegible] itself in having so distinguished a man for its chancellor he reminded his audience that in early days the word "university" meant an exactly different thing from what it meant now. What it then meant was a place where everyone might go; whereas Mr. Chamberlain's definition of a modern university was that it was a place where everything was taught. The leading line taken in the address was that English universities must rival more the continental universities in teaching the application of new discoveries to trade processes. He lamented, however, the fact of there being no chair of Greek in the University. Mr. Chamberlain, in proposing a vote of thanks to the Lord Chancellor for his address, shared in his regret that there was still no such chair but said that the chief work of their University was the teaching of science and that the buildings now rising would, when completed, constitute opportunities for such work that no university has, or has had, in this country before and that they will be on a scale and of a quality unequalled by any university in America or on the continent.—Dr. R. Saundby, professor of medicine in the University, began a short time ago a course of four lectures to students and practitioners on Medical Ethics, a subject upon which he is an acknowledged authority. He pointed out that medical ethics went back further than the Hippocratic oath, that they were known in the time of Hammurabi, King of Babylon, more than 2000 years B.C. The relations of the medical man to his patient, to the legal authorities, and to his fellow medical men have all been admirably and lucidly explained. The lectures, two of which have still to be delivered, have been attended by large and appreciative audiences.

The Education Rate.

The education rate, which has been steadily rising and which of late years has increased with astonishing rapidity, is occasioning considerable anxiety. This year the total sum asked for was £209,710 but upon its being sent back for revision the demand was reduced to £204,901—a rise, however, of £31,000 over that of the previous year. The increase in expenditure is attributed to payments made by the committee to the University, to its being responsible for the technical school expenditure, to the foundation of special schools for the blind, deaf, cripples, and feeble-minded, and to the increased salaries which are now being paid to teachers.

The Feeble-minded.

A site—Monyhull Hall, King's Heath—has been purchased by the joint committee of the Birmingham, Aston, and King's Norton Poor-law authorities for the accommodation and treatment of feeble-minded and sane epileptics. It occupies 128 acres and has cost £13,500. The importance of founding colonies for such unfortunates where they may be permanently looked after was well evidenced in the annual report of the Birmingham Laundry and Homes of Industry for Feeble-minded Young Women. It was there stated that of the 52 girls who had left and whose "after history" was traced only two or three seemed to be doing well and earning their own living.

Lunatic Asylums Committee.

Some dissatisfaction has arisen over the communication from the lunatic asylums committee to the local boards of guardians giving notice that from July 1st the charge for patients chargeable to the boards will be increased from 10*s.* 6*d.* to 11*s.* 1*d.* a week per patient. The cause of the rise is said to be the expenditure of Hollymoor Asylum.

The Health of Birmingham.

The report of the medical officer of health for the first quarter of the present year has just been issued. It shows a low birth-rate of 31·6 per 1000, as compared with 33·5 for the first quarter of 1904. The death-rate of 16·8 per 1000 is the lowest on record. For the same period last year the rate was 21·4. Eight cases of small-pox were notified; they were all traceable to one lodger, so that there has only been one importation. Small-pox has again reappeared in the city after a brief freedom from it. There are at present four patients suffering from it in the isolation hospital.

May 30th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Re-housing Problem: Health of Liverpool.

Mr. F. H. Tulloch, Local Government Board inspector, attended at the municipal offices on May 23rd to examine the Liverpool corporation's schemes for the erection of new artisans' dwellings in four Liverpool streets. Mr. Cripps, assistant solicitor to the corporation, explained that the schemes submitted were for fulfilling the obligations of the corporation under the several housing clauses and provisional orders. The policy of the corporation had been not to pull down any buildings before erecting others for the dispossessed tenants. Some houses were demolished in Christian-street without a scheme for re-housing being submitted to the Local Government Board. As this was an oversight, and although thereby the corporation was liable to considerable penalty, he asked the Board to exculpate it because a street improvement had been effected and there were plenty of vacant houses even at the present time in the half-mile radius. Out of 1720 dwellings built by the corporation 180 were vacant. A return prepared at the beginning of the year by the head constable showed 4293 vacant houses in the city, of which 1145 were houses of 5*s.* a week rent and under. This was to be explained by the fact that the electric tram system and cheap fares attracted the labouring class to reside in the suburbs. During the last four years over 2000 of the working-class houses had been built chiefly on the outskirts of the city. The corporation surveyor explained the character of the dwellings proposed to be built in the streets previously mentioned. Dr. A. A. Mussen, the assistant medical officer of health, gave a census return of the vacant houses in the localities in which the schemes were to be carried out. The remarkable fact was that during the past few years the number of common lodging-houses in the city had decreased by 50 per cent. The inspector will in due course report to the Local Government Board, who will decide on the number of dwellings to be erected to re-house dispossessed tenants.—During the past week 511 births and 240 deaths were registered in Liverpool, representing a birth-rate of 36·3 per 1000 and a mortality of 17 per 1000. In the corresponding week of last year the death-rate was 18·4 per 1000. Of 652 cases in the corporation infectious hospitals 488 patients were suffering from scarlet fever and seven from typhus fever. The chairman of the health committee referred at the meeting with satisfaction to the prevailing low death-rate.

Winwick Asylum: Acute and Dangerous Types of Lunacy.

A recommendation that a further sum, not exceeding £30,000, as may be necessary for extras and to complete the asylum buildings at Winwick should be granted out of the asylums fund was contained in the report of the finance committee and laid before the Lancashire Asylums Board at its meeting at Preston. Certain things were left out in connexion with the building operations which had to be done to make the building satisfactory to the committee. The chairman said that the whole cost of the asylum would be about £45,000, which did not appear to be excessive. A letter was read from the Commissioners in Lunacy with reference to allowing Winwick Asylum to be used for acute cases. It stated: "That having regard to the very large number of troublesome, turbulent, and dangerous cases that were found in the asylum at the annual visit in February last, the Commissioners felt unable to withstand any longer the wishes of the board that the asylum should not any longer be reserved for chronic cases." In connexion with this matter the chairman said that it had been agreed that it would be desirable to build an asylum on the villa system and on a cheaper scale something like a workhouse, where chronic cases who were unable to take care of themselves and who were unable to work but did not require the same skilled medical care as acute cases which went to the asylums, should be lodged. It was for the board to consider whether it could not devise a scheme for building a cheaper class of asylum where such patients could be maintained at a much less cost to the ratepayers. Eventually a motion was carried to the effect—

> That as the restriction as to the using of Winwick Asylum for chronic cases only has now been removed it will be desirable to consider the advisability of utilising the proposed site at Whalley for an asylum of cheap construction to accommodate cases other than of the acute and dangerous types.

It was also decided to empower the Whalley committee to communicate with the various boards of guardians on the subject.

Hospital Saturday Fund.

The honorary treasurer has issued the first list of the contributions from the employés of a number of workshops, &c., to the Hospital Saturday Fund, which amounted to £5390 6*s.* 7*d.* The second list will be published on July 3rd.

May 30th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The University of Leeds: Commemoration of the Inauguration.

BY request of the council of the University of Leeds a special number of the *Gryphon*, which is the journal of the University, has been issued in commemoration of the inauguration which took place last October. The special committee which was charged with the responsibility of editorship is to be congratulated on having produced what all will regard as a worthy memorial of a great and important event. In the letterpress we find the address of the Chancellor, Lord Ripon, at the first meeting of the University Court which lays down a high ideal of the work which should be aimed at; following this is a brief account of the first congregation, on which occasion the first honorary degrees were conferred, and the orations delivered by those presenting the graduates are given in abstract. The speech of the Duke of Devonshire, though, as His Grace remarked, "to some extent a departure from the ordinary course of academic procedure," deserves to be given in full as it is. From this speech I quote the following passages: "I observe that in your new constitution as defined by your charter and your statutes a remarkable and exceptional share of the government of this University has been entrusted to the representatives of local authorities in Yorkshire. I believe that in this a wise course has been taken, because it is of the first importance that from the outset a wide popular interest should be taken in the studies and work of this infant University. And I am at the same time sure that the good common-sense which distinguishes Yorkshiremen will lead them to entrust a great share of the direction of the studies and work of this University to those who have qualified themselves for that direction by educational work. I feel sure that they will not desire that the training to be given here shall be of too exclusively a utilitarian character." A brief paper by Professor Miall on the beginnings of the Yorkshire College reminds us that in 1868 a circular was issued by the Yorkshire Council of Education announcing that a college of science was projected. The three first professors were Rücker, Thorpe, and Green. "Such men as these," says Professor Miall, "would make any place of learning thrive." In 1878 the addition of arts professors was followed by a change of name and the Yorkshire College was inaugurated. The Leeds School of Medicine, founded by William Hey in 1831 and for many years a flourishing institution, was in 1884 amalgamated with the college, which was soon afterwards incorporated with the Victoria University. From the pen of Mr. C. G. Wheelhouse, one of the honorary graduates, we have a short paper on medical student life in Leeds 60 years ago. It may be the case that, as he quotes as a heading for his reminiscences, "*Tempora mutantur, nos et mutamur in illis,*" but Mr. Wheelhouse seems to possess the secret of preserving a youthfulness of mind which must be the envy of all. When we read that Mr. Wheelhouse could "fill a volume with memories of those happy and pleasant days" we must echo the feelings of all who know him when we say, "*Cur non?*" Illustrated as it is by views of the University buildings, including, of course, the medical school, and by reproductions of photographs of the chancellor, pro-chancellor, vice-chancellor, dean of the Faculty of Medicine, honorary graduates, members of the Senate, and others, this special number will appeal to all former students of the college and to all who are interested in the future of the University. Succeeding the title page is the following poem from the pen of Mr. Alfred Austin, in whom, as the vice-chancellor said when presenting him for the degree of LL.D., "we delight to honour a poet who, born within the borough of Leeds, has gained the only distinction which the State bestows upon the first and the greatest of the arts."

"Above the glow of molten steel,
  The war of furnace, forge, and shed,
Protectress of the city's weal,
  Now, Learning rears her loftier head;

That Progress may at length descry
  It hath no clue to guide aright,
And, conscious of its blindness, cry
  Unto the Muse, 'More light! More light!'

. . . . .

  Mind must be lord and master still."

The late Mr. George Stamp Taylor.

By the death of Mr. George Stamp Taylor, at the age of 58 years, which occurred on May 25th, Leeds has lost one of the most widely known and highly respected of its medical men. Mr. Taylor was educated at the old Medical School of Leeds and became a Member of the Royal College of Surgeons of England in 1870. Some few years after starting in practice he was threatened with pulmonary tuberculosis and on the advice of Dr. T. Clifford Allbutt he made voyages to Australia and the Cape. His restoration to health was complete and throughout a long and busy professional life of 35 years his fine presence and robust frame seemed strangely at variance with the symptoms of that anxious time. Mr. Taylor was to all outward appearance in his usual good health until about a fortnight prior to his death, at which time signs of serious hepatic disease became manifest and it was seen that the end could not be far off. For many years Mr. Taylor had a very extensive practice both among the working and middle classes, and probably there was no man in Leeds more highly or more deservedly respected by his patients and by his professional brethren. To the latter he stood as a type of all that was best in the general practitioner; unflagging in his care of his patients, scrupulously loyal in his dealings with his neighbours, he commanded the esteem alike of his brother practitioners and of those whose aid he sought in consultation. Mr. Taylor leaves a widow and six children, with whom the deepest sympathy is felt.

May 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Sanitary Condition of Glasgow.

THE report just issued by Mr. Peter Faffe on the operations of the sanitary department of the city of Glasgow during the year 1904 forms very interesting and instructive reading for medical men and others concerned in the improvement of the conditions of living of those who go to make up the greater bulk of the inhabitants of our large cities. The Registrar-General's estimate of the population of Glasgow in 1904 was 798,357. The total deaths in that year amounted to 14,794 and the annual death-rate on this estimate comes out at 18·53 per 1000, in place of 18·405 for 1903. Zymotic disease has not been quite so prevalent. The total cases recorded were 16,333, or 154 less than had to be dealt with in 1903 and 3209 less than in 1902. 5185 cases were treated in the fever hospitals and 11,148 at home. Again measles heads the list with 8348 cases, or more than half the total number. There were 870 cases of small-pox, against 292 cases for 1903 and 460 for 1902. In connexion with the above cases of infectious disease a large amount of disinfecting work was done. The routine method for rooms was fumigation with sulphur or spraying with formalin solution. Bedding and clothing were either washed in the sanitary wash-houses or treated in the vacuum steam disinfector, and 1467 beds were burned in the cremators. In dealing with public nuisances 44,318 cases were investigated during the year. The choking of branch soil-pipes and drains and disrepair of these formed the greatest percentage of the causes, 13,197 cases of this description having been found. Next in order come filthy stairs, closets, and lobbies, 7703; traps of water-closets or sinks choked and out of repair, 6546; and internal walls of dwelling houses in a filthy state, 5648. It is worthy of note that of nuisances in workshops three of the wards of the city contribute a large proportion and it is suggested that this may be due to the admixture there of a considerable alien population in excess of what is found in other wards. The report as a whole shows that the sanitary department of the city has a large amount of work to undertake each year and that it performs its duties thoroughly and with a great measure of success.

University of Aberdeen Medical Society.

At a meeting of the above society on May 26th, Professor J. Theodore Cash presiding, Dr. Ashley W. Mackintosh read an interesting paper on Cerebral Localisation. The extent of the motor areas, he said, had been narrowed down by recent investigation to the Rolandic region, the paracentral lobe, and the bases of the first and second frontal convolutions. In the bases of the first and second frontal convolutions in monkeys were centres for movement of the head alone to one side and of the head and eyes together, and in a case of Jacksonian epilepsy he had been able to demonstrate the possibility of these two centres being present in man. Neurologists were at present not decided as to whether the motor areas were also sensory. Some held that only motor, and no sensory, symptoms resulted from a lesion in the motor area. Clinical evidence was adduced to show localisation of sensation, especially the muscle sense and the stereognostic sense, in the superior parietal convolution. An argument in favour of the sensori-motor idea was that lesions confined to these areas gave motor and sensory phenomena but the difficulty was to be sure that the effect of the lesions was so limited—to exclude the spreading effect of the lesion and hysteria. Was it possible to have paralysis without any lesion of the motor area or of the pyramidal tracts? A lesion cutting off the sensory from the motor centre caused "soul paralysis." Mott and Sherrington had shown by experiments that cutting the posterior roots of the spinal nerves on one side gave complete paralysis on that side without there being any motor lesion and similar cases had been observed in man. The muscles were devoid of spontaneous voluntary movement but could be used for reflex actions such as scratching or in imitation of another's action. In one case the arm was flaccid; there were no reflexes; pain, muscle, and stereognostic senses were lost; the patient could move the arm in imitation or when commanded but rarely spontaneously. All motion was reflex, old sensory impressions being called up to start motion. The motor centres were also stimulated by the visual and the auditory centres, hence the movement in irritation or on command. Regarding the stereognostic sense, or power of recognising objects by handling them, Dr. Mackintosh said that in the case of the hand it was made up of the spacing sense or power of recognising two or more separate impressions as separate ones, the localisation sense and the muscle sense. The sense of weight, of pressure, of temperature, &c., had also some effect but, extraordinary as it might seem, touch was considered to be unnecessary. These various senses got correlated in the cortex, possibly in the superior parietal convolution. Dr. Mackintosh considered that the most important memory of an object was the visual, so that the visual centre was connected to the stereognostic centre. In a case of his own where the patient's stereognostic and visual powers were intact, while he failed to name any particular object, a tumour was found lying between the auditory and the visual centres, so that the stereognostic and the auditory centres must be connected *viâ* the occipital lobe and not directly one with the other.

May 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association.

A NEW scheme is to be put forward for remodelling the Irish Medical Association. It has been drawn up by the reorganisation committee and aims at doing away with centralisation and official rule. Every member is to have a vote and influence in the affairs of the association. The supreme authority of the association is to be invested in the general meetings, the council is to be the executive with such powers only as may be conferred on it by general meetings, either by articles of association or by resolutions passed from time to time. On only one point practically has there been a difference of opinion, that being in regard to the appointment of members of council. The majority recommended that each province should elect four members but that Dublin should elect four—making a total of 20. These 20 would then coöpt three more—making a total of 23. A certain number of members, however, were in favour of having a councillor elected by certain areas, making in all 14 councillors, with, in addition, a president, honorary secretary, and five general councillors elected by the whole association, making a total of 21.

Water-supply of Dublin.

Some months ago a warning appeared in the daily journals that a difficulty as to the water-supply of the city, such as occurred in 1893, might be anticipated. Later, however, it was stated that the Vartry reservoir had overflowed on three occasions and that the supply for the summer was ample. Now a circular notice from the corporation of Dublin has reached the citizens of Merrion-square and Fitzwilliam-square containing many annoying restrictions concerning the service of water for sanitary purposes. Among other regulations the document states that the flushing of water-closets must in future be restricted to a cistern containing only two gallons and not four as hitherto. If this order be enforced it will cause much annoyance and expense to the citizens, for they will be obliged to remove their cisterns of an average capacity of four gallons and replace them with smaller ones. Mr. Burton Phillipson, a member of the Royal Sanitary Institute of Great Britain, published a letter in the Dublin morning journals of May 29th in which he states that all sanitary experts know that a four-gallon flush gives far better results, not only in cleansing closet basins, but in washing the drains and sewers; in fact, he says, a four-gallon flush is by no means waste. The corporation has from time to time agreed to serve water to outlying additional districts and when Bills were before Parliament evidence was always given that the supply for such districts was ample. The citizens have paid a large sum for their water service which has been adequate and satisfactory for years. It seems intolerable in the circumstances that they should now be asked to undertake great compulsory expense and inconvenience, more especially as the canal which so effectively helped the Vartry mains in 1893 is still available.

The Infectious Diseases Hospital, Belfast.

The public health committee of Belfast has unanimously decided to recommend to the city council Dr. A. G. Robb as physician to the new infectious diseases hospital. Dr. Robb is physician to the union fever hospital and he had charge during the recent epidemic of the isolation hospital for small-pox. His selection will have the entire concurrence of the medical profession.

Hospital Saturday in Belfast.

About £700 have already been received at the Royal Victoria Hospital, Belfast, as the result of the effort on May 27th. The accounts are still far from complete and it is expected that this year's collection will be the largest on record.

Fever Epidemic in Newtownards.

Newtownards, a town of over 9000 inhabitants, situated on the northern extremity of Strangford Lough, eight miles from Belfast, is in a serious condition, as it was reported at a meeting of the board of guardians on May 27th that there were 47 patients at present in the fever hospital, 35 of whom were suffering from typhoid fever and 12 from scarlet fever. All the accommodation is used up and three cases of diphtheria had to be taken to the infirmary where they were isolated. To meet the great overcrowding some temporary rearrangements have been made in the hospital and if the epidemics increase and these arrangements are not sufficient hospital tents are to be procured and to be used as convalescent wards. The epidemic is due to defective water-supply and bad sewerage and the whole facts have been laid before the Local Government Board by its medical inspector. It is hoped that prompt action will be taken to remedy these serious defects.

Ulster Medical Society.

The eleventh general meeting of this society was held on May 25th in the Medical Institute, Belfast, when Professor W. St. Clair Symmers gave a demonstration of the lesions produced by the ova of bilharzia hæmatobia, illustrated by lantern slides and a large number of preparations. At the conclusion of the address a vote of thanks was passed to Professor Symmers on the proposition of Sir W. Whitla, seconded by Professor J. A. Lindsay.

The Vacant North Donegal Coronership.

In connexion with the election of coroner for North Donegal, an office rendered vacant by the recent sudden death of Mr. W. O'Doherty, M.P., there are already half a dozen candidates in the field—four solicitors and two medical men, Mr. Patrick O'Callaghan of Carndonagh and Mr. Neal Nelson of Buncrana. The appointment, which is to be made on June 12th, rests with the Donegal county council.

May 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Cough in the Tuberculous.

AT the meeting of the Therapeutical Society, held on May 10th, M. Berlioz drew attention to the use of narcyl in cases of tuberculosis. He was enabled to state that this drug soothed the cough and could be administered for a long time without causing any inconvenience. M. Berlioz had analysed his own urine as well as that of patients while taking the drug and had ascertained that narcyl had a good effect upon nutrition, for it raised the coefficient of oxidation. Neither the frequency of the pulse nor the blood pressure was increased. Patients taking narcyl felt no difference in their appetite, in their digestive powers, or in their intestinal functions.

Amputation of the Arm and Shoulder Girdle for Malignant Growths.

At the meeting of the Society of Surgery, held on May 10th, M. Berger read for M. Jambrau a paper on the above subject. The growth in M. Jambrau's patient was a large sarcoma. He recovered well from the operation but died from recurrence about a year later. M. Jambrau had collected 188 cases of similar amputations and stated that the mortality was about 11 per cent. M. Kirmisson said that he had only had one case, a child, aged ten years, in whom he had performed amputation for a large sarcoma of the upper end of the humerus. The child died from recurrence at the end of about six months. M. Schwartz had had better fortune. He had performed the operation for a chondroma eight years ago and up to the present the patient had had no recurrence.

Suture of the Liver for a Bullet Wound.

At the same meeting of the Society of Surgery M. Couteau gave an account of a case of a patient who had been shot by a revolver. On the inferior face of the right lobe of the liver was a wound corresponding to the wound of entrance of the bullet. On the posterior portion of the left lobe was another wound marking the wound of exit. M. Couteau sewed up both wounds with an overcast (*en surjet*) suture. The right kidney was also wounded. The patient, however, died and at the post-mortem examination M. Couteau found another wound which had been overlooked. This was on the inferior face of the left lobe of the liver and was the actual wound of entrance. The wound in the right lobe was merely a gutter ploughed by the bullet on its way.

A Short Way with "Sorciers."

In the month of February Madame —— wrote to the commissary of police stigmatising a certain "medical man" as a wizard (*sorcier*). Madame —— had accompanied a friend who wished to undergo treatment to this man's house. She got no better and completely loss her reason. Madame —— therefore asked that his establishment should be closed if possible. The case came before the tenth court of the Tribunal and the *sorcier* having no medical diploma was prosecuted for illegal practice of medicine. In cross examination he said that all he had done was to massage the patient over her clothes, and that he only treated people without pretending to cure them (*pratiquant seulement l'art de soigner et non de guérir*). After hearing other evidence the court condemned him to pay a fine of 500 francs and 1000 francs damages to the Syndicate of Medical Men of the Seine.

Late Suture of a Divided Ulnar Nerve.

At the meeting of the Society of Surgery, held on May 17th, M. Chaput showed a patient who 14 years previously had divided his ulnar nerve. A few months ago M. Chaput had operated by cutting down on the divided ends, refreshing them and uniting them by suture. The result was most satisfactory, sensibility returned, the interossei which were completely atrophied had recovered in great part, and although the patient could not completely extend his fingers, yet his hand was very fairly useful.

Electric Rectal Douches for Constipation.

Constipation, so frequent in women, is often connected with uterine troubles, especially uterine congestion, with or without displacement. Electrical treatment in such cases has a double advantage, for while according to the method of application it diminishes spasm or increases the contractile power of the gut, it also has a marked effect in reducing uterine congestion. The uterine treatment of constipation is useful in direct relation to the amount of uterine reflex causing the constipation. M. Burais of Vittel gave an account of such cases before the Medico-Chirurgical Society on May 8th. His conclusions were that electrical rectal douches are indicated in cases of acute constipation where an evacuation of the bowel is urgently required and in chronic cases in which the object is to restore the intestinal tone. Other means of treatment are not to be neglected, such as exercises, massage, and, above all, attention to diet.

Extraction of Foreign Bodies from the Respiratory Tract.

At the meeting of the Society of Surgery held on May 17th M. Sebileau read an account of two cases of foreign bodies in the bronchi. The first was that of a man, aged 63 years, on whom tracheotomy and inferior bronchoscopy were performed. These methods of procedure enabled M. Sebileau to extract two small bones. After the patient had undergone a series of pulmonary troubles, due to the sojourn of the foreign bodies, he made a perfect recovery. In the second case the foreign body was a pin some five or six centimetres long which had stuck at the second bifurcation of the bronchus on the right side. Tracheotomy was performed and two days later inferior bronchoscopy, after which M. Sebileau easily extracted the pin with Kilian's forceps.

May 30th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Schiller's Connexion with Medicine.

AT a meeting of the Clinical Society held on May 5th Professor Neuburger read a paper on the influence which his early medical training had on the poet Schiller. It was well known that his patron, Prince Karl [illegible]ust, originally intended that Schiller should be an [illegible] surgeon and his writings contained numerous indicati[illegible] the impressions made on him at this period. His phil[illegible]cal, metaphysical mind was already developed in his yo[illegible]nd when 21 years old he had written several very in[illegible]ng essays which might be termed "psychophysical." [illegible] of his writings about this time was the treatise on "T[illegible]onnexion between the Animal and Spiritual Nature of Ma[illegible] The leading idea of this little dissertation was that bod[illegible]d soul influence each other mutually and that sensual fe[illegible]ing brings forth mental actions; that the individual is dependent on his instincts to develop the mental faculties; and that nations require danger, hunger, and want to produce cultivation. Professor Neuburger went on to show how often Schiller applied his medical knowledge in his poetry and how well he had learnt to observe accurately not only the body but also the soul.

Occlusion of the Anterior Openings of the Nose.

At the monthly meeting of the Laryngological Society some interesting cases were shown by Dr. Menzel, assistant to Dr. Hajek. The first was a case of congenital membranous occlusion of both anterior nasal openings, this being an extremely rare condition. Several attempts had been made to establish a passage for the air through the nose, but all had failed. The interesting point was that the mucous [illegible] hus proving [illegible] sible for the [illegible] obstruction [illegible] monstration several speakers remarked that in cases of occlusion of the choanal openings there was also a normal pharynx which after operation showed the symptoms of chronic hypertrophic or atrophic pharyngitis. This had clearly been caused by the discharge from the nose coming into contact with the normal mucous wall. Dr. Roth said that such occlusions as the one shown were most likely due to syphilis because the really congenital occlusions were situated quite at the introitus nasi, whilst the present one was further back at the level of the anterior end of the lower turbinated bone. Another of the cases was one in which the frontal sinus was so developed on the right side that it compressed the left sinus and filled its place. The left sinus was only as large as a pea but could be identified as a sinus by having its own opening into the left nostril.

An Antivivisection Speech by a Government Official.

At the opening of a new hospital at Linz some days ago a high official made an attack on the carrying on of experimental research for the advancement of medical knowledge. When eulogising the benevolent donors by whose aid the institution had been erected, he astonished the medical men, town councillors, and [illegible] that none of the mod[illegible] would be permitted in [illegible] utility of such experim[illegible] obtained. Dr. Brenner, who was the next speaker, did not conceal his surprise at such unreasonable remarks on the part of a man supposed to be well acquainted with the results and objects of modern research. The hospital, he said, would be a home for the sick and a help for the weak, and he also hoped that in it some of the mysteries of human life would be investigated and perhaps solved.

Adrenalin in Asphyxia.

At the last meeting of the Gesellschaft der Aerzte Dr. Joseph Winter read a paper on experiments which he had made on the action of extracts of the suprarenal gland on the mammalian heart when under the influence of an overdose of chloroform. He had found that, as Lowton and Sherrington had shown, the heart of a cat stopped beating when transfused by a solution of chloroform of strength 1½ per 1000. Dr. Winter isolated a cat's heart and sent through the aortic valve and the coronary arteries the above-mentioned solution. After five minutes a solution of sodium chloride made to transverse the same route caused no contractions, but when 15 minutes were allowed to elapse and a solution of adrenalin of strength 1 in 2000 was injected the heart began to beat again. These experiments were conducted in several ways and always with the same result. Cats and rabbits were then submerged in water for ten minutes and artificial respiration being of no use he again injected a solution of adenalin chloride into the heart which now resumed its beating. It is to be hoped that the method will be improved so as to be capable of application to the human subject. Dr. Winter thinks that it will be useful not only in cases of drowning and asphyxia due to cardiac poisons such as alcohol, chloral, and chloroform but also in combating surgical shock.

May 29th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Bengal Jails.

THE resolution of the Government on the annual report of the jails of Bengal has just been published. It shows that many o[illegible] and in[illegible] daily r[illegible] the yea[illegible] feature [illegible] daily a[illegible] the last [illegible] mortality and during the last three years the rates have been 25·6, 23·6, and 20·2 respectively. The mortality from malarial fever has largely declined. In spite of the prevalence of plague only one jail was attacked. This was at Chapra, where the jail is situated in the heart of the town. A number of important changes have been introduced in diet. An allowance of a [illegible] the staple food of [illegible] increase of oil and [illegible] have [illegible] jails anc[illegible] is that peo[illegible] being the [illegible] system in o[illegible] ss and requi[illegible] involves much clerical labour and the separate cell system involves more accommodation than is available. Corporal punishment is employed generally as a last resort.

The Parsee Maternity Hospital in Bombay.

The annual report of the Parsee Maternity Hospital in Bombay shows a continued record of really good work. Its popularity amongst this community is remarkable because out of a total of 1304 births among the Parsees no less than 535 occurred in this hospital. The hospital is always full and many have to be refused admission. The example set by this hospital has been followed by the Khojas and Bhattias and Bunyas who have now established separate hospitals for their respective communities. In the Parsee institution a certain proportion of the poor are admitted but the majority pay. Infant mortality in the hospital seems to be much lower than in the homes of the people, as only ten deaths occurred amongst the children born in the hospital while 59 occurred amongst those outside.

The Plague Mortality throughout India.

The plague mortality throughout India has again shown a rise; for the week ending April 29th there were returned 56,732 deaths, as against 54,602 for the previous seven days. The principal figures are: Punjab 28,728 deaths, as against 27,372 last week; United Provinces 15,710, as against 16,737; Bengal 4108, as against 3559; Rajputana 4298, as against 2406; Bombay Districts 1443, as against 1766; Burmah 137, as against 175; Kashmir 368, as against 215; Bombay city 935, as against 1021; and Calcutta 624, as against 792. The first attack in Rangoon has been severe, though the outbreak is declining. Up to April 30th 1053 cases with 937 deaths had been recorded. A satisfactory change seems to be taking place in public opinion with regard to inoculation. In Karachi the managing committee of the corporation has recommended that to popularise this prophylactic amongst the subordinate staff, especially among the sweeper class, an inducement of one month's salary should be given to those who come forward with their families to be inoculated. In Bombay a citizens' meeting was held with the object also of popularising this measure and an influential committee was appointed. As every precaution is now being taken in the manufacture of the prophylactic and it is stated that Dr. Martin was satisfied with the methods of preparing it, and, further, as its influence for good continues with each year to be capable of proof, we are now looking forward to a Government recommendation of it.

May 12th.

Obituary.

EUSTACE TALBOT, M.B., B.C. CANTAB., M.R.C.P. LOND.

THE death is announced from appendicitis on May 26th of Dr. Eustace Talbot. Some years previously he had suffered from a mild attack of the same complaint, but in the interval had not been troubled with any signs of a recrudescence. He was in his usual health and at work as late as the afternoon of May 18th but in the evening began to complain of symptoms which pointed to a fresh attack of the former trouble. His condition became rapidly worse and an operation was performed on May 21st. During the next four days, though his condition was still dangerous, he appeared to be doing well, but on the afternoon of the 25th he had a severe attack of abdominal pain and died a few hours later.

Eustace Talbot was the youngest son of the Right Hon. J. G. Talbot, M.P. He was educated at Winchester and Trinity College, Cambridge. It is not necessary here to make more than a brief reference to his years at the University. He threw himself with eagerness into all the many spheres of active life and in each his enthusiasm, his gay humour, and his personal charm insured him success and esteem. He attained the distinction of a "blue" for tennis; he edited the *Granta* for a year, had a large share in the management of the A.D.C., and was on the committee of the Pitt Club. But, as he often said, the best result of his years at Cambridge was the acquisition of the numerous friendships which were the delight of his life and again and again drew him to revisit Cambridge. He went to St. Bartholomew's Hospital in 1896 and found there many friends who had preceded him and others to whom he was already well known. As at the University, he entered into all the life of the medical student and at the same time quickly acquired a knowledge of his profession which was remarkable in one who was so ready to acknowledge the claims of society outside the hospital. He qualified in 1899 and almost immediately became house physician, and subsequently resident medical officer, at the Royal Hospital for Diseases of the Chest, an appointment which he relinquished to become house physician to Sir William Church at St. Bartholomew's Hospital. This appointment was cut short by an attack of hæmoptysis which led him to spend a considerable time at Davos. He revisited Davos every winter, although his health was fully re-established, and there, as everywhere else, made numerous friends. In 1901 he became a Member of the Royal College of Physicians of London and seized every opportunity of clinical experience which came in his way. He worked at Queen-square, at the Children's Hospitals at Great Ormond-street and Shadwell, and at the City-road Hospital for Diseases of the Chest. In 1904 he was appointed casualty physician at St. Bartholomew's Hospital and assistant physician at the City-road hospital. He was also physician to the Sun Life Assurance Office. Thus, although handicapped by the failure of his health at an early period of his medical career, he had secured a position which made ultimate success certain, and a further appointment in the medical school as assistant curator of the museum gave him additional assurance of attaining the object of his ambition, a place on the medical staff of St. Bartholomew's Hospital. But the grief felt by those who knew him, for the untimely end of a career of such promise is less than that for the loss of a friend. There was no sphere in the life at St. Bartholomew's in which he did not take a full part. He undertook the editing of the hospital journal at a time when it was at a very low ebb and gave it a new life; he was an enthusiastic member, and afterwards President, of the Abernethian Society, and though not a first-class cricketer was an invaluable member of the hospital eleven, and later one of its constant opponents in the Past *v.* Present matches.

To those who did not know him it is impossible to give in words any idea of Eustace Talbot's personal charm and for those who did know him it is superfluous to attempt it. The fascination of his personality was due principally to his absolute sincerity and honesty, combined with a lively humour and a temper which nothing could disturb; to these were added a [illegible] experience of the various circles of society, in all [illegible] he was a welcome guest, and a ready appreciation [illegible] ood points of those with whom he was thrown. At [illegible] olomew's the blank he has left will be filled only w[illegible] memories:

> "No weakness, no contempt,
> D[illegible] ame, nothing but well and fair,
> A[illegible] quiet us."

The funeral [illegible] took place on May 30th, was attended by numerous f[illegible] from different parts of the country; and a memorial ser[illegible] held at the same hour at St. Bartholomew-the Less was attended by many of the medical staff, the sisters and nurses, and students of St. Bartholomew's Hospital.

GEORGE LONGBOTHAM, M.R.C.S. ENG., L.S.A. LOND.

IN the death of Mr. George Longbotham, who passed away at Harrogate on May 10th, the profession has lost a member whose example can ill be spared and of whom it may be said that his ethical actions formed the chief glory of his life and will remain his greatest claim to remembrance. Born at Chester-le-Street, in the county of Durham, in 1845 he was educated at the Newcastle School of Medicine and took the diplomas of L.S.A. and M.R.C.S. Eng. in 1866 and 1867 respectively. He then joined his uncle in practice at Seaton Carew, county of Durham, but after a time removed to Leeds, and subsequently to Middlesbrough, where he practised for 26 years. He left Middlesbrough five years ago, first for Ilkley and then for Harrogate, where soon afterwards unmistakeable signs of declining health became evident. In addition to being medical officer to the union infirmary in Middlesbrough he was on the staff of the North Riding Infirmary in the same town for many years. He was also a Past Master of the Ferrum Lodge of Freemasons. The funeral took place at the Middlesbrough cemetery on May 13th. Mr. Longbotham has left a widow, one daughter, and eight sons, the eldest of whom is a medical practitioner in Middlesbrough.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Michael Cherinoff, professor of medical diagnosis in the University of Moscow.—Dr. Friedrich, surgeon-general in the Bavarian army.—Dr. Eduard von Fichte, surgeon-general in the Würtemberg army and nephew of the philosophical writer, Johann Gottlieb Fichte. He was 79 years of age.—Dr. Savarikin, formerly professor of histology in the Military Medical Academy, St. Petersburg.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Keepers of licensed lodging-houses, in which students are residing, are to be required to notify to the Syndicate the presence in their houses of "any infectious disorder, including consumption or any other form of tubercular disease."—Dr. Donald MacAlister has been appointed by the Senate a member of the Syndicate for Instruction in Forestry; he has also been appointed deputy for the Vice-Chancellor as chairman of the Board of Geographical Studies.—Mr. J. J. Lister, F.R.S., St. John's, has been appointed to occupy the University table at the Plymouth Marine Biological Laboratory.—The Medical School Buildings Syndicate reports that [illegible] on the new buildings and [illegible] will still be required for the [illegible] he source of supply, unless the much-desired benefactor comes forward, is not apparent.—Honorary degrees are to be conferred on His Excellency the French Ambassador (M. Cambon), Sir Edmund Monson, Sir Robert Finlay, Professor Vinogradoff, Lord Reay, Father Denifle, Professor Driver, Father Ehrle, Professor Gildersleeve, Mr. Frederic Harrison, Commander R. F. Scott, and Sir Francis Younghusband.—The following degrees were conferred on May 25th:—

[illegible] C. H. A. Kellie, Caius; W. V. [illegible] ash, Emmanuel, and J. H. F. [illegible]

[illegible] ow, Trinity; J. R. C. Greenlees, [illegible] Peterhouse; W. V. Braddon, *Trinity Hall*; *N. C. Fletcher, Queen's*; and *W. C. P. Ellis*, St. Catharine's.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates satisfied the exminers:—

M.B., B.S. EXAMINATION.

H [illegible] ward C. Norbury, [illegible] ns, University of [illegible] Lancey Robinson, Guy's Hospital; William Mackenzie Sailer, University College; John Noel Sergeant, St. Thomas's Hospital; Ida Russell Shields, London (Royal Free Hospital) School of Medicine for Women; William Herbert Smailes, University of Leeds; Sarah Charlotte E. Sommer, Alice Maude Sorabji, and Mary Marguerite L. Taylor, London (Royal Free Hospital) School of Medicine for Women; Gordon Wilson Thomas, University of Leeds; Ethel Maude Townend, London (Royal Free Hospital) School of Medicine for Women; Edwin Robert Wheeler, King's College; and Frank Thomas H. Wood, B.Sc., Guy's Hospital.

The following candidates have passed in one of the two groups of subjects:—

Group I.—Arthur [illegible] pool; Frederic I [illegible] aring Cross [illegible] Alexander [illegible] pital; and [illegible] University College.

Group II.—Valentine Henry Blake, St. George's Hospital; George Archibald Bosson, University College; Alwyn Hewett Bradley, University of Birmingham; George Percival Charles Claridge, St. Mary's Hospital, Isaac Reginald Cook, Guy's Hospital; Frank Bell Dalgliesh, St. Thomas's Hospital; George De la Cour, University College, Jeannette Rachel De Pass, London (Royal Free Hospital) School of Medicine for Women; Albert Davies Edwards, London Hospital; Douglas Edward Finlay and Hyman Isaacs, St. Mary's Hospital; George Francis Jones, University College; Ste [illegible] Hospital; Robert *Leslie Ridg* [illegible] *London Hospital*; Charles Cha [illegible] hhead Scott, University Colle [illegible] Sc., London (Royal Free Hospita [illegible]

B.S. EXAMINATION.

[illegible]), King's College [illegible] rin, London and [illegible] Guy's Hospital; [illegible]; Ruth Balmer, [illegible] or Women; Frank [illegible] Félix, [illegible] spital; [illegible] illiam [illegible] Mid- [illegible] omas's [illegible] illiam [illegible] acker, [illegible] omen; [illegible] a Uni- [illegible] ospital; and Samuel [illegible] candidates, is issued subject [illegible]

ROYAL BRITISH NURSES' ASSOCIATION.—In the gardens of the Royal Botanic Society, Regent's Park, N.W., on June 7th, at 3 P.M., a garden party and conversazione will be held in connexion with the Royal British Nurses' Association. The annual meeting will take place in the museum of the gardens on the same date at 4 P.M. The address of the secretary is 10, Orchard-street, Portman-square, W.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 22nd, Mr. Christopher Heath, the President, being in the chair.—The report for 1904 was adopted and was as follows. During the year nine new members were elected, five members died, and five resigned. At the end of the year there were 149 life members and 144 subscribers. Two widows were elected and three widows died, there being 52 in receipt of pensions at the end of the year. Two orphans were elected and one became ineligible, leaving 16 in receipt of pensions. The directors have to record, with great regret, the death of Mr. Joseph B. Blackett, who had for 37 years ably filled the office of secretary to the fund and they have appointed Mr. Edward Blackett to fill the vacancy until the July quarterly court of directors, at which the secretary is annually elected. During the year the sum of £3214 10*s.* had been distributed amongst the annuitants of the charity. The invested capital of the society now amounts to £98,810. The advantages of the society cannot be *too strongly* urged upon the members of the medical profession, especially the younger ones, for it is open to all registered medical practitioners who at the time of their election are in practice within a radius of 20 miles from Charing Cross. The annual subscription is £2 2*s.*, payable either in one sum, or in two half-yearly ones of £1 1*s.* After election members are at liberty to live outside the 20-mile radius, nor is their residence confined to the British Isles, there being members now on the books resident in Canada, South Africa, Rome, and Egypt. Relief is only granted to the widow or orphans of a practitioner who had at the time of his death been a member of the society for three years [illegible] can realise the number of applications that are being constantly received from widows of medical men left totally unprovided for and relief has in the vast majority of cases to be refused owing to the fact that the late husband had not been a member of the society. The amount of the grant given is regulated by the two following by-laws:—

> The widow of a member who has no certain income or provision exceeding altogether the yearly value of £80 is eligible to receive, half-yearly in advance, such relief from the society as the court of directors shall determine, and in determining the amount of such relief regard shall always be had to the age of the applicant, her ability to maintain herself wholly or partially, and to the amount of subscriptions her deceased husband shall have paid. Whenever the death of the member has been caused by a sudden accident or illness in the pursuit of his professional duties the court of directors may decide to make an *additional grant in favour of his widow not exceeding £25.*
>
> The widow of a member who is left with a child or children under 16 years of age entirely or in part dependent on her, and whose certain income or provision does not exceed altogether the yearly value of £15 for each child, in addition to the £80 mentioned in By-law LXIX., is eligible to receive such additional assistance, half-yearly in respect to each child under 16 years of age, as the court of directors shall determine, but if such child or children have any provision independent of the mother such provision must be distinctly stated to the directors in the *usual half-yearly declaration of the widow.*

Further particulars of the society can be obtained by sending a stamped envelope to the secretary at 11, Chandos street, Cavendish-square, W.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held on May 25th, at 6, Suffolk-street, Pall Mall, London, Dr. F. H. Champneys being in the chair. The Board heard the following charges alleged against Annie Bord, a certified midwife: 1. That being in attendance on the confinement of a certain woman she was guilty of disobeying the rules of the Board in the following respects: (*a*) on the occurrence of rigor she did not decline to attend alone nor did she advise that a registered medical practitioner should be sent for as required by Rule E 17 (c) (I.) (4); (*b*) on the occurrence of foul-smelling discharges, lasting during several days, she did not decline to attend alone nor did she advise that a registered medical practitioner should be sent for, as required by Rule E 17 (c) (I.) (2). 2. That having been in attendance on a patient suffering from puerperal fever she did not disinfect herself, or her instruments, or her other appliances, or her clothing to the satisfaction of the local sanitary authority before going to another labour. Annie Bord attended the meeting and protested her innocence, stating that even if she had done anything wrong it was in consequence of her ignorance of the rules of the Board. The decision of the Board was that the name of Annie Bord should be removed from the roll of midwives and the chairman stated that he hoped that the decision of the Board would be a warning to midwives that they cannot plead ignorance of the rules of the Board. Midwives must remember that they must not speculate in the lives of their patients but must bear in mind the responsibilities of the sacred trust committed to their charge. The Board next heard the following charges alleged against Georgina Eliza Price, a certified midwife. (1) That being in attendance on the confinements of certain persons she was guilty of malpractice, negligence, or misconduct while in the performance of her duty as a midwife; (2) being drunk when in attendance on certain cases. This midwife was represented at the meeting of the Board by Mr. P. R. Simner, who was instructed by Mr. H. D. Brown. The Board decided in this case that the midwife Price should be severely censured which was accordingly done by the chairman. The Board then considered the following charges alleged against Martha Maria Herbert, a certified midwife: 1. That being in attendance on a woman in labour she was guilty of disobeying the following rules of the Board: (*a*) the case being one of breech presentation in a primipara she did not decline to attend alone nor did she advise that a registered medical practitioner should be sent for, as required by Rule E 17 (a) (1); (*b*) she did not express the placenta, as directed by Rule E 17 (b) (4), but within 20 minutes of the birth she pulled on the cord and then inserted her hand into the vagina and detached the placenta. 2. That having sent for a registered medical practitioner on the occurrence of secondary post-partum hæmorrhage she failed to notify the same to the local supervising authority, as required by Rules E 17 and 19 (b). 3. That she undertook the duty of laying out the dead, contrary to Rule E 15. The midwife Herbert did not attend and the Board decided in this case that she was to be censured. Accordingly direc[illegible] of the Board to that effect.

UNIVERSITY OF OXFORD: [illegible] DEGREE OF M.CH.—The [illegible] Master in Surgery will com[illegible] Department, University M[illegible] The names of candidates [illegible] the Board of Faculties, [illegible] June 9th. Particulars [illegible] the secretary of the Boards of [illegible] Clarendon Buildings, Broad-street, Oxford.

THE HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE.—Viscount Clifden, presiding at the annual meeting of the friends of this hospital on Friday, May 26th, dwelt upon the great advantages of the institution, pointing out that everything was arranged most suitably and in accordance with modern ideas. He alluded to the large increase of legacies, lamented the small amount from annual subscriptions, and thought that the freedom of the institution from debt was worthy of imitation by other institutions, many of which thought that indebtedness was the most effective way of getting contributions. The Rev. Canon Barker, in seconding the adoption of the annual report, referred to the length of residence of patients, averaging 75 days, as showing the intent of the hospital to do good in all cases where possible, and regretted the unfortunate decision of the House of Lords in bygone days which still condemned the London hospitals to pay over £20,000 a year in rates.

FESTIVAL DINNER OF THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—Dr. E. C. Beale in replying to the toast of "The Medical Staff" at the festival dinner of the City of London Hospital for Diseases of the Chest, held on May 26th at the Trocadéro Restaurant, London, utilised the occasion by pointing out that the hospital could be made to yield greater benefits to the working classes if the local authorities would provide a suitable place for chronic cases which were past all hope of cure. He showed that by adopting modern methods of treatment the medical men at the hospital were able more and more to restore patients to their work and health and he had a word of praise for the hospital committee for the generous manner in which the demands of the medical staff were always met. During the evening subscriptions were announced to the amount of £2386. Among the amounts making up this total there were some heavy contributions from the working men's societies in the neighbourhood of the hospital.

GLASGOW UNIVERSITY CLUB, LONDON.—Sir William Ramsay presided on May 26th at the dinner of the above club which was held at the Trocadéro Restaurant, Piccadilly-circus, London. Immediately preceding the dinner the annual general meeting of the club was held and the report of the council for the year was of a very satisfactory description, 32 new members having joined, making the total membership 301. Lord Kelvin was re-elected president of the club and Mr. J. Dodds and Dr. C. O Hawthorne were elected honorary secretaries. Amongst those present at the dinner were Professor A. Ewing, Director-General A. H. Keogh, Lieutenant-Colonel W. Babtie, V.C., Brigadier-General Sir Ronald Macdonald, Sir G. H. Philipson, Professor J. Y. Mackay, Professor McCall Anderson, and Sir W. Thomson. The loyal toasts having been duly honoured the toast of "The Imperial Forces" was given by Mr. A. Ure, M.P., and this was replied to by Brigadier-General Sir Ronald Macdonald. Sir William Ramsay then submitted the toast of "The University and the Club" and interspersed his remarks with stories of the University of Glasgow. Professor Mackay, in proposing the toast of "The Guests", related with pride how the University of Glasgow had held aloft the lamp of learning in Scotland for many hundred years and was at the present time full of vigour and honour and dignity. This toast was acknowledged by Professor Ewing who, referring to Sir William Ramsay, said that he had once described him as an Argonaut, for he had brought back argon from a voyage into science, but Sir William Ramsay had lately looked into the sea-water and discovered a new *element*; in fact, the lexicons would be soon exhausted in finding names for the new elements which their chairman was discovering. Professor McCall Anderson then gave the toast of "The Chairman" which called forth from Sir William Ramsay another speech, with more Scotch stories, which ended the evening.

cussed the chances of the passing of the Nurses Registration Bill which he had introduced into the House of Commons on Feb. 23rd, 1904. He did not consider it possible for the Bill to be passed this session and in relation to its becoming law he used the somewhat vague term that the promoters of the Bill might be successful in the near future in getting the measure made law. The Bill had been down for a second reading on several occasions but had not been reached, as no place was secured in the ballot for its discussion; moreover, as it had been blocked it could not be discussed as non-contentious business after 12 o'clock. A great number of nurses were present at the meeting and Mr. Ferguson's explanation of the difficulties attending the passage of a private Bill through Parliament was very carefully listened to. The annual report stated that during the last year 300 applications for membership of the society had been accepted from matrons and certificated nurses, [illegible] the formation of the society [illegible] the report the work of the s[illegible]gely by voluntary labour and by this means and by the personal influence of many of the members interest in State registration of nurses had been aroused all over the United Kingdom and it was hoped that after due consideration of the question a consensus of opinion in its favour might ultimately be produced.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Experiments upon Live Animals.

THE Parliamentary papers laid upon the table of the House of Commons during the week have included a report prepared by the Home Office in regard to the experiments performed on live animals during 1904. It is explained that there was a large increase, which was accounted for mainly because of the progressive importance attached to biological tests generally in practical medicine for the diagnosis, treatment, and prevention of disease and by the more widely recognised need *for such experiments by those responsible for the care* of the public health. The Royal Commission on Tuberculosis made 1821 experiments in the course of the year; 5852 experiments were carried out for testing antitoxic sera and vaccines; and 8292 experiments, mostly [illegible]

[illegible] cautions fail and suppuration occurs the animal is required to be killed. Experiments involving the removal of important organs and even parts of the brain are performed without causing pain, and after the section of part of the nervous system the resulting degenerative changes are painless. In no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anæsthetics and in no instance has a certificate dispensing with the use of anæsthetics been allowed for an experiment involving a serious operation. Unless a special certificate be obtained the animal must be kept under an anæsthetic during the whole of an experiment. In the event of pain ensuing as the result of an inoculation the animal has to be killed under anæsthetics as soon as the main result of the experiment has been attained. It is expected that on an early day this information will be made use of in debate in the House.

HOUSE OF COMMONS.

WEDNESDAY, MAY 24TH.

Medical Practitioners and Inquests.

Mr. [illegible]
had t[illegible]
Londo[illegible]
a path[illegible]
medic[illegible]
the pr[illegible]
depart[illegible]
said: I [illegible]
to the procedure at inquests held by the coroner in que[illegible]
not know how far these statements are accurate and, [illegible]
have no authority to interfere with the discretion of a [illegible]
conduct of inquests.

THURSDAY, MAY 25TH.

Small-pox in Liverpool.

Mr. THOMAS BAYLEY asked the President of the Local Government [illegible]

Cerebro-spinal Meningitis.

Mr. THEODORE TAYL[illegible]
ment Board what ac[illegible]
Northamptonshire ca[illegible]
fever; and whether, [illegible]
fatal effects in Germ[illegible]
so, what means, to p[illegible]
Mr. GERALD BALFOUR, [illegible]
has caused one of its [illegible]
for the purpose of ascertaining the facts and of giving advice to the district council and its officers. As a result of the inspector's visit [illegible]

MONDAY, MAY 29TH.

Vaccination Exemption Certificates.

[illegible] they were rejected. I am not prepared to introduce legislation dealing with the matter.

TUESDAY, MAY 30TH.

The Definition of Successful Vaccination.

[illegible] be practicable to give effect to the [illegible]ion so far as public vaccinators are [illegible]es necessary to revise the regulations respecting their duties.

Cerebro-spinal Meningitis.

Mr. [illegible]
wheth[illegible]
report[illegible]
the ca[illegible]
and w[illegible]
preve[illegible]
count[illegible]
GERAL[illegible]
hope, [illegible]
and p[illegible]

[illegible] pulsory for a limited [illegible] disease where they deem it desirable.

SELECT COMMITTEE ON REGISTRATION OF NURSES.

The Select Committee of the House of Commons, presided over by Mr. TENNANT, which is inquiring into the question of the registration of nurses met again on May 25th.

Dr. E. H. GREVES, general practitioner of Bournemouth, said he had had 20 years' experience in that resort and five in hospital at Liverpool. The result of that experience convinced him of the necessity of the State registration of nurses so as to have some guarantee that nurses had had some training. It would improve the status of nurses. With regard to the sick poor, his opinion was that district nurses having charge of that kind of case necessarily had a good deal of responsibility upon them because they were not so closely supervised, and it was therefore necessary that they should be efficiently trained. There might be a central committee or council for registration purposes and to direct the form of examination. He did not think it was possible for nurses to be trained efficiently in all work in less than three years. Witness mentioned that at a largely attended public meeting in Bournemouth last winter at which he presided a resolution in favour of registration of nurses was carried unanimously.

Replying to Dr. C. F. HUTCHINSON, witness said registration ought to be compulsory. If he were a country medical man he would emphatically welcome the highly trained nurse.

A little later witness said he would not prohibit nurses not registered by the State from practising but it should be made perfectly clear to the public that they were not registered.

Dr. HUTCHINSON asked how he could make that view agree with his opinion that registration should be compulsory.

Witness: I would not make non-registration penal.

Dr. HUTCHINSON: Then you make it voluntary. You are on the horns of a dilemma.

Witness said he should certainly vote for compulsory registration even if it necessarily followed that it would be penal to act as a nurse without being registered rather than let the present system continue. Witness believed registration would not retard the supply of nurses and that the same charitable sources which found nurses now would continue to do so.

Sir HENRY BURDETT was next called. He said although he was not engaged directly in the training or control of nurses he had a good deal to do with matters appertaining to nurses and was also consulted by people managing hospitals and institutions. The number of nurses had an important bearing upon the deliberations of the committee. Under the term of sick nurses and invalid attendants, according to the last census, there were 74,844 persons in the United Kingdom. From that number had to be deducted 9000 who were too young or too old or were evidently not nurses, reducing the number to 66,000 in round numbers. After most careful consideration he had come to the conclusion that two-thirds of the 66,000 could not be regarded for the purposes of this inquiry as trained nurses at all and if he were right the number of trained nurses the committee would have to consider was from 22,000 to 25,000. Witness made a number of calculations from which he arrived at an estimate of the certificated and trained nurses working in this country, the number not exceeding 30,000, even if, he said, it exceeded 25,000.

Regarding the supply of nurses witness said the main cause of the present evils was largely due to the profits which could be made by private venture homes and which made pseudo-nurses possible. The greater the demand for nurses the more variegated was the supply from these homes. It was a great temptation to anyone conducting this business and who found how profitable it was in times of epidemic or great pressure to send out to private families without much inquiry women who said they had been nurses. Speaking of the large percentage sometimes deducted from nurses for cooperation he said he knew from experience how enormous must be the profits of private venture homes in this respect.

Witness, in the course of some remarks on nurses' training in hospital, said the real training in the first year came mainly from observation and in his view the technical part of a nurse's work to equip her for this observation and period of extended instruction could be thoroughly done in 12 months. The linen and house-work could be largely curtailed. He hoped one result of this inquiry would be to secure reforms to promote the early coöperation of all engaged in the training of nurses so as to secure adequate technical training. The lack of coöperation which had hitherto marked the conduct of these institutions was not advantageous to the hospital nurse, the profession, or the public. Still there was a great deal of credit due to hospitals and nurses' training institutions which had brought modern nursing in this country to a high state of efficiency.

Passing to State registration, he maintained that the objects in view could be attained by better, simpler, and less expensive means than had been proposed in Parliament. It had been said that 60,000 nurses would register at once, either as trained nurses or as women who could satisfy the Board that they were in *bonâ-fide* practice before the Act passed. The consequences which would follow the letting loose on the public of 30,000 women not trained but recognised as registered nurses would make the bravest pause. Such must be one of the consequences of a time limit and if the lines of existing legislation were to be followed such a limit must be allowed. His suggestions were that Parliament should enact that all training schools for nurses and all hospitals and institutions that trained nurses, according to a given standard, should be registered and inspected, but the registration of such establishments should be made conditional on the training of nurses being carried out in such a way as to fulfil the standard laid down, and upon examinations being held on some such system as that which governed the proceedings of the General Medical Council; on the granting of certificates in a certain form; on the publication of a register each year of all nurses trained and certified by each such school and hospital; on the post-graduate training of all certified nurses who desired those facilities by the school where they were trained; providing further tha each training school and each hospital which trained nurses should afford its nurse graduates the opportunity, if they wished, of joining the private nursing staff attached to the institution and of having secured to them in liberal measure the payments received for their work. In this way, said witness, they would cut at the root of existing evils and in a few years those evils would be probably entirely removed. In any system including the proposals he had submitted it was essential that some provision should be made for those nurses who had not had the advantages of a three years' training in a single hospital but might possess excellent technical and moral qualifications for nursing. He thought Lord Rothschild's scheme for the higher education and training of nurses might usefully undertake the work for organising examinations for the benefit of this flowing army of irregulars. Those who passed the test should be granted the certificate entitling them to rank as qualified nurses.

Replying to the CHAIRMAN, witness said he would have the Registration Board or Council based on the lines of the General Medical Council.

The committee then adjourned.

Further evidence was taken on Tuesday, May 30th.

Mr. JAMES RUSSELL MOTION, inspector of poor and clerk of the parish council of Glasgow, stated, in reply to the CHAIRMAN, that the council passed a resolution in favour of registration. It was strongly felt that something should be done for the protection of the public, the nurses, and the medical men. At the present moment the Poor-law nurses in Glasgow were registered under the authority of the Local Government Board of Scotland. This was done under a Treasury minute in connexion with the grant of £20,000 for medical relief. The Secretary for Scotland determined that that sum should be distributed among the parochial boards of Scotland which had applied it under rules and conditions in payment of a portion of the cost of trained sick nursing in poor houses and so on. Under that grant the local authority had been able to register the nurses it employed who had trained for two years and had passed an examination. The local authority declined to accept the services of any nurse who should not be able to pass the examination, because by doing so it would lose the half of her salary and maintenance which the grant afforded. A trained sick nurse must not have less than two years in a public hospital or a training school for nurses which maintained a resident medical or surgical officer; she must not be under 22 years of age or over 45; and no grant was made in respect of nurses who had not entered in the register. It was in the power of the Local Government Board to remove the name of any nurse from the register. He found that there was a sufficient supply of nurses for the hospitals and institutions of the parish council. As the Local Government Board could do this work of registration he would ask why it could not be done for the whole country. In their own hospitals the council found that two years' training was sufficient. The council had 227 nurses, of whom 144 were probationers.

By Sir JOHN BATTY TUKE: There should be some universal examination, because one medical officer might be strict and another lenient.

By Mr. MOUNT: Those nurses who stayed over the two years in the council's hospitals were registered.

By Mr. KENNETH BALFOUR: The medical officers of Glasgow had not, to his knowledge, passed any resolution on this subject and he had no knowledge of any meeting of medical [illegible]

By Mr C. HOBHOUSE: The system of [illegible] was practically dependent on the grant of the Local Government Board, but he did not think that in the event of that grant being withdrawn the system would disappear. He, for one, would do his best to keep registration at its present standard. The council's system was to have two years' compulsory training and one year's voluntary training, but he would like to see another year added.

Then your view of registration is that you would like to prevent the supply to the public of nurses who have less than three years' training?—Yes. Continuing, he said that there was no scarcity of nursing and ladies [illegible] the hospitals to train. The great bulk of the n[illegible] three years.

By Mr. DOUGLA[illegible]rish council was to have a hall-mark for nurs[illegible]ad no interest in restricting the supply. He was not clear that the object could be gained by voluntary registration but if it could be achieved he would say by all means let them have it.

By Mr. PIERPOINT: The great bulk of the nursing in working men's families was carried on by nurses attached to churches or other bodies. There were people who looked after their neighbours when they were ill but who did not get payment.

Sir JOHN BATTY TUKE: But you must have a certain number of so-called nurses who are not fully qualified and who are practising for gain?—I have no doubt there will be some such nurses. A self-respecting nursing institution would not send out a nurse with only one year's training. It is very much to be desired that that practice should cease.

If you stop these women nursing who are to take their places?—I do not admit that that is nursing.

But registration would interfere with those women of one year's or no training?—Certainly. It will interfere with those women who are masquerading as nurses, but it will not affect the general supply of nursing.

Miss SHANDON, matron of the Western Infirmary of Glasgow, stated that she was in favour of registration. At that infirmary they had a system of examination twice a year and from 15 to 18 went up. The percentage of passes was very high. The examination was difficult and she attributed the almost universal success of the candidates to the fact that they were very capable and competent women and to the good training they received. There had been no expression of opinion on the part of the nurses in Glasgow in regard to registration. The question had not been taken up very much by them. She did not favour the institution of two classes of nurses. It would not work because the untrained nurse would occupy the position she now occupied and the public would not be protected. She saw no difficulty in the way of getting a sufficient number of nurses. If thoroughness of training and good character could be secured by voluntary State registration she agreed that that would be a good scheme. She would steer clear of punishment if that were possible.

By Sir J. STIRLING-MAXWELL: The nurses at the Western Infirmary were not drawn from the domestic servant class. They were generally the daughters of professional men and farmers. Very few came from the so called gentle class. She thought a fee of five guineas would not stand in the way of registration.

[illegible] Nurses who had been trained during only [illegible] good work, but she did not know that it was [illegible] trained nurse's point of view she thought it was worth nothing at all. She admitted those nurses did some good but not much.

Mr. GEORGE WILLIAM DUNCAN, secretary of the Central Midwives Board, said that the system of examinations under the Board was only beginning and the first examination would be held next month. For that the fee would be one guinea, but it would not be sufficient to pay for the examination. He would suggest the raising of the fees. It was too soon to say anything as to the permanent working of the Midwives Act. The normal

Appointments.

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L.R.C.P. Lond., has
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1 Clinical Assistant

n appointed Junior

ed Visiting Medical

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d Medical Officer of

Glasg., has been
ston, Maitland, and
, New South Wales,
Australia.

FULLERTON, ALEXANDER YOUNG, has

square.

HOWARD-JONES, J., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator to the Worthen District and Medical Officer of Health to the Chirbury Rural District, Shropshire.

JONES, WILLIAM ERNEST,
appointed Inspector-Ger

MANBY, WALTER EDWARD,
M.R.C.S., has been appointed Medical Off f Health of

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ACTON URBAN DISTRICT COUNCIL.—Medical Officer of Health and Medical Superintendent of Isolation Hospital. Salary £500 per

ouse Surgeon for six months, renewable. Salary £70 per annum, with board and residence.

DARENTH, NEAR DARTFORD, KENT, METROPOLITAN ASYLUMS BOARD ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

DOWNPATRICK, DOWN DISTRICT LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, board, washing, &c.

DUDLEY,

EAST LON ARY FOR WOMEN, Shad

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GORDON HOSPITAL, Vauxhall Bridge road, S.W.—Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Physician. Also Anæsthetist, with honorarium of 15 guineas for one year.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50 per annum, with board and lodging.

INDIAN MEDICAL SERVICE, India Office, S.W.—Examination for not less than 14 Commissions.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, &c.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Honorary Assistant Phy-

the Staff constructing
Salary £400 per annum.
ucation Branch of the
per annum. Also 20
Local Assistant Medical Officers. Salaries £150 per annum.

LONDON TEMPERANCE HOSPITAL.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Honorary Assistant Physician.

MANSFIELD, NOTTINGHAMSHIRE CONSUMPTION SANATORIUM.—Resident Medical Officer (female). Salary £100 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—Assistant Physician.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, residence, and laundry.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—
£50

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ence,
alary
£50 per annum, with board, lodging, and washing.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon. Salary £90.

SALFORD ROYAL HOSPITAL.—
of £110 per annum. Also
per annum. Also Junior
per annum. All for six mo

Marylebone-road, N.W.—

nior House Surgeon, for
board and residence.

RMARY.—House Surgeon.
ng, and washing.
r Clinical Assistants.

R CONSUMPTION.—Senior

arwick.—Third Assistant

S.W.—Medical Registrar.

OORER CONSUMPTIVES.—
ary £200, rising to £300.

Births, Marriages, and Deaths.

BIRTHS.

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PET the wife of David Petty, M.B., of a son.

MARRIAGES.

BON

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Yorks.

DEATHS

SUTCLIFF.—On May 27th
M.R.C.S., L.R.C.P.,

SUTTON.—At Mountain
Jan. 29th, 1905, Marg

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"EMPIRICAL SCIENCE."

WE have received a document from a gentleman, named H. C. Hiller, dated from Didsbury, Manchester, numbered "Pamphlet 8," and informing us that a book of his can be obtained at a certain price from a certain publisher, while inclosing a preface to the work. The author apparently is a critic of science, or, as he prefers to call it, "empirical science," and perhaps the previous pamphlets have made his position clearer. At any rate, we should not guess, from the evidence with which he supplies us, that he is a very wise person. All the same, he has thought of an original method of advertising his work, and if only the representatives of "empirical science" would have been kind enough to fall in with his suggestion he might have done good business. He appears to have written to Lord Rayleigh, Lord Kelvin, Sir Oliver Lodge, Sir James Dewar, Sir William Crookes, Professor William Osler, Professor A. Schuster, and Professor Horace Lamb, inviting them to read advance sheets of his book, and "if you consider my position vulnerable in important respects expose the defects, your exposure to be embodied or not at your option in the book." Now it is an undoubted fact that whereas the public might not be particularly anxious to hear of "the new science of causation" (the subject of the book) from the pen of Mr. Hiller, they would like very much to hear anything from the pens of Lord Rayleigh and the other distinguished physicists. A good many authors of standing would have no objection to receive beforehand expert criticism of their work so that they could purge their work from obvious faults, or alter its tenour in inconvenient places, but it has been left to Mr. Hiller, we think, to devise a scheme by which the publication of criticisms—presumably adverse—of his work should float his publication. Lord Rayleigh and the others may be exponents of "empirical science," whatever that is, but they knew too much to fall into Mr. Hiller's little trap. They have all decided not to read Mr. Hiller's advance sheets and we have decided not to read his book.

AN OLD LANCET CASE.

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent "Provenance," who asks for particulars *re* an old lancet case, I should say it was somewhat doubtful whether the lancets *mentioned* are *contemporary* with the case. "Savigny & Co." was a very noted firm of surgical instrument makers and their place of business, 67, St. James's-street, and as far as I can remember they were succeeded by Messrs. Louis Blaise and Co. at the same address in the latter part of the "seventies," both firms being instrument makers to St. George's Hospital. "*Pratt*" was an instrument maker in business at 420, Oxford street, London. I possess an aural syringe marked with his name. I may also tell you that my obstetric forceps (Simpson's long) were constructed for me to order by Savigny and Co. in the year 1876.

I am, Sirs, yours faithfully,
EDWARD A. PIGGOTT, L.R.C.P. Edin., &c.

Clare, Suffolk, May 27th, 1905.

PS.—It is very doubtful whether either of the above firms is now in existence.

THE FEE FOR A POLICE SUMMONS.

To the Editors of THE LANCET.

SIRS,—I was recently summoned by a policeman in uniform to attend a case of cut throat a quarter of a mile away. I was paid £1 1*s*. at the inquest and afterwards sent in an account to the chief constable for £1 1s. for attendance at the deceased's house. The chief constable answered.—

> "I understand you were paid a fee for attending this case at the inquest. However, your being summoned to the house .. ... was at the request of the father, to whom I must refer you for any charge you have to make."

Can you tell me if I can claim the fee?

I am, Sirs, yours faithfully,
May 26th, 1905. BAYNHAM.

*** We think that our correspondent is legally entitled to the fee.—ED. L.

ST. HELENS HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I thank you for the very excellent notice you have given to the St. Helens Hospital. You quite understand the 1*d*. a week or the 1s. a day subscriptions do not pay the medical man; these subscriptions do not include medical attendance—most of the patients belong to works or clubs, by whom the medical attendance is provided. The chief features are: 1. A highly trained and most efficient nursing staff, capable of meeting any emergency that occurs until the arrival of medical men. The *telephone greatly facilitates the prompt* attention of professional men. 2. The almost general support in all the works and collieries of the district by means of the 1*d*. a week subscription.

On May 19th about 120 representatives from the various works met in the town hall, St. Helens; the mayor presided, but the meeting was convened at the request of the men themselves. It was unanimously and enthusiastically resolved to subscribe an extra penny per week to wipe out the whole of the outstanding balance of between £3000 and £4000. If this [illegible] ospital work was general throughout th[illegible] would soon be unheard of in connexion [illegible]

I am, Sirs, yours faithfully,
J. FENWICK ALLEN.

Whalley Range, Manchester, May 27th, 1905.

A CURIOUS SUPERSTITION.

To the Editors of THE LANCET.

SIRS,—It is commonly believed amongst the more ignorant inhabitants of the Island of Guernsey that the husband is apt to suffer from illness during the period of his wife's pregnancy and that such illness usually takes the form of boils and abscesses in various parts of the body. I am informed by a member of the Royal Court, Jurat Jno. de Garis, a well-known authority on Guernsey folk-lore and customs, that so widely spread is this belief that in the Guernsey *patois* the verb "cahuchier" means specially to suffer from illness under the above detailed conditions.

The *origin* of such an old established idea, of course, cannot easily be traced but it would be interesting if any of your readers are aware of this superstition being prevalent in any other part of the British Isles or elsewhere and, if so, could they give any further details?

I am, Sirs, yours faithfully,
Guernsey, May 29th, 1905. HY. DRAPER BISHOP.

BEDBOROUGH *v.* DAWSON AND WIFE.

IN the King's Bench Division of the High Court of Justice on May 26th a parlourmaid brought an action against Dr. B. Dawson to recover [illegible] nissal. The defendants de[illegible] that the plaintiff had commit[illegible] d pleaded justification in dismissing the plaintiff. The trial of the action lasted two days and the jury eventually returned a verdict for the defendants; judgment was given accordingly.

◆

T. V.—We cannot speculate as to the condition. A medical man must be consulted and he will decide as to the necessity of inviting the opinion of a specialist.

J. R.—There are scores of such remedies still in existence while scores have died out, their general utility not matching their local fame.

Jas. will find the whole subject discussed in THE LANCET, March 25th, 1905, p. 817.

M.R.C.S.—Yes.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's [illegible] (1.30 P.M.), St.

TUESDAY (6th).—[illegible] .30 P.M.), West- Thomas's (3.30 [illegible] versity College minster (2 P.[illegible] M.), St. Mark's (2 P.M.), St. [illegible] London Throat (2.30 P.M.), Ca[illegible] and 2.30 P.M.), (9.30 A.M.), Royal Ear (2 P.M.), [illegible] Chelsea Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic ([illegible]), St. Thomas's

THURSDAY [illegible]

FRIDAY [illegible] (2 P.M.), [illegible] Northern Central (2.30 P.M.), West L[illegible] and 2.30 P.M.), [illegible] Throat (9.30 A.M.), Samaritan (9.30 A.M. and [illegible]

Golden square (9 30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear

London (2 P.M.), Middlesex

iversity College (9.15 A.M.),

P.M.), St. Mary's (10 P.M.),

s (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

the Urine.

W.).—8 P.M.

the Urinary

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

Man.

TUESDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. R. Hutchison: Clinique. (Medical.) 5 15 P.M. Mr. W. G. Spencer: The Treatment of Diseases of the Knee joint.

POST-GRADUATE COLLEGE (London County Lunatic Asylum, Claybury, Woodford Bridge, Essex).—3 P.M. Dr. R. Jones. Varieties of

ILEPTIC (Queen-

d. Disseminated

Tottenham Hos-

G. N. Meachen:

EGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. G. L. Cheatle. Clinique. (Surgical.) 5.15 P.M. Dr. G. A. Sutherland. Pneumonia

spital, Hammersmith-

Medicine

OF THE CHEST (Bromp-

Causes and Treatment

LLEGE AND POLYCLINIC

Hutchinson: Clinique.

achrymal Obstruction,

Hospital, Hammersmith-

ases.

d street, W.C.).—4 P.M.

Murray: Demonstration

arylebone-road, N.W.).—

E

ROYAL INSTITUTE OF PUBLIC HEALTH.—5 P.M. Dr. G. Newman: Milk borne Diseases.

FRIDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. A. Lawson: Clinique. (Eye.)

London Hospital, Hammersmith-

Cases of Skin Disease.

ALYSED AND EPILEPTIC (Queen-

P.M. Dr. F. Buzzard: Myasthenia Gravis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 30 P.M. Lecture-Demonstration:—Dr. R. M. Leslie: Prognosis in Heart Disease.

EDITORIAL NOTICES.

IT is most im

Editorial busin

exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

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We

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 1st, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade.	Min Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 26	30·05	S.W.	...	97	67	52	51	58	Cloudy
" 27	30 14	S W.	...	125	73	51	52	60	Fine
" 28	30 29	S.W.	...	128	77	52	54	60	Fine
" 29	30·09	S	...	130	81	60	64	71	Fine
" 30	30 08	N.E.	...	106	73	61	60	67	Fine
" 31	29 99	N E.	0 86	113	68	57	57	61	Overcast
June 1	30 00	S W.	0·08	120	66	54	56	61	Cloudy

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Yorkshire Mercury, Manchester Chronicle, Daily Chronicle, Irish Times, Morning Leader, Surrey Advertiser, Reading Mercury, Literary Digest (New York), Scientific American, Daily News, Australasian Medical Gazette, Western Mail (Cardiff), Herefordshire Mercury, Windsor and Eton Express, Gardener, St. Helens News and Advertiser, Westminster Hospital Gazette, Nursing Times, Mercy and Truth, Dublin Weekly Times, Liverpool Post and Mercury, &c.*

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An Address

ON

PLEURISY: ITS PATHOLOGY, DIAGNOSIS, AND TREATMENT.

Delivered at the Gloucester General Infirmary on May 18th, 1905,

BY NORMAN MOORE, M.D. CANTAB., F.R.C.P. LOND.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

GENTLEMEN,—In my wards at St. Bartholomew's Hospital I have had during the present month eight cases of pleurisy.

CASE 1.—The patient, a strong-looking man, aged 23 years, was admitted on April 25th, with pain on the left side, a short cough causing pain on that side, and shortness of breath on moving his body. Fourteen days before admission he had been seized with pain in the side and cough, and four days before admission he became very short of breath. His left chest when I first saw him was dull except a small apical region. There were no vocal vibrations, no breathing sounds, and no movement on the left side: 90 ounces of clear fluid were withdrawn from his left pleura. His temperature had been raised but remained normal after the paracentesis. The next day a friction sound was audible and some vocal vibrations were present. On May 15th breathing sounds were faintly audible at the left base and no friction sound could be heard.

CASE 2.—This patient was received into the same ward as the previous patient. He was a muscular seaman, aged 25 years, and had signs of pleurisy on his left side. He had had pneumonia three months before. On April 25th he suddenly fell ill and went to bed with a cough causing pain in his left side. The pleural physical signs did not increase and on the next day he had bronchial breathing over the lower lobe of the lung, with increased vocal vibrations. The aspect of the case was that of pneumonia and not of pleurisy. On the sixth day his temperature fell to below normal and the physical signs gradually disappeared afterwards. His arms were tattooed in red and blue—a butterfly, the Royal standard, and a girl's head in a circle of leaves. The work was artistic and had been done in Hong-Kong, where he had been for three years and eight months, returning in November, 1903. The finest tattooing we see in St. Bartholomew's Hospital is that of Japan—delicately drawn butterflies and storks on the wing as good as those of porcelain. That of China comes next and then the Burmese work, often lizards and figures of Buddha and elephants, as well as regimental badges. That done in Hindostan is generally, like native art, slightly altered for the worse by a tendency to imitate European work and resembles in its want of grace the portraits of British officers by native artists which used to be sent home in the days of the East India Company. The tattooing of Malta has less merit still and that of our own ports and camps is the rudest of all.

CASE 3.—The third patient was a carpenter, aged 32 years, from whose chest on the day of his admission 30 ounces of clear fluid were withdrawn by paracentesis. He was admitted with pain in the left side and shortness of breath. The pain had come on suddenly on April 5th and his breath had since grown more and more short while the pain continued. Ten years before he had had pleurisy. His temperature was 100° F. The impulse of the heart was chiefly to be felt to the right of the sternum. There was dulness to the level of the third rib before and behind on the left side, with impaired movement and absence of vocal vibrations. Three days after tapping bronchial breathing was heard over part of the dull area, which had nearly, but not quite, disappeared a fortnight later and had quite disappeared in a further week. A month after admission breathing was still feebler on the left side than on the right and there was very slight general impairment of resonance on the left side. The temperature after an evening rise to from 99° to 99·5° became normal three weeks after admission and throughout had no sudden fall. The improvement after the paracentesis was marked.

CASE 4.—The patient, a man, aged 50 years, had a not very distinct pleural creak at his right apex behind and in front well-marked signs of a cavity. He had double aortic disease. He was admitted with a copious hæmoptysis, had several attacks in the ward, ceased to spit blood after a time, and then again had a recurring hæmoptysis in a copious access of which he died. Post mortem old pleural adhesions over a tuberculous lung with a large apical cavity were found.

CASE 5.—The patient, a stonemason, aged 23 years, was admitted with severe pain in the right side. Two days before he had had a severe rigor, felt very ill, and had pain in the side. His temperature was 103·8° F. and his pulse was full and bounding. He had some cough and scanty watery sputa. In the right axilla and at the base a loud friction sound was to be heard. No bronchial breathing was heard and no rusty sputa appeared. The temperature fell gradually through five days; in the first 24 hours of descent from 104° to 101°. The patient had obvious general emphysema and said that he had had a cough on and off for years.

CASE 6.—In my female ward a patient, aged 38 years, obviously the subject of advanced pulmonary tuberculosis, has a cavity at the left apex with a friction sound over the lower lobe behind, and is another example of pleurisy associated with tuberculosis.

CASE 7.—The seventh patient was an infant, aged 15 months, from the left side of whose chest ten ounces of pus were withdrawn. The prominent symptom was shortness of breath. The lower three-fourths of the child's left back were absolutely dull but a puncture made before admission had failed to demonstrate the presence of pus. The evening temperature was 101° F. Above the angle of the scapula loud bronchial breathing was to be heard behind and over the whole apex in front. The child was so much exhausted that I thought it well merely to feed it from April 7th to 17th and then drew off two ounces of thick pus. The child slept better but the physical signs were scarcely altered. The temperature fell to 99·5° each evening. The sense of resistance on percussion seemed to me increased by the 20th, and on the 22nd as it did not alter I had a rib resected when eight ounces of pus were withdrawn. The breathing sounds became audible, the child regained strength and colour, and the temperature gradually became normal.

CASE 8.—A boy, aged five years, was the eighth patient. He was admitted on March 28th with whooping-cough which he had had since the end of January. The cough was severe, there were many attacks every day, and each was prolonged. After these had moderated, but while they were still numerous (18 a day) a patch of absolute dulness was found at the right base on April 10th. This persisted and I arrived at the conclusion that it was an empyema but postponed an operation till the cough should be less frequent. The patient coughed up a quantity of pure airless pus and the physical signs in two hours were almost normal. For four days a little more pus came up and then no more. Great improvement took place and he is now convalescent. An empyema had pointed into the lung and had been coughed up.

These eight cases present considerable variety and suggest several points for consideration. Why, in the first, a week after the paracentesis, though no fresh fluid was exuded, were the breath sounds still faint over the lower half of the left lung? In the second case, had the attack of pneumonia three months before any relation to pleurisy and pneumonia which came under my care? In the third case, had the pleurisy of ten years before any relation to the attack I have described? How much of the results of the physical examination ought to be set down to the new and how much to the remote attack of pleurisy? In the fourth case, the firmness of the apical adhesions indicated the long duration of tubercle there. In the fifth, why was the temperature so high while the gradual and not sudden fall, the absence of rusty sputum and of bronchial breathing seemed to prove that a true pneumonia was not present? In the sixth, as in the fourth case, the connexion between the tubercle in the lung and the pleural adhesion outside it was plain. What was the explanation of the pus in the seventh case? Did the bronchial breathing indicate that a pneumonia had preceded the empyema? What in the case of whooping-cough was the origin of the pus?

Many other clinical varieties of pleurisy may be observed. A patient of mine with locomotor ataxy became much worse in appearance and very short of breath but without pain. Was this due to cardiac degeneration—he had some signs of aortic disease—or to some other cause? The whole left side of his chest was full of clear fluid. It was let out and a second time tapped. He was in a condition of extreme malnutrition, such as is sometimes the last stage of locomotor ataxy, and after some weeks died. The necropsy showed that he had a true pleurisy with abundant flaky deposit as well as clear fluid, such as would have been painful but for his posterior sclerosis. There was some old calcareous tubercle in his left lung but no recent tubercle was found. A woman, aged 35 years, had absolute dulness over the left side except at a small part of the apex and at the base. The dulness extended to the base in a fortnight but the lower three inches gave a different resistance on percussion, though the absence of resonance was general. This was a dense mediastinal sarcoma extending into the left pleura with a very small effusion into the lowest part of the left pleural sac. A case of probable actinomycosis on the under side of the diaphragm associated with a very small effusion and pleural roughening above it and one of hydatid between the upper and lower lobes of the left lung causing signs indistinguishable from a simple pleurisy are rarer examples which have occurred in my wards.

The experience of my hearers will, I am sure, easily suggest many further variations in detail. This month I saw in the post-mortem room a condition with which I was unfamiliar. It was a left pleural sac, greatly thickened and full of turbid fluid, containing a calcareous deposit as if the whole pleura were one old softened lymphatic gland. The patient was known to have had a pleural effusion for ten years. I wish to add one more rare case. A young man in my ward at St. Bartholomew's Hospital had a patch of dulness at the left base behind with absence of breathing. His temperature was but little raised. He said that his first symptoms began after a sudden exertion and when I chanced to asked if he had anything in his mouth at the time he said, "Yes, a short piece of straw with an ear on it." That disappeared and he thought that he might have dropped it or have breathed it in. The latter proved to be the case. The ear of straw had penetrated the lung and entered the pleural sac and caused an empyema. One day in a violent fit of coughing up came an ear of barley and about four ounces of pus. The patient recovered rapidly. His case was a demonstration of the relation of pleurisy to the outside world.

Let me next set before you a few passages from books. The first is from the most famous physician of ancient Rome. In the treatise "De Locis Affectis" Galen, speaking of pleurisy, says:—

> And this has for its inseparable symptoms an acute fever, a pain as if the parts were overstretched or pricked; the breathing little and frequent; the pulse small; and the artery in a peculiar manner tense and commonly hard. A cough also most commonly accompanies it with a coloured sputum but sometimes without sputum. Such are pleurisies which either carry a man off quickly or come to an end after a long period of time.

The next is from the "Phthisiologia" of Richard Morton, a Doctor of Medicine of Oxford and a Censor in the College of Physicians, who lived close to St. Bartholomew's Hospital in the reigns of Charles II., James II., and William III., and is buried in Christ Church, Newgate-street. There are few collections of cases better worth reading than his.

> A certain youth, living near Cripplegate, in good health and with his viscera certainly sound, whilst at work at his handicraft of a plasterer, by which he earned a comfortable livin by bad luck dropped three nails, which he held in his mouth to u lungs. In consequence of which after irritation he had a profuse hæmoptysis. not know how he at length recovered. It is quite [illegible] were not coughed up. The youth nevertheless for many months was in good health and worked at his trade as before. He did not feel changed in any way for the worse except that from that time forth he had a dry hollow cough and some sense of oppression, neither troubling him much. He believed himself so well that he thought himself fit to take a wife and was married. On the wedding day, whether from more free drinking of wine than usual or from dancing too much (whence the nails, which before lay as if buried, fixed in the substance of the lungs, were moved anew), the unfortunate bridegroom towards evening was seized with dreadful spasms and most acute pain of chest and side with difficult breathing and a dry but very violent cough so that he could not lie down on his bed or take the least sleep. Thus at last he became feverish and seemed to shiver owing to the urgent spasm of the pain. All the remedies of old wives and drug compounders having been tried in vain I was implored on the third day of the illness to come to him. I at once saw that the disease was peri-pneumonic in its nature and I prescribed free bleeding, fomentations and liniments externally, and internally a linctus and pectoral apozem and julep in the antispasmodic waters. These doing little I ordered bleeding again and again. I tried a variety of internal and external remedies before I relieved the wretched patient in the least. The pain being a little relieved I was unable to check the cough and expectoration or to reduce the fever and it seemed to turn from an acute pneumonic fever into a hectic fever. At last from the urgency of the symptoms the patient feverish could sleep and take food be leclined and in a month or five weeks to of phthisis. When his body was opened [illegible] atal nails as if buried in a bed of pus a little below the division of the bronchi and the pleura as it were corroded by pus. I drew off six pints, if I remember right, of this purulent fluid.

Galen it is obvious had observed, as his note of the sputum shows, cases of pleuro-pneumonia in which the prominent symptoms pointed to the pleura: Morton's case shows how an empyema was produced by the passage of foreign bodies from the lung into the pleural cavity.

The explanations of disease and the general pathological theory have changed so much that it often requires a special study before one can be certain what was meant by the hypotheses of old medical writers but their descriptions of cases have often a higher and permanent value. The difficulties of interpreting them are the same as those of the interpretation of cases at the bedside and hence their consideration is a mental exercise of practical value in our training as observers of disease. Books, such as Morton's "Phthisiologia," the "Observationes Medicæ" of Nicholas Tulpius, Wepfer's "Observationes Anatomicæ," Morgagni "De Sedibus et Causis Morborum," Diemerbroek's "De Peste," Andral's "Clinique Médicale," as well as many other writings of less famous authors repay perusal as collections of problems similar in kind to those which we have to try to solve every day. Every man who has published faithfully described cases of disease from his own observation has made a contribution which has a permanent value in medicine.

In the clinical study of a case of disease that endeavour to make out what is taking place in the patient which is our daily work and on our success in which the usefulness of our treatment must depend, there are three stores of knowledge in our minds to which we turn for help, after collecting all the information which can be obtained from the physical examination, the symptoms, and the history of the patient. These are our recollections of cases which we have seen, of cases of which we have read, and of post-mortem examinations.

In this discussion of pleurisy I have dealt with the first two groups and I will now proceed to the third, the collection of facts from the post-mortem room and the laboratory. Dr. S. J. Gee, one of the last writers on pleurisy, in his definition says: "For the last century or more pleurisy has been defined to mean inflammation of the pleural membrane." In what conditions do we meet with this inflammation of the pleural membrane in the post-mortem room? First of all, in every condition in which the lung or a part of it is solid. In lobar pneumonia (pneumococcal) it is always present—every such pneumonia is a pleuro-pneumonia. Pneumococci are present in the lung and in the pleura; leucocytes which solidify the air vesicles are also present in the pleural sac. Tuberculosis, according to the degree of infiltration, is present in both lung and pleura. Pneumonia of diphtheria presents so precisely the appearances, including the pleural roughening, of lobar pneumonia that till the late Professor Kanthack demonstrated its bacterial nature it was supposed to be the same disease. Yet the presence of Klebs-Löffler bacillus establishes its specific character. Pneumonia of pyæmia occurs with streptococci which are also present in the pleura. Pneumonia of plague also occurs in which the cause of consolidation is the bacillus pestis. I have brought with me a specimen recently added to the museum of St. Bartholomew's Hospital—the lung from a case of plague showing the presence of pleurisy. The lung is quite solid; the pleural deposit, though scanty, is obvious on its surface. I cannot avoid dwelling for a little on the reflections which this specimen suggests. 20 years ago to study the plague was to study an obsolete disease. I remember reading in 1889 a chronicle, then printed for the first time, which the editor, Sir Edward Maunde Thompson, had been so good as to give me. The chronicle was written in the reign of Edward III. by Geoffrey le Baker of Swinbrook, an Oxfordshire clergyman, and as a physician the account of the most severe English epidemic of plague struck me. I may venture to read it to you, especially as it mentions Gloucester.

> In the year of Christ, 1349, in the twenty-third year of the King's reign, a general plague spreading from the east of the Indians and Turks infecting a half of our inhabited world, carried off with such loss of life Saracens, Turks, Syrians, Palestinians, and, finally, Greeks, that, driven to it by terror, they decided to accept the faith and the sacraments of Christ. hearing that death did not affright the Christians on this side of the Greek sea more frequently than usual. At length the cruel devastation passing in succession the parts beyond the Alps

and from there to the west [illegible] after its outbreak arrived [illegible] almost all the inhabitants [illegible] living inward, and thence [illegible] Bristol, so that the men of [illegible] to their country, everyone [illegible] [illegible] all pleas in the King's Bench and Common pleas of necessity were stopped. Very few great men died of it. Among them were Lord John of Montgomerie, Captain of Calais, and the Lord of Clistelo; they died in Calais and were buried in London in the church of the Brethren of the Blessed Mary of Mount Carmel. A countless number of common people and a host of monks and nuns and clerics as well, known to God alone, p[illegible] chiefly attac[illegible] anyone dare[illegible] left behind, [illegible] quite well a[illegible] suddenly br[illegible] they were so [illegible] flowed from [illegible] it cleared many country villages completely of every "individual of the human race."

The plague of 1348–49 in England was part of the greatest epidemic which is known in history. It reached Europe from the East by way of Constantinople. The cities of Europe were then much smaller than now, yet 100,000 died from plague in London and 100,000 in Venice, 50,000 in Paris, and 60,000 in Avignon, and so on all over Europe. It lasted a shorter time than the epidemic of the sixth century, which began about 542 and lasted for 52 years, but it was more severe while it lasted. It was followed in England by many more epidemics till that of London in 1665, of which we have all heard. Except a very few isolated cases up to 1679 no more was heard of plague in England till September, 1896, when two cases appeared on a ship from India in the Thames. Since that time other cases have appeared at Glasgow, at Liverpool, and at Leith, but the epidemic has been steadily progressing in India. 30,000 died in the first year (1896) and this year the same number or more have died in a week for many weeks in succession. In 1904 1,040,000 died. This year, from Jan. 1st to April 1st, 474,744 died and in the month of April 215,961. These nine years' of steady increase till numbers greater than those of any previous epidemic, except that of 1348–49, have been reached, make it likely that this epidemic will spread further and it may not improbably attain considerable proportions in Europe.

It is certainly our duty to become acquainted with the symptoms, to understand what is known of the presence of the disease in rats and its being spread by them, to study the method of progress of plague epidemics, and even to know the look of the bacillus. The admirable "Treatise on Plague," by Dr. W. J. R. Simpson, lately published by the Cambridge University Press, contains more information than any other book on the plague. Such a book as Isbrand de Diemerbroek's "De Peste," published in 1646, contains numerous cases simply told and gives a good idea of what may possibly be seen again in some parts of Europe or even in the British Islands, but Dr. Simpson has treated every part of the subject in the fullest way and brings to bear upon records and reports a large personal experience of plague in India, China, and Africa. His book is most interesting and valuable reading on a subject on which, I think, we all ought to know something in view of the vast proportions to which the Indian epidemic has already attained and the scattered cases which have already appeared on our own shores.

To return to pleurisy from this digression on the plague: lobar pneumonia, tuberculosis, pneumonia of diphtheria, pneumonia of pyæmia, and pneumonia of plague, in all of these the whole or part of the lung seems stuffed with the results of the development of micro-organisms but pleurisy of the same nature as the change within the lung is often to be found in broncho-pneumonia and even over very small patches of it if near the surface of the lung. In hæmorrhagic infarction of the lung and [illegible]n the lung pleurisy is always [illegible] interference with the nutrition [illegible]o serious that organisms which would otherwise be breathed out of the lung without settling anywhere find their way through into the pleura and so produce pleurisy. Thus it is easy to see that in each variety the pleura is reached through the respiratory tract. The pneumococcus, the tubercle bacillus, the Klebs-Löffler bacillus, the streptococcus, the plague bacillus may as easily be perceived to have passed from the lung to the pleura as the ear of barley in my patient or the nails in Morton's plasterer. If broncho-pneumonia is extensive there is always some pleurisy; if it is slight there is none; the conclusion that the pleural colony of organisms originates from the intrapulmonary settlement is obvious. Pleurisy with large clear effusion like that of the first case I mentioned in this address, how is it—the simple pleurisy as some would call it—to be explained? Assuredly by a similar invasion of the pleura from the respiratory tract.

What truth is there in the eight aphorism of the fifth book of Hippocrates? "When in pleurisy the chest does not become free from fluid in 14 days an empyema is formed." It is undoubtedly true that the longer a patient has had a pleural effusion the more likely it is to be purulent. The vitality of the serous membrane is diminished, its obstructive power is lessened, and organisms pass more and more freely from the lung into the pleura. Thus the aphorism has a basis of truth, but how about those cases of empyema common in children and occurring, though less often, in adults in which an empyema is clearly of only a few days' duration? A large proportion of these, like that of the seventh case which I described, will be found to have followed a lobar pneumonia of greater or less extent and some are, of course, associated with tubercle.

Here I ought to note that lobar pneumonia in children is often certainly present though no absolute dulness can be discovered and no bronchial breathing heard. One listens day after day expecting physical signs and sputa are not to be expected in a child. The temperature continues high and the breathing rapid. It is impossible to clear the mind from some anxiety lest the case should prove to be one of miliary tuberculosis—in which physical signs are often long in appearing—but on the sixth or seventh day the temperature falls in a few hours to below normal and does not rise again permanently, though sometimes ascending a degree or two on the next day, and the acute condition is past—the case was one of lobar pneumonia. The physician in the times before Laennec would have made the diagnosis of pneumonia (peri-pneumonia as they called it then) without hesitation. Our accurate method of observation by percussion and auscultation makes us doubt in our interpretation of the general aspect of the case. We are right to hold judgment in suspense but are reminded that diagnosis where the lungs are concerned should never be made upon physical signs alone but should be the result of a full consideration, not only of the physical signs but with them, of the patient's general symptoms, in which I include any laboratory observations that can be made, of the history of his illness, and of his own history.

Tubercle most often reaches the pleura from the lung but sometimes seems to find its way from the abdomen, perhaps directly through the diaphragm. A girl, aged four years, was admitted into my ward on June 13th, 1904. She had had measles and whooping-cough at the age of two years. In January, 1904, her abdomen began to swell and in April she had wasted a good deal. On admission the physical signs in her chest were normal; it was repeatedly examined for several months and they continued so. Her abdomen was greatly distended with fluid and measured 24 inches at the umbilicus. On July 5th the swelling had increased and 3 pints 16 ounces of fluid were let out by paracentesis. On July 17th the girth was 27 inches and 5 pints 4 ounces were let out and on Sept. 9th six pints. Laparotomy was then performed by my colleague, Mr. W. MacAdam Eccles. Much fluid was let out and in the right iliac region a large mass of tuberculous glands was found. The disease was undoubtedly tuberculous peritonitis. The distension returned and on Oct. 14th 7 pints 15 ounces of greenish fluid were removed by paracentesis. The child after tapping seemed fairly well, ate well and slept well, and there were no physical signs of disease in the lungs. On Dec. 2nd five pints were removed and on the 22nd six pints. On Jan 16th, 1905, 5 pints 14 ounces were removed. Scattered subcrepitant râles were now audible at the left base—none on the left side. On Feb. 13th 4 pints 14 ounces were withdrawn by paracentesis. On March 2nd a well-marked friction sound was heard in front below the fourth rib and in the right axilla. Breathing sounds were feeble. The friction sound continued. On April 1st paracentesis was again performed and six pints were removed. On April 6th the friction sound was audible over nearly the whole right front of the chest. On April 20th five pints were removed from the abdomen. Friction over the right chest was plain. Bronchial breathing and bronchophony were now to be heard at the right apex behind. From about the middle of March, but not until then, the child seemed going downhill. From Sept. 24th to March 14th the temperature was generally normal or subnormal; after that it often reached 100° or 101° F. It was twice 102° during six weeks and then generally 101° and once 103° during the last fortnight of her life, which ended on May 8th. The post-mortem examination showed extensive tuberculous peritonitis, tuberculous pericarditis, and tuberculous pleurisy on the right side. The lungs contained no tubercle. In this case, therefore, the right pleura seems to have been directly infected from the peritoneum and the pericardium probably from it. The observations of this progress made during life were confirmed post mortem.

Another case of pneumococcal infection was that of a child, aged 11 months, who was admitted in a collapsed state into one of my wards this week and who sank rapidly. A part of the upper lobe of the left lung was solidified and on its pleural surface there was a fine granular deposit. The pericardium was coated with an abundant deposit of lymph and the pericarditis was proved to be pneumococcal. Here it is probable that the infection was from the lung to the pericardium. Vomiting and diarrhœa were present but no evidence of infection in or around the alimentary canal was discoverable. I have placed on the table specimens from this case, the lung and the heart.

The pathological conclusion which I wish to draw is that, excluding traumatic cases, we are to think of pleurisy as an indication of some general morbid condition, and most often of some bacillary infection, and not to imagine that it is a mere affection of the pleura. Have we, in one case, to deal with a manifestation of tuberculosis at a stage when, if recognised, treatment is almost certain to be curative? This may be so not only in the empyemata of children but also in pleurisies of young adults with clear fluid.

The pain in the side which has long been observed, perhaps even before Laennec and auscultation, as a sign preceding the full development of phthisis is a pleurisy, but generally one associated with a permanent tuberculous settlement in the lung and with adhesion. When we find a localised friction sound continuing for many weeks without much advance such tuberculous pleurisy is sure to occur to us, though I remember a promising physician and medical teacher whose life might have been saved had he accepted the view that this was the true nature of a local pleurisy which during several months now and then interfered with his work. A pleurisy with a large clear effusion which is probably rapidly relieved by paracentesis is often dismissed without a thought of tuberculosis.

The conclusion of my observations on the pathology of pleurisy is that we are to take the symptoms and physical signs of pleurisy as evidence of the existence of a condition affecting an important area of the respiratory tract and not merely the covering of the lung.

The diagnosis of pleurisy seems simple; the physical signs—dulness on percussion, immobility, absence of vocal vibrations, and absence of breathing sounds—are well known to everyone; the symptoms—pain on coughing or drawing breath, a marked decubitus sometimes on the affected and sometimes on the unaffected side but generally marked, and rise of temperature—are plain enough, yet I remember a very acute physician saying that he was inclined to estimate the clinical merit of his house physicians by the number of times they did not fail to recognise empyema in children and the number of cases in which it is difficult to be quite certain that a pleurisy is not present or that it is are many. As regards adults I believe the method likely to lead to fewest errors is to begin with the symptoms. The aphorism of Boerhaave (875) is at once an admirable example of his lucidity of statement and a complete collection of the important symptoms of pleurisy.

> A pleurisy is said to be present when a person labours under an acute continual fever with a hard pulse and a sharp pricking inflammatory pain in the side which greatly increases in the act of inspiration, but abates *in expiration, or by holding the breath; also becomes* milder when the breathing is performed by the abdomen chiefly, without *moving the breast*; there is likewise a cough, which is almost incessant, and which exciting great pain is therefore stifled or suppressed by the patient.

The severity of the pain and the way it is produced are striking. The suddenness of its onset is often remarkable. Juvenal says people used to attribute it to the blow of a stone or a dart cast by the gods at the sufferer.

> Præterea lateris vigili cum febre dolorem
> Si coepere pati, missum ad sua corpora morbum
> Infesto credunt a numine: saxa deorum
> Haec et tela putant.

The pain of herpes zoster is as great but it is not made worse by drawing breath and in most cases its onset is less sudden. It is generally preceded by some irritation or uneasiness in the affected area.

The intense cardiac pain which sometimes occurs in children with valvular disease in whom there is no direct evidence of pericarditis or proof of pericardial adhesion, extending as it does over a surface corresponding to a considerable part of the chest wall, may sometimes seem difficult to distinguish from the pain of pleurisy. It often lasts long enough to be more than a mere spasm. A boy, aged seven years, lately in one of my wards had after rheumatic fever with severe endocarditis many such attacks which were sometimes prolonged for half an hour. He was first uneasy, then screamed aloud with pain, and seemed throughout in the greatest distress. After many weeks he ceased to have any more such attacks and was able to go to a convalescent home, with valvular disease but without distress and in fair general condition. In such a case the position of the patient sitting up and leaning forward is unlike that assumed when pleural pain is severe and prolonged observation will always enable one to be sure that the distress has to do with the heart and not with the lungs.

It has often been observed that the onset of the disease is more violent, the rigors more severe, and the temperature higher in lobar pneumonia than in cases of pleurisy even with large effusion. While in lobar pneumonia on the first day the temperature may rise to 103° or even to 104° in a pleurisy it may often not rise much above 101° with a corresponding diminution of general disturbance. Such were the conditions in the first of the cases I described at the beginning of this address. The infection in lobar pneumonia and in such pleurisy is yet in many cases undoubtedly the same. I believe that the cause of the difference is the strength of the infection; the numbers of the force of bacilli which is established in the respiratory tract. Cases of pleurisy now and then occur in adults in which, though no lobar pneumonia is discovered, the onset is severe and the rise of temperature great but in most such cases the pneumococcus is abundant in the lung as well as in the pleura. The pneumococci, as also tubercle bacilli, are difficult to discover in a copious serous effusion and they live with difficulty there, so that there is no such marked change of temperature or crisis when their development comes to an end. This is at least a plausible explanation of the difference in the clinical phenomena of lobar pneumonia and pleurisy not incompatible with the fact that both are the result of pneumococcal infection.

The cough is a symptom often little noticed in simple pleurisy; the patient tries to suppress it in order to avoid pain and the medical attendant concentrates his observation on the relief of the pain. Yet sputa are generally present, however scanty, and aid the differentiation of pleurisy from lobar pleuro-pneumonia. The expression "a dry pleurisy" conveys often the idea that a pleurisy with effusion of lymph but without fluid as well is present, but the expression was used long before the presence or absence of fluid could be proved by percussion and auscultation and referred to the presence or absence of sputa. Boerhaave, in his 867th aphorism, says: "Whenever, with these *symptoms*, there are also incidental or symptomatic spittings from the lungs, the pleurisy is then said to be *humid* or *humoral*, but when discharges by spitting are absent it is then termed *dry*." As to the physical signs, where a great deal of lymph is present and little fluid, bronchial breathing may be heard and vocal vibrations be felt, as I learned in the case of a man at St. Bartholomew's Hospital who died soon after admission and whose physical signs thus pointed to lobar pneumonia, though no pneumonia and only pleurisy was present.

The aspirating needle does not always convey the truth. A patient in St. Bartholomew's Hospital had complete dulness up to the third rib on the right side and some depression of the liver. She was tapped in the fourth interspace and three pints of pus let out. She sank rapidly—it was a huge hepatic abscess which had been tapped. A child had signs of pleurisy on the left side and was tapped and pus let out At the end of a week it died The trocar had reached a purulent pericardial effusion but a contemporaneous empyema at the base surrounded by adhesions had been passed over and remained undrained An effusion containing blood is generally present in diffuse pleural new growth but blood is occasionally present in pleurisy without new growth and may depend on some special form of infection

The diagnosis of pleurisy consists of two important parts—the determination of the situation and physical effects of the effusion which may vary from a little roughening on a small area of lung surface to several pints of pus, and the determination of the nature of the infection Both parts of the diagnosis present many difficulties and both should be fully considered in every case

The treatment of pleurisy may seem to be a subject on which nothing new can be said, yet the difficulties are not few In the seventeenth and eighteenth centuries everyone except the rash and presumptuous Van Helmont agreed that the patient must be bled but there was much controversy as to whether the vein ought to be opened in the arm of the affected side or of the opposite side Hippocrates, Galen, and Celsus were said to recommend the affected side, Aretæus, Ætius, and Cœlius Aurelianus were of the contrary opinion For over 800 years, between the eighth century and the beginning of the sixteenth, or, to put it in another way, during the whole period in which the "Continent," or "Hiber Elhavi," of Muhammad Ibn Zachariah el Rázi, more often called, Abu Bekr or Rhazes, was a text book of authority, it was almost the invariable practice of physicians to have the patient bled from the arm of the opposite side to that on which the pain was Then came the revival of learning which opened so many books of the ancient world to the West Homer was printed at Florence and all the treasures of Greek philosophy and literature were placed before men—Plato, and the tragedians, and Thucydides and the true texts of Hippocrates and of Galen, and amidst these great contributions to the intellectual advantages of all Europe it was discovered that Galen advised bleeding from the arm of the affected side Dr Peter Brissot in Paris, early in the reign of our Henry VIII, pointed this out in lectures, used it, as is said, with advantage, and persuaded many physicians to adopt the method of Galen The reform

t with opposition and the dis-

was carried on in the University

against Galen's view Charles V

was asked to forbid as king and emperor the practice of bleeding on the affected side For nearly 200 years the controversy continued and probably traces of it may be found in medical writings or in popular belief up to the time when, to the great advantage of patients, bleeding was altogether given up in pleurisy

In the very earliest times, however, we find that a form of treatment which persists to this day was in use the application, namely, of warm fomentations to the painful side Hippocrates recommends a bladder containing hot water or a warm sponge or bags containing heated bran or barley meal moistened with vinegar

The island of St Bartholomew, in the Tiber, where now stands the church of St Bartholomew, was once occupied by a temple of Æsculapius, the monolithic pillars of which are now those of the church, a building of which the tower belongs to the eleventh century Here, as Hieronymus Mercurialis states in the first book of his "De Arte Gymnastica" (Book I, cap i), published in 1573, a marble tablet was found with a Greek inscription relating how one Luke, having a severe pleurisy, was advised in the Temple of Æsculapius to take ashes from the altar, to mix them with wine, and to apply them to the painful side, a course which he followed and was cured and so put up this clinical record and received public congratulation External applications are a better way of relieving the pain, in my opinion, than the u e of morphine and if skilfully applied seldom fail to do so quickly

Paracentesis is now universally practised in England but there are several matters in connexion with it which deserve a good deal of consideration

there from a large non purulent

in the light of experience see

to occur I have only known one death directly due to a large non purulent effusion The patient was a man with aneurysm of the aorta who had been kept on his back for some three months One afternoon he suddenly sat up in bed and almost immediately died It was naturally imagined that his aneurysm had burst within his chest The necropsy showed that this was not the case and that he had a large unsuspected clear effusion into his left pleura and that the sudden change of position was the probable explanation of his death On the other hand, I remember a woman who with five pints of fluid in the right pleural cavity walked to the top of a lofty staircase without injury The long time which often elapses before the breathing sounds and the percussion note are normal on the affected side in cases of pleurisy of short duration with clear effusion suggests that a more real danger is the permanent binding down of the lung or its collapse Such collapse when complete constitutes a most serious and long continued danger to the patient His pleura may become a huge abscess sac, as in the case of the chalky effusion already mentioned Another example was that of a private in the Guards, aged 24 years, whom I had under my care and who had had such a sac for about seven months before admission to the hospital His lung was completely airless, bound up against the vertebræ near the root He died exhausted after an operation for his relief A man, aged 22 years, after an attack of pleurisy expectorated in the last week of May, 1892, a pint of pus This was immediately followed by left pneumothorax but after resection of the tenth left rib he recovered with a good deal of contraction of the side

The case of Frederick Prince of Wales, son of George II, as it is related in the diary of his friend, Lord Melcombe Regis, illustrates another danger associated with empyema, suffocation, after it has burst into the lung

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off
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pain in his side 14 At Leicester House The Prince asleep—twice blooded and with a blister on his back as also on both legs that night 15 The Prince had a plentiful evacuation and was out of all danger 16 The
Leicester House.
then was better a
half an hour 20
of Commons and
House at three o c

A large clear effusion is best got rid of by paracentesis and if a second large effusion occur it should be let out and then generally the patient will recover Now and then a third tapping is necessary A man, aged 32 years, came under my care in St Bartholomew s Hospital with a history of some signs of pleurisy for two months The lower part of the right side was dull and 52 ounces of clear fluid were let out In about five weeks the pleura again contained fluid, 84 ounces were let out and a fortnight later 75 ounces, and then there was no further effusion He became convalescent and had no dyspnœa when he left

Paracentesis is not always without dangers A man in my ward at St Bartholomew s Hospital, aged 59 years, who had a dense new growth in his liver mesentery, pleuræ, and kidneys, and within his cranium (right frontal sinus) was tapped several times for ascites and after three months had a large effusion in the left pleura His dyspnœa increased so much that paracentesis was performed in the ninth left intercostal space A few ounces of clear serum came out followed by serum more and more blood stained and then by pure blood The cannula was withdrawn, a quarter of an hour later the patient s pulse was very feeble and grew worse and he died an hour later The post-mortem examination showed that the intercostal artery in the ninth space had been punctured and the left pleura contained 20 ounces of blood clot and 36 ounces of dark blood stained fluid and liquid blood This is the only example of death from wounding of an intercostal artery in paracentesis thoracis which I have seen Another death from hæmorrhage into the pleura was of a different kind The patient was a carman, aged 28 years, who was admitted on Feb 16th, 1905 and who had recently had pneumonia of the right lung Nearly the whole right side was dull except the apical region The patient looked extremely ill and his complexion was dusky His temperature was never normal and every evening rose to 101° or 102°. On Feb. 21st a drachm of pus containing diplococci (encapsuled) was withdrawn from the right axilla. Next day an inch of the sixth rib in the mid-axillary line was excised and two and a half pints of pus came out. More blood than usual appeared. On succeeding days the discharge was free but the temperature continued to be raised. On March 10th a piece of rib was excised in the post-axillary line to obtain better drainage. No further collection of pus was discovered. On March 15th much bleeding occurred and the openings were plugged with gauze. Whenever the plugging was removed bleeding took place. The patient also coughed up much bright-red blood. These conditions continued till March 26th when he died after a profuse hæmorrhage. The post-mortem examination showed that the hæmorrhage was from the lung which had broken down over a considerable surface and which was probably in a condition of necrosis when the empyema was first tapped.

With these rare examples I will conclude this collection of observations on pleurisy. As regards its pathology the propositions which I have endeavoured to maintain are the following. 1. That, apart from injuries, pleurisy is to be regarded as a part of a condition which has generally begun in the respiratory tract, but sometimes in the pericardium (especially in rheumatic fever), and now and then in the peritoneum, and that the origin ought always to be carefully investigated. 2. That empyema is a frequent result of lobar pneumonia and also of tubercle. 3. That large non-purulent effusions are due to pneumococcal or tuberculous affection. 4. That tubercle reaches the pleura from the lung in most cases and in a few from the peritoneum.

As regards diagnosis I wish chiefly to insist that it should take a wide survey of the origin of the disease and not be confined to the interpretation of physical signs. As regards treatment I agree with those who are in favour of letting out all large serous effusions and all empyemata and in the latter case I am more and more inclined to favour the method of resection of a piece of rib as procuring better drainage and therefore more speedy recovery.

There is another and more general principle of treatment which follows from what I have said as to the pathology and diagnosis of pleurisy. It is that the patient should be kept under observation till he may be considered free from the condition of which the pleurisy was the most prominent manifestation. It is in this direction of encouraging prolonged observation that we may expect modern pathology to affect treatment, greatly to the benefit of patients. Almost the only acute disease in which at present we keep patients long enough under control is enteric fever. In rheumatic fever I am convinced that rest in bed in all cases for from three to four weeks after the temperature is normal would lead to a diminished percentage of permanent valvular disease and that it is only by a prolonged temperature chart that we can arrive at certainty as to the cessation of the endocarditis. In pleurisy regulations as regards fresh air and diet followed out in all cases would often prevent the development of permanent tuberculosis later in life.

"Principiis obsta" is an often repeated exhortation. Every year of medical progress gives us more opportunities of applying it. Treatment is necessarily prolonged in the particular illness but attacks of illness may thus be made fewer in number and the melancholy end of the verse is never experienced—

"Sero medicina paratur,
Cum mala per longas convaluere moras."

SOME NOTES ON PLAGUE.

BY ALEXANDER M. ELLIOT, M.B., C.M. EDIN.,
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DURING the past few years I have come in contact with plague in nine different districts in India. Close on 3000 cases have come directly under my actual control and about another 5000 have come indirectly under my observation. This disease has so far baffled every effort to stamp it out. It has upset all laws that govern most diseases. It has shown a variability in type, in the manner of its rise and fall, and in its choice of climate and soil that no other disease can lay claim to.

Plague is caused by a specific micro-organism, the plague bacillus, which shows a pleomorphism unique amongst bacilli. This was discovered by Kitasato in 1894 and by Yersin about the same time. In young buboes it is found in almost pure culture, but as suppuration supervenes the bacillus begins to disappear and when suppuration is fully established the bacillus is seldom found. Personally I have never found it in fully suppurating buboes. This disappearance in the above circumstances is an interesting fact and will be dealt with subsequently. The bacillus is also found in the internal organs. Excluding the lymphatic system I find that it occurs in greatest numbers in the spleen, then the liver, the cavities of the heart, the lungs, and lastly the kidneys. In all types of the disease the spleen comes easily first. In pneumonic cases of course the lungs are highly congested and full of bacilli, but in other types the lungs are not infected to any great degree. In what has been called the "alimentary form" I have found the bile in the gall-bladder full of plague bacilli. Smears from the spleen or the liver show the bacillus in the form of a short organism with rounded ends; in the same smear one finds cocci and diplococci-like forms. Motility is a character that is denied this bacillus by many. My first note as to its motility was made in 1900. I have since that date examined so many specimens in which marked motility was present that I am certain that the plague bacillus does at times present this character. I say "at times," as it is not in every specimen that I have found motility. It is more noticeable in those cases which I mark fulminant, that is, which die within 24 hours from the onset. So far I have not succeeded in staining flagella. Smears from human organs do not show a bipolar staining of all the plague bacilli, but in rats dead from plague it is more usual to find the greater number of plague bacilli giving the bipolar character. Even this character, however, is not uniform, for bacilli are met with showing all degrees of polar areas. The bacillus does not stain when treated by Gram's method, whether it be taken from a bubo, from an internal organ, or from the blood.

Bitter places the plague bacillus amongst the "septicæmic group." Of the correctness of this there can be little doubt, I think. Septicæmic organisms have the following general characters. When a susceptible animal is inoculated with a minimum quantity of the bacterial culture the organism passes at once into the blood and commences to grow with great rapidity; it finds its pabulum there and it produces a septicæmia. At times inoculation does not result in an immediate invasion of the blood stream. The bacillus requires some foci in which to develop. From these foci the toxic products enter the blood and it is not until a few hours before death that the bacillus is found in the blood. This is really, first, a toxæmia. Examples are supplied by anthrax and by plague. There are all degrees of susceptibility. Commencing with the most susceptible animal, after inoculation of a minute quantity there is no local reaction and the bacillus seems to pass directly into the blood stream but a point is soon reached where a local reaction on the animal's part occurs. A battle takes place between the invading bacillus and the preservative elements present in the animal. The invading forces gain the day, the preservative elements are overcome, being present in a small degree, a general infection takes place, and death is the result. At last a group is arrived at in which this organism so deadly for others is no longer so for this. It only produces a mild local reaction or perhaps no reaction at all. So it is with plague. Rats show susceptibility in the highest degree. No local lesion can be found in the animal, which dies from a virulent septicæmia. As regards man's relationship to plague, I have come to the conclusion that in man there are two degrees of susceptibility, which degrees depend mainly on the source of infection. One of them is that susceptibility in the highest degree which produces pneumonic and septicæmic cases. Secondly, there is a degree of susceptibility which produces the bubonic cases. This is the stage characterised by local reaction and toxæmia which may end fatally or may go on to recovery.

A peculiarity in plague is that when that point is reached in which local reactions are necessary it does not happen, as in diseases caused by other septicæmic microbes, that the local reaction takes place at the site of inoculation but that it is the nearest group of lymphatic glands which shows the reaction. The seat of election with plague is the lymphatic system. In every case of plague one or other group of glands is infected, no matter how short the history—be it only 20 hours. I give two cases from my notes. The first of these patients was a watchman, aged 20 years. He was on inspection parade at 8 A.M. but did not report anything wrong. I inspected the lines at 9 A.M. and saw this man but he made no complaint. At 10.30 A.M. I returned to the hospital and was told that a watchman had been admitted a few minutes previously. The house surgeon could not make much out of him so he asked me to see him. He was a strong healthy young man in the same condition as when I had seen him on my rounds. When asked why he had not "reported ill" before he said that beyond feeling a little giddy he was perfectly fit for duty so he thought that it might pass off. His temperature and pulse were normal, his tongue was clean, and he had no pain anywhere. I was on the point of sending him back to duty but as his eyes seemed somewhat heavy and plague was epidemic at the time I took him in for observation. At 12 noon his temperature was 101° F. At 3 P.M. it was 106° and he was dead at 3.30 P.M. At the necropsy numerous small petechiæ were found all over the mesentery, the small and large intestines, the abdominal surface of the diaphragm, and the heart. The mucous membrane of the gastro-intestinal tract was greatly congested. The mesenteric glands were enlarged. The spleen and liver were of normal size but congested; the gall-bladder was distended. The axillary and inguinal glands were normal. Smears taken from the spleen and mesenteric glands gave almost pure cultures of plague bacilli. Similar results were obtained from the liver and the gall-bladder, the latter having other bacilli. Blood taken from the heart showed bacilli but not many and smears from the lungs were practically negative, very few bacilli being found in them.

The second patient was a syce, aged 36 years. He was working at 8 A.M. and came to the hospital at 9.30 feeling sick and giddy. His temperature was normal, his tongue was coated, his eyes were bright, and his pulse-rate was 80. At 12 noon his temperature was 104°, his pulse-rate was 140, and he died at 4.30 P.M. The post-mortem appearances were almost the same as in the last case. These men were of different caste and lived four miles apart. In a series of over 400 necropsies I have never yet found one case in which some group of glands was not infected.

As stated above, animals are susceptible to plague in varying degrees, rats coming first, then guinea-pigs, and so on. I wish to mention here some experiments made by me on some domestic animals. My reasons for this are that in an article published in 1903 Dr. Simpson emphatically states that fowls, pigeons, ducks, and turkeys are not only susceptible to plague but are a means of conveying it to human beings. The point is one of much importance and one that ought to be settled. Throughout the past five years I have kept careful note as to any abnormal death-rate amongst domestic animals before, during, or after a plague epidemic. In no district could I get any information that might lead one to suppose that fowls, pigeons, or ducks contracted plague. In 1900 I experimented on pigeons with negative results. In 1903 I repeated the experiments on a larger scale. I took one dozen healthy pigeons and half a dozen fowls. I kept them shut up in coops for three weeks so as to accustom the birds to their close quarters. Then I commenced as follows. Into the peritoneal cavity of two pigeons I injected one cubic centimetre of a 24 hours culture of plague bacilli. The same quantity was injected into the crops of two others. I repeated on four other birds the same but increased the dose to three cubic centimetres. With the fowls I injected two cubic centimetres into the peritoneal cavity of three. To one I gave two cubic centimetres beneath the wing and two more got three cubic centimetres into the crop. In each case I made control experiments with rats and guinea-pigs. All the control animals died from plague within five days. Daily I examined the droppings for any signs of what might be plague bacilli. At the end of three month all the birds were still alive, not one of them having shown any symptoms of being incommoded by the inoculation. After seeing the Hong-Kong report I decided to make further observations. I commenced with 12 pigeons and 12 fowls. To some I gave two cubic centimetres, to some as much as five cubic centimetres, and two fowls I fed at odd times on plague-infected rats and portions of organs. It is now 12 months since these birds were inoculated but they are all alive to-day and some of the pigeons have been breeding. None showed symptoms of indisposition. One pigeon drooped for a few days about three weeks after the inoculation but was never off its food.

I find that the various commissions which came out to India place pigeons amongst those animals which are not susceptible to plague. The following are some septicæmic diseases in the lower animals which require to be kept in mind by those who are on the watch for plague.

1. *Septicæmia hæmorrhagica.*—This disease is also known as fowl cholera, hog cholera, or rabbit septicæmia. The specific bacillus is widely distributed; it is found in impure water and in putrefying infusions. Its morphological characters are as follows: it has short, rounded ends; it is 1 μ to 4 μ long and 0·6 μ to 0·7 μ broad; it occurs in pairs, singly, or in chains of four or more; staining is usually bipolar; it does not stain when treated by Gram's method; it is non-motile and non-liquefying; it grows best [illegible]

2. *Duck cholera.*—The bacillus of this disease is non-pathogenic for fowls and pigeons. Its behaviour on staining, &c., is similar to that of the preceding bacillus.

3. *Hog cholera.*—The characters are the same as above, except that the bacillus is motile and the colonies are larger.

4. *Swine plague.*—The bacillus exhibits bipolar staining; it is flagellated and motile: it does not stain when treated by Gram's method.

5. *Bacillus agrigenus.*—This organism is found in soil and is similar to that of fowl cholera.

On comparing the above organisms with the plague bacillus it is obvious that any of them, and especially those in Group 1, might be easily mistaken for the plague bacillus. None of the above give stalactite formations but the plague bacillus does.

Cats are susceptible to plague and may convey it to man. Information was brought that plague had broken out in a village some six miles off where there had been a slight outbreak two years previously but none since. I rode to the village and was told that two cases had occurred in the same house which was first infected two years ago. I was also informed that no rats had been found in the village. One of the villagers said that his cat had not been well for two days and that it had a swelling in its neck. This cat, with which was a kitten about seven weeks old, had a swelling on the left side of its neck which was tender to the touch. The post-mortem appearances were as follows. The submaxillary glands were enlarged and inflamed and one was breaking down in its centre. The surrounding tissues were infiltrated with a sero-sanguineous fluid. Smears from the glands and surrounding parts showed staphylococci, streptococci, and numerous bacilli which gave bipolar staining. The spleen was congested and smears taken from it (but not the blood from the heart) showed the bipolar stained bacilli. Plates were made and a bacillus was isolated which corresponded in every way with the characters shown by the plague bacillus. The bacillus was motile but not actively so. A guinea-pig inoculated with one cubic centimetre of a 24 hours' culture died in four days from plague. A rat was inoculated with plague from a human case and died in four days. Its internal organs were given to a third cat. Two days after eating this material the cat showed signs of violent gastro-intestinal disturbance. Its stools were slimy, copious, and showed bacilli with bipolar staining but I was unable to isolate them. The cat died in ten days and it was then found that the whole gastro-intestinal tract was much inflamed with here and there patches of ulceration. All the internal organs were congested and the kidneys had small hæmorrhages into them. The bladder was distended and in the urine I found bacilli giving bipolar staining. Cultures inoculated into rats killed these animals in two days and similar bacilli were obtained from their dead bodies.

Some three months afterwards I was asked to see a man who was suffering from plague. He lived alone and his house was several hundre [illegible] He died and on the next [illegible]; it died during the night and the [illegible] and the characteristics of the bacilli found in it were similar to those mentioned in the above case.

The most important thing to discover is the behaviour of the bacillus during the quiescent stage. In 1900 the following query was made in my notes. "Does the plague bacillus exist as a saprophytic microbe as well as a parasitic one? Would this account for its recrudescence?" Recently the following experiment was made. It is given for what it is worth.

In November, 1904, a case of plague occurred in a miner's hut. These huts measure 9 feet by 12 feet by 10 feet. They are made of tatties on a frame and have a zinc roof. I saw the hut and its occupants at 11 A.M. At 2 P.M. the body of the wife of the man who occupied this hut was brought up for post-mortem examination. The history of the case was to the effect that she had vomited once or twice during the previous night and felt giddy. In the morning she did not feel well but kept to her work. She had died from plague. The flooring of the hut was dug up to the depth of six inches. This was brought to the laboratory and placed in a tin-lined box measuring 4 feet by 2 feet by 3 feet. One foot of wire netting was nailed on in front. The soil was then left untouched for one month. Then four rats were caught from an uninfected area and placed in this box. They were fed on boiled gram. For three weeks all went well. Then one morning I found that the smallest of the rats was dead. In three days' time another had died and in 12 days from the death of the first the four rats had died. They all died from plague. Two days after the last death a guinea-pig was placed in this box; in *five days it had died from plague. I am not yet prepared to* discuss this matter. I hope to do so at some future date when I may have further material to deal with.

In the communication of plague to a susceptible individual the channels of infection are: (1) the skin and mucous membrane; (2) the alimentary canal; and (3) the respiratory organs. Before dealing with these I would like to note a few facts about the lymphatic system. There are two sets of lymphatics—namely, the superficial and the deep. In the limbs those of the superficial set are more abundant upon the inner and flexor surfaces than upon the outer and extensor surfaces. They are especially numerous at the junction of the skin and mucous membranes. The deep set accompanies the blood-vessels. There is no communication between the two sets except where they empty into the same node—i.e., gland. They ultimately end in veins. The lymph mixes with venous blood. The framework of the lymph nodes or glands is adenoid reticular tissue having in its meshes irregular masses of leucocytes. This tissue presents several different forms according to the degree of compactness, some being firm, well defined, and encapsuled, some being diffuse, and some in an intermediate stage. The following varieties may be specified. 1. Diffuse lymphadenoid tissue is found in the mucous membrane of the intestine. It is a mere network of adenoid reticular tissue inclosing leucocytes. 2. In the submucous or subserous membrane there are small distinctly defined masses which are the solitary glands of the intestine. 3. The agminated glands are each a group of two. 4. More distinct collections of lymphadenoid tissue with a well-marked capsule are seen in small depressions of the mucous membrane in the tongue, the tonsils, and the pharynx. 5. Unlike the above, the lymph nodes are not connected with a mucous surface, but have a distinct capsule and occur in the course of lymph vessels.

All nodes, except the superficial inguinals, are situated beneath the deep fascia though not under its immediate covering. Each node or group of nodes receives its lymph from fairly-well defined areas or parts but at the periphery of these areas there is well-marked inosculation of the neighbouring vessels. Members in each group communicate and each group has communication with other groups. The nodes or glands of the lower extremities may be classified as follows, according to their region: (1) the superficial inguinal, (2) the deep inguinal, (3) the popliteal, and (4) the gluteal. The superficial inguinal glands are divided into two sets—namely, the superior or oblique and the inferior or vertical. The superior or oblique consists of three groups—the external, the middle, and the internal. They collect lymph from the integuments of the buttocks, from the skin round the anus, from the lower and outer part of the back above the buttocks, from the penis and the abdomen below the navel, from the distal portion of the urethra in both sexes, and from the vulva and lower part of the vagina. The scrotum and superficial portion of the perineum often drain into this set. The inferior set is situated at the saphenous opening. Lymph flows to this set from the superficial part of the thigh, from the entire leg and foot except the outer side, and from the scrotum and integuments of the perineum. The superficial nodes discharge partly into the deep and partly into the external iliacs. The popliteal nodes collect lymph from the outer side of the leg and foot and the same parts of the deep structures. The deep inguinal nodes lie round the upper part of the artery and vein and get their lymph from the superficial nodes and deep structures of the greater part of the leg. The gluteal nodes collect lymph from the deep parts of the buttocks. The groups of nodes or glands in other parts of the body need no special mention for my purpose.

Referring to my notes I find that inguinal buboes occur more frequently in adult males than in women or children. My own observations also give a much higher percentage of inguinal buboes as primarily occurring in the superior or oblique group of inguinal glands. Once the disease is established the inferior, or what is termed the femoral, group will be found to be infected. I have examined many statistics made by native hospital assistants, which place the femoral bubo before the inguinal. I have asked some of these gentlemen to keep records for me and unknown to them I have made my own observations. I prefer my own observations. I find that inguinal buboes are commoner in women than in children, and in women it is the superior group that shows the higher percentage of primary infection. With axillary buboes women show a higher percentage than *either men or children, but here children approach them* very closely. With cervical buboes—that is, buboes occurring above the root of the neck—the greatest percentage occurs amongst children; women come next, and men last of all. Why should one group of glands be more susceptible in men than in children? Why should all groups not suffer alike?

One of the first things that fixed my attention on landing in India was the peculiar posture taken by a native man when sitting. His perineal region and adjacent parts are brought in very close proximity to the ground. His loin cloths are constantly sweeping up dirt and other matter from the soil. The skin of the fork and on the internal parts of the thigh is in a more or less sodden condition. Tinea circinata is found in 90 per cent. of the natives, especially in the scrotal and inguinal regions. It is the habit of many castes to have the pubes shaved; this renders that part liable to cuts. All these points invite attention to this region rather than to the foot. A native's foot and leg are, moreover, provided by nature with a covering that would defy most insects. Women and children when sitting do not assume the same position as the men. Women are much more on the move, they have not the time to squat down, and when they do it is not done exactly as a man does. Children, again, may squat for a few seconds with their perineal region close to the ground, but their usual state is one of movement, they are either running or crawling about. If the leg and foot are the regions most liable to infection why is there not a preponderance of buboes in the inguinal region amongst women and children in whom there is a more delicate condition of the skin covering the leg and the foot than among the men? May it not be due to the above facts? There are various other causes which need no detailing to the medical mind that render those regions more liable to infection.

I have said that axillary buboes are more common in women than in men. It is only necessary to look at one group of glands—namely, the pectoral group, that lie along the border of the pectoral muscles. They drain an area comprising the mamma and the abdominal surface above the navel. All the groups in this region communicate very freely. The axilla is a spot where dirt can easily accumulate. Profuse perspiration usually goes on there. Amongst some castes the axillary hairs are shaved off or pulled out by means of forceps. This latter performance nearly always leaves one or more bleeding points. The woman's nipple and the surrounding skin are liable to cuts, scratches, or other abrasions. She suckles her children until they are two or three years old; perhaps she suckles one or more during this period. Again, she wears a kind of bolero, close fitting, in most cases far from clean. If she wants to wipe her fingers she instinctively does it on this garment, no matter what she has touched. Here, then, we find reasons that may account for the axillary bubo being commoner amongst women than amongst men.

With regard to cervical buboes the greatest percentage occurs amongst children. Is this to be accounted for by the fact that a child's first instinct is to put all things in its mouth? A child's skin is much more tender and liable to be cut and scratched than an adult's. Why, then, do the inguinal and the axillary regions not show a larger percentage of buboes than the cervical region? I venture to give the above as a possible reason. The mucous membrane is more delicate; there are two periods of dentition; these periods last over several years and it is during these years that cervical buboes are most numerous.

To illustrate the above arguments three cases are given. In the first the scene is a small hut where a man lies on the floor suffering from pneumonic plague. He is expectorating in all directions. Beside him sits his brother or some friend who from time to time wipes the patient's lips with his nether garment or wipes up some of the expectoration that may have fallen near. I have seen him do this with his fingers and then wipe them between his legs. In the course of a week this man had an inguinal bubo; it may be the inferior group but more often is it the superior group that is first infected. In the second case the scene is as above but it is a woman who is ill with plague and her sister or friend sits near. She performs the same kind attentions as the man did but she wipes her fingers under her arms—i.e., in the axilla. In the course of a week she has developed plague with an axillary bubo. In the third case the scene is the same, or it may be in a hospital. A child is crawling round the floor, either sweeping it with a chupattie or picking up odds and ends and placing them in his mouth. In a few days the child has plague with a cervical bubo. I have seen the above happen again and again.

I am of opinion that patients may contract plague through the alimentary system—namely, by means of contaminated food. If a rat is fed on some plague infected material it dies from plague. If some gram rubbed up with the juice expressed from a plague gland or spleen is given to a guinea-pig the guinea-pig dies from plague. In the case of the human subject no such direct evidence is obtainable, but from several post-mortem examinations on patients who died within 24 hours from the time of attack, patients in whom the only symptom was an acute diarrhœa coming on suddenly and ending fatally in a few hours, one is driven to believe that the alimentary canal is a source of infection. If it is so for rats and guinea-pigs why should it not be for man? Post-mortem examinations on such cases show a marked injection of the solitary glands in the small intestine. Plague bacilli are found in these glands and the neighbouring mesenteric glands are likewise greatly enlarged and injected with plague bacilli in them.

When the respiratory system is considered it is more difficult to account for the primary channel of entrance. Cases of pneumonic plague are not met with in every epidemic. In the same locality one or two years may pass with few if any cases recorded; then the pneumonic type may be the prevailing one in the next epidemic. But in this type no matter how soon death supervenes I have never failed to find the bronchial and mediastinal glands infected.

The above three channels of infection give rise to three types of the disease—namely, the bubonic, the pneumonic, and the alimentary. Either of these may take on a septicæmic form and death occurs from an acute septicæmia. Numerous other types are mentioned in some text-books, but if symptoms are taken as the standard of types the latter can be multiplied indefinitely. On looking at the death-rate in each of the above types one naturally wonders why it should be greater in the last two forms. Are there, in other words, an acute, a subacute, and a chronic form of the bacillus? From the virulent and rapid rise of an epidemic to its mild and gradual decline one is forced into the conclusion that the plague bacillus in its passage from man to man probably undergoes a gradual attenuation, ultimately assuming the chronic form, which may perhaps after a more or less extended period of quiescence take on active and virulent properties. But this will not account for the difference in death-rates.

I am inclined to think that there are two forms of the plague bacillus—namely, the acute and the chronic. The latter continues the disease from one epidemic to the other, while the former gives the three types above mentioned, each type being entirely dependent on the channel of entrance, and the difference in death-rates being to a great extent dependent on the group or groups of glands primarily infected. I think it will be admitted that in bubonic plague the gravity of the disease is greater when axillary and cervical glands are infected than when inguinal glands are attacked. At least it is my experience that, as a rule, inguinal bubonic plague is more likely to terminate in recovery than axillary or cervical bubonic plague. The reason for this is no doubt the position of the inguinal glands. They are further away from the central nervous system, they are more or less isolated, and they communicate with the external iliacs alone. The channels of infection when these glands are the primary seat of infection are few. In the upper region of the body there is a free communication not only between each individual gland but between each and every group of glands, so that as soon as one group becomes infected numerous others in close proximity will become so almost at once. The efferents of all these groups discharge into the right lymphatic duct or into the thoracic duct.

A reference to the notes on the lymphatic system will show that there are five kinds of nodes, arranged according to their density. In other words, there are so many kinds of sieves of varying degree in meshwork. In the intestines there are three sets of glands with open network. There is nothing in these glands to prevent easy transmission of material through them. They have no capsule like the inguinals; they are less compact. In fact, they are sieves with a large meshwork. A person swallows some plague-infected food and the plague bacilli pass at once into the general system, producing an acute septicæmia and terminating rapidly. The plague bacillus is not arrested by these glands, for they are lymph glands, there is no primary toxæmia but a true septicæmia, and the plague bacillus is always found in blood from the finger. As soon as the patient complains of feeling ill evidence of his illness will be found in his blood. It would not be wrong to describe this as septicæmic plague but the chief symptom is a violent diarrhœa, the source of infection is the alimentary canal, and septicæmia is not confined to this type alone, for it may accompany a bubonic attack. Here, again, it is more common to find that septicæmia follows on bubonic plague when the axillary and cervical glands are infected than when the inguinal glands are the seat of the disease. So that leaving out such predisposing causes as low state of health, bad food, overcrowding, &c., I venture to state that the virulence of plague depends to a marked degree on the first group of glands which it has to pass through.

That most important question as to how plague is conveyed from man to man is one that will be dealt with in a subsequent paper. For the present I shall merely state with reference to the relationship of rat and man that we have no authentic evidence to show that previously to a first outbreak [illegible] noted death-rate amongst rats [illegible] that any dead rats were found. [illegible] in these villages dead rats were found before human beings were attacked. I have a record of some 20 villages which I visited immediately on hearing of the first case of plague. No dead rats had been seen and the source of infection was in each case traced to other villages.

With respect to the treatment of patients suffering from plague, cardiac stimulants sum up the whole question at the present moment. There can be little doubt that if the unfortunate native and his relatives could be made to under- [illegible] llow any attempt to rise [illegible] cases of plague would [illegible] arly part of this paper I mentioned the fact that as suppuration advances the plague bacillus disappears. Why does this disappearance take place? Is the presence of stapylococci or of streptococci inimical to the growth of the plague bacillus? If so, would it be out of place to bring about suppuration as soon as a bubonic case is admitted in the wards? I make the suggestion. Arguing on the fact that the plague bacillus belongs to the streptococcus group I commenced to treat early and serious cases of plague with inoculations of antistreptococcic serum. Out of 21 cases so treated there were 13 recoveries. For reasons that need not be mentioned I had to discontinue the treatment, but the results are encouraging and might be tried by others.

In 1902, after the above experiments were made, I came across the following observation in the *Edinburgh Medical Journal* for April, 1806: "Before the army left Syria a great number of soldiers were attacked by plague. It seldom attacked wounded men; and scarcely an instance of man being attacked by it whilst wounds were in a suppurative stage, though many were infected as soon as their wounds were healed." This statement was made more than a century ago—namely, in 1804 by the celebrated French surgeon Baron Larrey, chirurgien en chef de l'armée d'orient.

Champion Reef, Mysore State, India.

THE CHEMICAL EXAMINATION OF THE GASTRIC CONTENTS, WITH AN ACCURATE CLINICAL METHOD OF DETERMINING THE "ACTIVE" HYDROCHLORIC ACID.

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THE attention which is being paid at the present time to the surgical aspect of diseases of the stomach is a sufficient excuse for the title of this paper. During the last two years great strides have been made in the operative treatment of various gastric complaints and there is no doubt that further advances will be made in this direction in the immediate future. It is impossible, for example, to exaggerate the importance of an early diagnosis in cases of gastric carcinoma. The diagnosis is usually deferred until a definite mass can be felt. An operation is then performed but too often other structures are found to be secondarily involved, so that the surgeon must perforce be content with the palliative operation of gastro-enterostomy when an earlier diagnosis might have enabled the entire diseased part to be extirpated successfully. For an early diagnosis to be made it will, I think, be generally agreed that a careful chemical examination of the "gastric contents" is of the utmost importance. It is most essential that the method employed in this analysis should be of rigid scientific accuracy and also of clinical application. Approximate methods are of no value if fine distinctions are to be drawn from the results. The analysis must be of absolute accuracy if advances in the early diagnosis of disease are to be made.

I. "THE GASTRIC CONTENTS."—HOW OBTAINED.

The vomit may be used for the analysis if obtainable. Usually, however, it is better that the patient be given a "test meal" and the gastric contents be drawn off subsequently. It is, I think, advisable that the stomach should not be washed out before the test meal is given. The patient should, however, be kept on a restricted and light diet for a day or two previously so that any temporary dilatation of the stomach may be reduced. For the test meal various combinations have been recommended, some containing large quantities of proteid—e.g., eggs, meat, milk, &c. It will be generally agreed that the test meal should not by its complexity add to the difficulties of the analysis; on the other hand, it should be of such a nature that it will act as a stimulus to the gastric secretion.

It must be remembered that the amount of physiologically active hydrochloric acid present in the gastric contents is of the greatest importance and that this amount can only be determined by a quantitative estimation described below. There is no qualitative test which can be performed in a few minutes for hydrochloric acid when combined with organic bases (proteid, &c.). If these organic bases are not present in appreciable quantity in the test meal then a considerable amount of the hydrochloric acid may be in the free state and capable of demonstration in two or three minutes by Gunzberg's test. Now the presence of free hydrochloric acid is of very great value in diagnosis, since it is almost invariably absent in gastric carcinoma and almost always present in gastric and duodenal ulcer. Hence the test meal should be so chosen that when the gastric contents are drawn off some of the hydrochloric acid may, if possible, be uncombined and capable of immediate demonstration.

In order to decide on a suitable test meal I have performed several experiments. In the first place the delicacy of Gunzberg's test for free hydrochloric acid in aqueous solution was determined and it was found that a dilution of 1 in 100,000 was capable of clear demonstration. The same series of experiments was performed with the addition of fats and carbohydrates respectively, and it was found that these bodies do not sensibly interfere with the delicacy of the test. On the other hand, proteids—e.g., albumin, mucin, albumose, peptone, &c.—and also nitrogenous organic bases as creatine, creatinine, &c., have the property of combining with hydrochloric acid, so that when these bodies are present in considerable amount no free hydrochloric acid can be demonstrated by Gunzberg's test (or other tests for free hydrochloric acid). Thus it was found that a solution of hydrochloric acid of strength 1 in 500 (about the same strength as normal gastric juice) gave after the addition of excess of the above bodies no reaction for free hydrochloric acid. It is obvious, therefore, that the proteids present in eggs, meat, large quantities of milk, &c., will prevent the reaction for hydrochloric acid, though a normal amount may be excreted by the gastric glands. Beef-tea was made, using bovril and other meat extracts. It was found that this combines with a considerable amount of hydrochloric acid owing, not to the presence of proteids, but rather to the amount of nitrogenous organic bases present. Thus if hydrochloric acid is added to the beef-tea to the extent of 1 in 2000 it can just be demonstrated as free hydrochloric acid. Weaker strengths of hydrochloric acid gave no reaction for free hydrochloric acid owing to its complete combination with the organic bases present.

As a result of the above experiments and also from practical experience I have concluded that the following are examples of the most suitable test meals. A pint of weak tea (infused only two or three minutes) with the addition of not more than one ounce of milk and sugar if desired, or a pint of thin arrowroot made with water and about two ounces of milk, sugar being added to taste. Instead of the arrowroot, cornflour, thin gruel, or other carbohydrate food may be substituted. With the above liquid a round of thin buttered toast should be taken. The toast contains dextrin, which is a powerful stimulus to the gastric glands, and the solid particles, by acting as a mechanical stimulus to the pyloric sphincter, prevent the too rapid passage of the meal from the stomach to the intestines. The test meal should be given in the morning before any other food is taken and drawn off in an hour and a half.

In withdrawing the gastric contents it is important that there should be no dilution with water or the results of the analysis will be affected. A long soft tube should be passed into the stomach having an external piece longer than the portion inside the alimentary canal. The air should be withdrawn from the tube by inserting a syringe into the external end when syphon action will be started and the fluid will flow gently out on removal of the syringe. Of course, the stomach-pump might be used, but this is not usually necessary.

II. GENERAL EXAMINATION OF GASTRIC CONTENTS.

A portion of this is taken and allowed to settle, the centrifuge being used if necessary. A careful microscopic examination is made of the deposit. Starch granules, bacteria (sarcinæ, &c.), yeast cells, striped muscle fibres, and epithelial cells are commonly found, the latter often being especially numerous in cases of gastric carcinoma. The remainder of the gastric contents is examined as to its general appearance, acidity to litmus, smell, consistency, the presence of slimy mucus, &c. The substance is filtered and the filtrate is used for the subsequent examination.

The clear filtrate should be tested qualitatively for free hydrochloric acid and lactic acid (see below). For albumin (by the boiling test); mucin: by the precipitate with 5 per cent. acetic acid insoluble in moderate excess; albumose: the cooled filtrate after removal of mucin and albumin gives a white precipitate with salicyl sulphonic acid; peptone: the filtrate after addition of salicyl sulphonic acid in excess gives a white precipitate with Meyer's reagent. The biuret test may be conveniently used for detecting albumose and peptone after removal of albumin by boiling. Usually in the gastric contents much more peptone than albumose is found, often quite large amounts of the former. Dextrin and sugar should be tested for; of course, if milk has been taken lactose will be found, otherwise sugar would not be present save in diminished acidity of the gastric contents. Bile pigments are sometimes present in abnormal conditions owing possibly to reversed peristalsis. Blood should be tested for if the contents are brown in colour.

III. SPECIAL CHEMICAL EXAMINATION.

A. *Total acidity.*—A titration should be performed, 20 cubic centimetres of the filtered contents being taken, diluted with a little distilled water, and decinormal alkali run in from a burette. Phenol-phthalein and litmus are the indicators in common use for this estimation. They indicate the total free inorganic and organic acids, and also the hydrochloric acid combined with proteids and other organic bases. Phenol-phthalein is the more convenient since the titration may be done in the cold, litmus requiring a boiling temperature in order to remove CO_2. It must be remembered that phenol phthalein differs from litmus in one respect—viz, in the presence of alkaline carbonates, thus bicarbonates are neutral to phenol phthalein but alkaline to litmus Hence if carbonates are present a slightly higher result is obtained for the acidity with phenol phthalein than with litmus

Decinormal caustic soda is most commonly used as the alkali It should be as free from carbonate as possible It should be made up with pure caustic soda (obtained from alcoholic solution) and dissolved in air free water, the solution being kept so that it may not absorb CO_2 from the atmosphere Decinormal barium hydrate solution gives rather more accurate results than $\frac{N}{10}$ NaOH when phenol phthalein is used as indicator, since here no bicarbonates can be formed CO_2 should be removed from the filtered gastric contents before the titration is done by passing a current of pure air for two or three minutes through the warmed liquid The $\frac{N}{10}$ $Ba(OH)_2$ solution needs careful storage, since it is acted upon by atmospheric CO_2 and so weakened in strength owing to the formation of the neutral carbonate, the solution becoming milky Hence the solution should always be bright and clear before use The total acidity is usually expressed "acidity equivalent to so much hydrochloric acid"

B *Determination of the physiologically active hydrochloric acid* —The secretion of hydrochloric acid is one of the most important and characteristic features of the stomach and from the presence and amount of this substance in the gastric contents the most valuable aids to diagnosis are obtained Now in the gastric contents hydrochloric acid may be present in three forms —

(1) Free hydrochloric acid
(2) Combined hydrochloric acid (*a*) with proteids and nitrogenous organic bases } Physiologically active hydrochloric acid
(*b*) with inorganic bases—e g, NaCl

It is obvious that what is necessary to be known is the amount of physiologically active hydrochloric acid present Many misconceptions [illegible] "free" and "combined [illegible] is often thought that th [illegible] is of more importance than that of the combined acid This is not necessarily the case Hydrochloric acid which is combined with proteids and nitrogenous organic bases is hydrochloric acid which a short time before was free but which has already commenced its important duties in the process of digestion, it is therefore of quite equal importance with free hydrochloric acid The relative amounts of free and this combined hydrochloric acid depend solely on the quantity of proteids and organic bases present Of course the hydrochloric acid combined with inorganic bases need not be considered It is introduced into the stomach in the combined state as such—e g, sodium chloride It is hence of the utmost importance that the physiologically active hydrochloric acid should be determined by an absolutely accurate method and one which can be quickly and simply performed—i e, be of clinical application Also the hydrochloric acid should be "directly" estimated and not calculated indirectly from a titration of the acidity, since much greater accuracy results from a direct determination of the chlorides present

Few of the methods described give an accurate determination of the "*active hydrochloric acid*" and many are very complicated The method I have used for upwards of a year and which is a simple application of Volhard's determination of chlorides, is one [illegible] simple apparatus It [illegible] repeatedly demonstra[illegible] the process

Two equal volumes of the filtered gastric contents (20 cubic centimetres) are taken (*a*) One portion is diluted to about 60 cubic centimetres with distilled water, ten cubic centimetres of pure nitric acid, about five cubic centimetres of a solution of iron alum, and a measured excess (30 cubic centimetres) of decinormal silver nitrate solution are added $\frac{N}{10}$ ammonium sulphocyanide solution is run in from a burette until a permanent reddish brown tint just results The difference between the quantity of silver nitrate solution added and the ammonium sulphocyanide solution used gives the amount of total chlorides present as $\frac{N}{10}$ HCl An evaporating dish may be conveniently used for doing the titration (*Note* —If the quantity of gastric contents is limited 20 cubic centimetres may be used for the determination of total acidity with $\frac{N}{10}$ NaOH and phenol phthalein This liquid is then used for the estimation of the total chlorides exactly as described above)

(*b*) The other portion of the gastric contents is placed in a porcelain evaporating dish (four and a half inches in diameter) and evaporated to dryness on the water bath The solid residue is heated for about an hour on the water bath The dish is then placed on a piece of wire gauze and heated with a small Bunsen flame, the flame not coming in actual contact with the dish The heating is continued for about ten minutes until the residue is well charred The dish is cooled, about 60 cubic centimetres of water and the pure nitric acid are added, the contents being well stirred with a glass rod The titration is then performed exactly as described above (*a*) and the quantity of chlorides present given in terms of $\frac{N}{10}$ HCl The difference between the chlorides found in (*a*) and (*b*) expresses with great accuracy the amount of the physiologically active hydrochloric acid

Proof of accuracy of method —I have repeatedly tested this and invariably found the results extremely accurate Example A solution of hydrochloric acid of known strength was made up with a 1 per cent solution of commercial peptone The above method gave —

Amount of active hydrochloric acid found = 0 984 per cent
hydrochloric acid actually added = 0 989

Experimental error = 0 005 " "

Similar accuracy is obtained with smaller percentages of hydrochloric acid

Notes on the process —The effect of igniting the dried residue of the gastric contents is to drive off the free hydrochloric acid and also to decompose the organic bases which have combined with hydrochloric acid, thus causing the latter to be also volatilised The loss in chlorides, therefore, represents "the active hydrochloric acid" It is important that the dish be not heated over a free flame or else inorganic chlorides may be volatilised in small amount The presence of the black particles due to the charring does not in the least interfere with the accuracy of the titration, since the white precipitate of silver chloride and silver sulphocyanide forms an effectual contrast to this and the first appearance of a red brown tint in the titration can be immediately seen It is not necessary to filter off the charred particles as this introduces errors and makes the process unnecessarily complicated

Experiments relating to hydrochloric acid determination —If peptone or albumin is added in excess to hydrochloric acid of strength equivalent to that in gastric contents and the solution is evaporated to dryness and heated on the water bath for several hours there is no loss of hydrochloric acid Hence a temperature greater than that of the water bath—i e ignition—is necessary in order to drive off the hydrochloric acid combined with organic bases If hydrochloric acid of strength as in the preceding experiment is mixed with dextrose or dextrin, evaporated to dryness on water bath and the residue heated thereon for two hours there is only a partial loss (about one third) of the hydrochloric acid This proves that prolonged heating on the water bath of gastric contents may only partially drive off the free hydrochloric acid

Review of methods described for estimating hydrochloric acid in gastric contents —1 Sjoqvist described a method of estimating free hydrochloric acid by evaporation to dryness with $BaCO_3$ igniting and estimating the $BaCl_2$ formed The hydrochloric acid combined with proteid is not estimated

2 *Leo s method* —Total acidity is determined by titration with $\frac{N}{10}$ NaOH in presence of phenol phthalein, a correction being made for acid phosphates Here the hydrochloric acid is not directly estimated and organic acids cause errors

3 *Toepfer s method* —Titration with $\frac{N}{10}$ NaOH, using several indicators, for example —

(1) Titration using as indicator phenol phthalein gives total acidity
(2) " " alizarin gives free hydrochloric acid and organic acid
(3) " " dimethyl amido-azo-benzene gives free hydrochloric acid.

Here the hydrochloric acid is not directly estimated, also the indicators only give approximate results, they do not act quite as stated—e.g., [illegible] organic acid (see below).

4. Shufflebotham[1] in [illegible] paper called attention to the importance of "active" hydrochloric acid and rightly pointed out that free hydrochloric acid is much more often absent than present in the gastric contents of pathological cases. He gave a method of estimating the acids which is not of great accuracy: [illegible]) total acidity by titration with $\frac{N}{10}$ NaOH in presence of [illegible]enol-phthalein; and (*b*) organic acids estimated by extrac[illegible]n with ether. This latter process takes 24 hours and then [illegible] extraction may be incomplete to the extent of 10 per [illegible].

[illegible] Ham and MacLeod[2] gave a most interesting method of [illegible]mining free hydrochloric acid depending on the hydro[illegible] of cane sugar by the gastric contents. The estimation [illegible] 24 hours and requires a calculation by logarithms from [illegible]ewhat complicated formula. The polarimeter is used [illegible] determination. This method is useful for determining [illegible]ydrochloric acid, but it does not estimate the hydro[illegible] acid combined with proteid which is usually the more [illegible]ant *factor, since free hydrochloric acid is more often* [illegible] than present.

Dr. B. Dawson[3] gives a method of determining free [illegible]loric acid and organic acid. This method is not [illegible] since in the determination it is assumed that all [illegible] hydrochloric acid is driven off by heating on the [illegible]h, which I have shown above is not the case. Also [illegible] chloric acid combined with proteid is not estimated [illegible].

[illegible]idney Martin[4] gives a very accurate method of [illegible] the physiologically active hydrochloric acid, which [illegible]n principle to the method that I have described [illegible]ere are several details described in the process [illegible]ve found may be dispensed with, even greater [illegible]ulting from the *simpler method given above.*

[illegible]*ative tests for free hydrochloric acid.*—I have [illegible]rous experiments in order to determine the [illegible]ate method of detecting free hydrochloric [illegible] is no doubt that Gunzberg's test is the [illegible]rthy. *It is* most important, however, that [illegible]hould be freshly made up for each test. If [illegible]s made in bulk it loses its delicacy in a few [illegible]mes useless for accurate work. The best way [illegible]e test is to keep the phloroglucin and vanillin [illegible]les, to the corks of which are attached little [illegible]ill measure about four grains of the former [illegible]of the latter. These quantities are placed in [illegible]n evaporating dish, about one cubic centi[illegible] (pure methylated spirit does quite well) is [illegible] them, then about two cubic centimetres of [illegible]ic contents are added. The dish is heated [illegible] till its contents are nearly dry. A brilliant [illegible] indicates free hydrochloric acid; a yellow [illegible] I have found that 1 part in 100,000 of [illegible]an be clearly demonstrated by this test. [illegible]not give the test even if present in great [illegible]he extent of 1 per cent. or more. At the [illegible]ot interfere with the positive reaction if [illegible]id be present. *Carbohydrates and fats* do [illegible]ly with the delicacy of the test. The [illegible]ot indicate at all the presence of hydro[illegible]d with *proteid or organic* bases, only a [illegible]ng. Of course, if there is free hydro[illegible]as combined *hydrochloric acid then* a [illegible]ts, a red colour being formed.

[illegible]*benzene.*—An alcoholic solution of this [illegible]s a pink-red colour with free hydro[illegible] weak a solution as 1 in 100,000. I have [illegible]eristic colour is also given by lactic [illegible] as 1 in 10,000 and by acetic acid in [illegible] in 2000. Hence this reagent is not [illegible] since organic acids may give a re[illegible]ric acid when it is *not* present. On [illegible] found that the gastric contents gave [illegible] this reagent when subsequent in[illegible] free hydrochloric acid but organic [illegible] reagent does not react to hydro[illegible] proteid.

[illegible] *Tropeolin OO and Congo red.*—I have found that the reagents are unsatisfactory. They are less delicate than t[illegible] preceding and react to organic acids.

D. *Testing for organic acids.*—A qualitative test should [illegible] made, a weak solution of Uffelmann's reagent being added [illegible] the filtered gastric contents. The development of a distin[illegible] yellow colour indicates lactic acid. Acetic and butyric aci[illegible] do not produce the marked yellow colour given by lactic ac[illegible] *even in as weak a strength as 1 in 5000. The quantity* [illegible] organic acids is given with sufficient accuracy for practic[illegible] purposes by the difference between the total acidity (e[illegible]pressed as hydrochloric acid) and the active hydrochlor[illegible] acid as estimated by the method described above. Of cours[illegible] the organic acid may be directly estimated by ether[illegible] extraction (Shufflebotham method). I do not find th[illegible] usually necessary.

E. *Conclusions to be drawn from the results of an analysi[illegible]*—Careful analyses of the gastric contents have been made [illegible] upwards of 60 cases at St. Mary's Hospital during the la[illegible] four years. In most of these the diagnosis has been co[illegible]firmed by operation or post-mortem examination. Th[illegible] following are the conclusions which have been drawn fr[illegible] *the results of the above analyses.*

In gastric and duodenal ulcer the total acidity is high—e.g., from 0·2 to 0·3 per cent., or even more; this consis[illegible] almost entirely of "active hydrochloric acid." Free hydr[illegible]chloric acid is usually present. Organic acids are generall[illegible] absent. Peptone is absent or present in only small amount.

Temporary dyspepsia (e.g., vomiting from migraine).—He[illegible] the acidity is about normal—e.g., from 0·1 to 0·2 p[illegible] cent.—and it consists chiefly of "active hydrochloric acid[illegible] Free hydrochloric acid is present or absent according to th[illegible] nature of the food taken before the vomiting. Organic acid[illegible] may be present in small amount. Albumose and peptone a[illegible] often present in considerable amount.

Gastric carcinoma.—Here it has been found that th[illegible] nature of the gastric contents varies very much indeed wit[illegible] the position of the growth in the stomach. Thus, in involve[illegible]ment of *the cardiac portion of the stomach* the total acidit[illegible] is low, usually under 0·04 per cent.; free hydrochloric aci[illegible] is never present. "Active hydrochloric acid" is present i[illegible] *very small amount—e.g., about 0·02 per cent.*—or frequentl[illegible] absent. Organic acid is generally present, also traces o[illegible] mucin may be found, but little or no albumose or peptone[illegible] In involvement of *the pyloric portion of the stomach* the tota[illegible] acidity is sub-normal but still it may be considerable—e.g., from 0·05 to 0·1 per cent.; it is always much higher th[illegible] when the cardiac portion of the stomach is affected. Fre[illegible] hydrochloric acid is absent. Active hydrochloric acid ma[illegible] be present in fair amount but it scarcely ever exceeds 0·[illegible] per cent. Organic acids are present generally. Mucin an[illegible] albumin and often quite large amounts of peptone are found[illegible]

So great is the difference between the chemical composition of the gastric contents when the cardiac and pylori[illegible] portions are involved that the result of the analysis in a cas[illegible] of gastric carcinoma not only enables a diagnosis to be mad[illegible] but also gives a clear indication of the position of the growt[illegible] in the stomach.

St. Mary's Hospital, W.

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[1] [illegible] Sept. 15th, 1900, p. 795.

[2] [illegible], August 1st, 1903, p. 313.

[3] [illegible] System of Medicine.

SOME REMARKS ON ELECTROSTATIC TREATMENT.

BY J. CURTIS WEBB, M.A., M.B., B.C. CANTAB.

IN these days, when so much more attention is being bestowed on the scientific application of electricity to the treatment of disease than was formerly the case, I think there should be no excuse needed for bringing before the medical profession a modality as yet little used in England. In America, and also in France, an efficient electrostatic machine forms an important item in a medical man's equipment, but in this country many medical men are either entirely ignorant of its potentialities or are inclined to classify it rather as an appurtenance of the charlatan than as a potent means of relieving human suffering. Why this is so is difficult to explain. True, the [illegible] heavy: *for a thoroughly trustworthy mac*[illegible] far in excess of a d'Arsonval apparatus, [illegible] usually compared, but, on the other hand, [illegible] effect, and can do all that the d'Arsonval equipment can [illegible]ment.

an induction machine can give an amperage as high as a d'Arsonval, but it is as yet far from proved that any real good is effected by a high amperage. If we choose to utilise our Leyden jars we can get as high a frequency as the "highest frequenter" could desire, but is such high frequency always necessary or even to be desired? Let us be candid and acknowledge that we do not know exactly *how* these high potential currents act any more than we know exactly how potassium iodide acts. No one will deny the proved value of the latter; why then deny the possible value of the former? If the current from the static machine, one of low amperage and high potential, be as efficacious as that from the d'Arsonval apparatus, which is of high amperage, the possible risks from the latter are abolished. With a statical machine we have our potential under control and we have a multitude of modalities at our command—e.g., sparks of various kinds, brush, breeze, vacuum tubes, static induced, and last, and most important, the Morton wave current, with or without secondary interruptions. And further, and this is a point on which I cannot lay too great stress, there is the enormous difference as to whether we connect our patient to the positive or to the negative pole. I, too, was once an unbeliever, but I have over and over again proved to my own satisfaction that while the current from the + pole is essentially stimulating, that from the – pole is a sedative. Patients have for themselves detected the difference and while expressing themselves benefited by the one have been unable to bear the other.

It is important to realise from the start the characteristics of the static wave current, for that is the form to which all the other modalities are either accessory or subservient. It is essentially an oscillating one-pole current, with power to use either the + or – pole, as desired, of high or low potential, and of great or small frequency, under perfect control, painless during administration, and of such amperage as never to endanger the life of the patient, who, being insulated, is repeatedly charged and discharged synchronously with the interruptions at the spark gap, and owing to this insulation experiences the constitutional effects peculiar to currents from one pole of an induction machine, the local effects being produced under the surface and in the immediate neighbourhood of the electrode.

And here let me say at once that to get the best results, or, indeed, any real results, from a static machine it must be under the personal supervision of the medical man himself who has studied it. There are so many ways of applying the current, each one suited to certain diseases and certain temperaments, that it would be hopeless to send a patient to an institution not under the care of a medical expert for "static treatment." I believe there is only one recorded instance where a "bow drawn at a venture" sped its shaft with any efficacy, and "blazing into the brown" is notoriously uncertain, and the haphazard application of electrostatic currents can but end in disappointment for both patient and medical adviser and in loss of repute for a powerful weapon in our medical armamentarium.

The exact effects of these currents have been well classified by Snow, to whom we are indebted for much of our knowledge of this form of electric application. They may be divided into, A, local; and B, general.

A. *Local.*—1. Removal of the effects of stasis, with absorption of plasma and detritus, thereby lessening pain, and inducing reabsorption of fibrin, organic and inorganic salts—the results of defective metabolism. This is best brought about by the "wave current," which causes what I can most satisfactorily describe as a "histological massage." Every individual cell of the lymphatics and arterioles, under the direct sphere of the electrode, pulsates synchronously with the discharges at the primary spark gap, the rate of which is under absolute control, and this histological massage is entirely painless and should not cause contractions of the muscles as a whole, though this effect can be produced if the operator desires. 2. A rubefacient effect can be secured by the brush discharge. 3. If an ulcer or burn be under treatment in a short time the surface becomes coated with what may be likened to collodion, showing the coagulation of albumin, and any offensive odour is destroyed by the ozone liberated from the applied electric discharge.

B. *General.*—1. Equalisation of blood current and general lowering of arterial tension. In a patient of mine, aged 71 years, 20 minutes' treatment brought the blood pressure down from 180 to 150 millimetres of mercury, the pressure being taken at the radial artery with an Oliver's hæmodynamometer. 2. An effect on the nervous system, general or local, stimulating or sedative, according to the modality and to the current, whether + or –, employed.

The diseases where electrostatic currents find their main field of utility may be deduced from the above description. They are:—

1. All acute or chronic inflammations not due to microbic origin or to pressure of a growth, congestion of the liver with constipation, chronic inflamed joints, inflammation of nerves or of their sheaths—e.g., neuritis, neuralgias, [illegible] I may put in parenthesis that I [illegible] action in the treatment of these [illegible] her they be of rheumatic origin or not), ulcers, certain skin troubles, inflammatory glandular swellings, &c. Certain laryngeal affections form another class that is greatly benefited by the wave current. Chronic or subacute catarrh of the vocal cords, leading to hoarseness, or even aphonia, or to the loss or diminution of the power of singing, often yield readily to this modality. Singers who have "tired" their cords and feel that dragging sense of fatigue after singing, get their voices wonderfully toned up and strengthened by static electricity.

2. Owing to the power of the electrostatic current of contracting the unstriped muscular fibre of blood-vessels I have had excellent results in its use in cases of hæmorrhoids, especially in those conditions where the veins of the mucous membrane of the rectum are rather of a varicose character. Where there are large dilated clumps of veins operation may often be necessary but I would always be inclined to try electric treatment before resorting to a procedure that is often intensely painful and not infrequently has to be repeated. I have had more than one good result, too, in cases of anal fissure where both I and my patient have had every reason to be satisfied with the healing properties of the ozone evolved from the vacuum tubes.

3. In the cases of nerve diseases electrostatic treatment finds a wide field of usefulness. In early cases of locomotor, and in those affections due to inflammation of the cord or meninges, it has been found, though I regret I have not had an opportunity of personally proving this, that great good can be done, if not actually in effecting a cure, at least in arresting the progress of the malady. I have reason to know of its efficiency in cases of neuralgias, headaches, spasmodic dysmenorrhœa, functional neuroses, &c. In neurasthenia, with all its protean manifestations, I hold that we have no remedy to equal the one under consideration. In those cases, all too common in our present day of over-civilisation, complaining of constant backache, headache, continued sense of fatigue and inability, or in the case of "City" men who describe "loss of nerve," irritability, insomnia, loss of power of application or of decision, getting over-worried, in fact sufferers from "brain-fag," I know from my own results its enormous value. And if it were these classes of cases alone that were benefited by electrostatic treatment it would deserve the most serious consideration of every medical man to whom such patients come in the hope of getting relief. As a tonic it is unequalled, if by a tonic we understand that which either by soothing or stimulating restores to the normal a fellow creature whom objective disease or subjective symptoms have reduced to a condition of actual suffering or discomfort.

Bina gardens, S.W.

A NEW ELECTRO-CYSTOSCOPE.

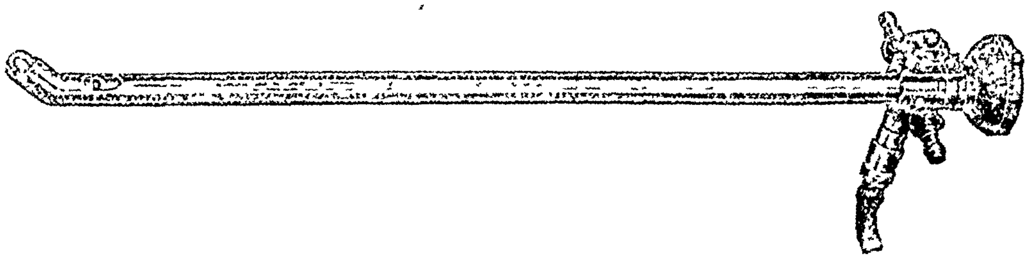
BY WILLIAM K. OTIS, M.D.,

PRO[illegible] YORK SCHOOL OF
THE NEW YORK
ST. MARK'S
ERMAN
[illegible]

OVER 25 years have passed since the invention of the electro-cystoscope by Nitze, and although many modifications of it have been presented during this period no one has succeeded in improving the ocular apparatus, so that the cystoscopes of to-day are no better than those manufactured by Hartwig or Leiter in 1887. The real optical difficulty which prevents an enlargement of the field or an increase in illumination in the Nitze instrument is due to the use of the prism as a means of diverting the light rays in order to obtain a rectangular view. From the opening of the window, or other face of the prism, in this instrument the rays of light must always travel a distance within the prism equal to its depth, so that if the angle of the lens be widened with a view to enlarge the field this increase will be unavoidably cut off by the sides of the prism. In other words, if you attempt to increase the size of the field by increasing the angle of the lens you simply succeed in seeing the sides of the prism. Moreover, it is necessary to have the prism proportionally so large that the telescope can have but a small lumen compared with the outside calibre of the instrument and thus a large amount of valuable light is lost.

After a series of experiments extending over several years in which I have been greatly assisted by Mr. Reinhold Wappler, I have succeeded in eliminating the prism by substituting in its place a hemispherical lens, the plane surface of which is silvered, a portion of the circumference filling and closing the window in the outer tube of the instrument. This procedure is, in reality, equivalent to the addition of plano-convex lenses to the superior and anterior faces of the prism.

FIG. 1.



The Otis electro-cystoscope. (Half actual size.)

This instrument resembles in general the cystoscope of Nitze but differs from it radically in several most important particulars. It consists of two separate parts, the external catheter, or sheath, carrying the illumination and the internal, or telescope, in which the entire optical apparatus is contained. The distal extremity of the external portion consists of a short beak (half an inch) set at an obtuse angle containing the electric lamp in its tip. This lamp is of peculiar construction and deserves special mention on account of its wonderful brilliancy and its freedom from heat. It is set so as to form the extreme end of the instrument; the light, unimpeded by any metal hood, illuminates the whole interior of the bladder. Its size is equal to the full external calibre of the instrument and it is set in a metal socket or tip which screws into place after the manner of the lamp in the Nitze model, which a long experience has convinced me is more convenient, when changing the lamp, than the method of Leiter, also used in the French instruments. One pole of the lamp is carried on the metal of the shaft itself, the other by a specially insulated wire which does not encroach upon the internal calibre of the shaft and permits the use of the telescope several sizes of the French scale larger than that of other instruments, thus allowing the passage of a greater amount of light with a corresponding brilliancy of field.

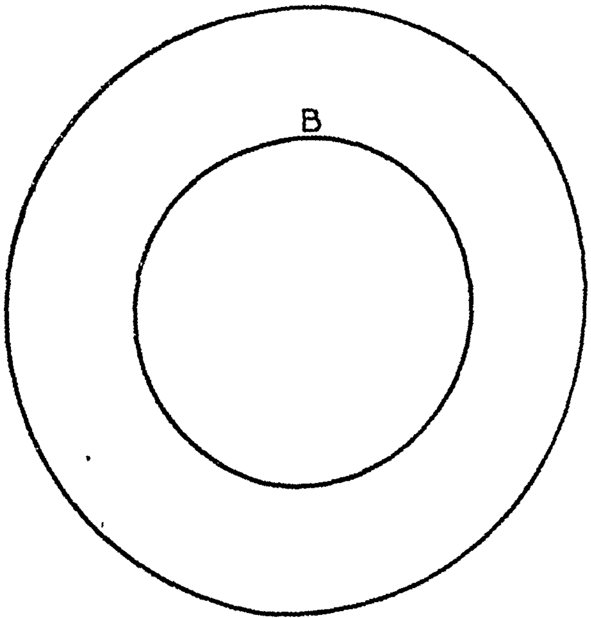
The shaft has a working distance of eight inches (i.e., from the centre of the window to the apex of the ocular funnel) and in the commercial instrument a calibre of 20 F. At the angle where the shaft joins the beak on its superior surface an oval window is cut through the metal to expose the lens of the telescope when in place. On the superior surface of the proximal end is a short screw, at right angles to the shaft, on top of which a small ball is fixed which indicates the position of the beak when the latter is in the bladder. A thumb-nut on this serves to clamp the telescope firmly in position. On the inferior surface of the proximal end of the shaft is a metal post with an insulated core which carries the electric terminals of the lamp and connects with the cords from the battery by a screw socket. A turn of this screw permits the lamp to be lit or extinguished at the will of the operator. For the sake of simplicity this post has been made immoveable and not working in a collar as in some instruments. Small stopcocks communicating with the internal calibre of the instrument have been placed just above the post for the introduction of air, for use when it is considered desirable to use air instead of fluid as an examining medium.

The telescope contains the entire ocular apparatus and fits easily in the sheath. On the superior surface of its distal end is a window cut in the form of the upper opening of a whistle, in which is set the hemispherical lens. The proximal end consists of a funnel eye-piece with a moveable collar at its apex to which is fastened a small flat fork or crotch, the prongs of which pass on either side of the screw on the shaft and serve to clamp the telescope firmly to the sheath with the thumb-nut, at the same time allowing the telescope to turn on its own axis. A partial rotation of the telescope in this collar causes the lens at the end to slide from the window of the sheath, the opening then being filled by the back of the telescope, the lens facing the back of the sheath. In this way the cystoscope is introduced into the bladder, the lens being entirely protected from any contact with blood, pus, or lubricant, which is most desirable when using a fluid medium and absolutely essential when air is employed.

After the instrument is well in the bladder the lens is brought into the window by rotating the telescope, a small knob on the ocular funnel indicating its correct position. Should the fluid in the bladder become clouded at any time on account of bleeding or the presence of pus it is only necessary to remove the telescope; the sheath, acting as a large catheter, permits the rapid withdrawal of the fluid contents of the bladder, which can be refilled, the telescope replaced, and the examination continued with but little loss of time and without removing the instrument, a much more effective method than that employed in the so-called irrigation cystoscopes all of which are necessarily feeble and ineffective.

To describe this instrument in detail without becoming prolix is difficult and as it is the practical advantages which interest most surgeons I shall enumerate these as they occur in this cystoscope. A field having an area four times as large as that of any other rectangular cystoscope, so that it is practically impossible to overlook a pathological condition in the bladder which might easily escape the smaller field of

FIG. 2.



A, Field of Otis cystoscope, distance of four centimetres.
B, Field of Nitze cystoscope, same distance.

the instruments now in use. Not only is this accomplished without loss of definition, but the field of this new instrument is rendered clearer and brighter on account of the more powerful illumination of its lamp, the greater calibre of the telescopic tube, and the arrangement of the lens system. After an extended practical experience and a thorough familiarity with the cystoscopes of European manufacture I do not hesitate to say that the field in none of them compares in distinctness and brilliancy with the picture as seen through this cystoscope covering a four times greater area. Nor have they the penetrative power or the ability to see distinctly at a distance from the object, as no matter how much the bladder may be distended a clear image may be obtained from any part of its interior with this instrument.

The outer circle (A) represents the field of the author's instrument at a distance of four centimetres from a flat surface and the inner circle (B) represents the field of the Nitze instrument at the same distance. Without referring to the optical formulæ by means of which these comparative areas have been arrived at the sizes of the fields in the illustration were obtained by the common-place method of clamping the instruments at a given distance from a highly-illuminated sheet of paper, and beginning at the extreme upper edge of the field, as seen through the telescope, drawing a line through the centre from where the point of a pen first came into view to a point just opposite in the circle where the pen-point disappeared, the resulting line being used as the diameter of a circle representing the field of the instrument.

The arrangement and quality of the lamp and the large calibre of the telescope rendered possible by the special device for insulating the second pole of the lamp and the elimination of the prism give an illumination of field better than in other cystoscopes, on the principle that more light will pass through a large tube than a small one. The lamp, the filament of which is prepared by a secret process necessitating a very high vacuum, has such a low amperage that it emits almost no heat, making it impossible to scorch or, as has happened, seriously burn the bladder wall. This cool, powerful lamp, together with the protection of the lens from being smeared during introduction, permits the use of air as the examining medium should this be considered advisable. The short beak and absence of the flat top and sharp angular sides of the prism render it easy of introduction and less liable to cause bleeding. Should the medium in the bladder become clouded it may easily and rapidly be withdrawn and replaced without removing the instrument.

New York.

A CASE OF PYREXIA FOLLOWING CHILDBIRTH TREATED WITH ANTISTREPTOCOCCIC SERUM.

BY P. H. WARD, M.R.C.S. ENG., L.R.C.P. LOND.

HAVING read with considerable interest Mr. A. G. R. Foulerton's and Dr. Victor Bonney's article in THE LANCET[1] on puerperal infections I think it might serve a useful purpose to put the following case on record.

The patient was an elderly multipara. Her two youngest children were aged five and 17 years respectively. There was a history of several miscarriages and at previous confinements trouble with the placenta which on one or two occasions had been taken away in small pieces. The last confinement five years previously had been easy and normal. I was called at 9.30 A.M. on April 2nd and was informed that the waters had broken at 11.30 P.M. the previous night. The patient was not in labour. Abdominal palpation to ascertain the position of the child proved unsuccessful on account of considerable tenderness especially over the suprapubic region and to the left of the middle line low down. On the 3rd, at 3.30 A.M., I was again called. The patient had been in labour since 1.30 A.M., the labour having commenced 24 hours after rupture of the membranes. The os was of the size of a florin and the head presenting in the first position. The pains were weak with long intervals and disappeared altogether when the patient lay down. The os dilated very slowly but once dilated labour proceeded rapidly and a very large child (weighing 11 pounds) was born at 9.30 A.M. Considerable hæmorrhage occurred after the birth of the child. The placenta was delivered by external compression. The membranes seemed rather firmly attached and had to be twisted many times before sufficient traction could be made on them to remove them without tearing. Examination of the placenta revealed that the membranes had ruptured high up near their placental attachment. They were very friable. The placenta looked unhealthy, also being extremely friable. After delivery of the placenta the patient became faint with a weak and irregular pulse. Extractum ergotæ liquidum (one drachm) was administered. An urgent message made it compulsory for me to leave though the patient's condition was somewhat unsatisfactory. I was recalled shortly after as the patient was flooding. This was controlled by external compression of the uterus. She was ordered a mixture containing extractum ergotæ liquidum every four hours. The same evening the temperature was normal. The patient in all lost three or four pints of blood.

On April 4th at the morning visit the patient was feeling well; the temperature and pulse were normal. At the evening visit she complained of feeling hot and was perspiring freely. She had shivered during the afternoon. Her temperature was 102° F. and the pulse-rate was 120, weak, and irregular. A vaginal douche was ordered. She had a second rigor the same evening. On the 5th, at the morning visit the temperature was 102·8° and the pulse was 120. The patient was given calomel (six grains) to be followed in four hours by magnesiæ sulphas (two drachms), also tinctura ferri perchloridi (half a drachm) every two hours. The vagina was also douched. At the evening visit (6.30 P.M.) the temperature was 103°; the pulse was over 120, very weak, and irregular. The bowels had acted freely. An intra-uterine douche of hydrargyri perchloridum, 1 in 2000, followed by 1 in 4000, was given at 8 P.M. When the temperature had risen to 104° ten cubic centimetres of polyvalent antistreptococcic serum (B. W. and Co.) were injected. On the 6th the patient had slept fairly well. The bowels had acted eight times since the administration of the calomel. The temperature was 102·8°; the pulse was 120, stronger, and more regular. The discharge was scanty. The uterus reached half way to the umbilicus and was tender over precisely the same place where tenderness had been most marked before delivery. The uterus was washed out with hydrargyri perchloridum, 1 in 4000, and I injected ten cubic centimetres of polyvalent antistreptococcic serum. Unfortunately I had no more of the serum left after this injection. On the same evening Mr. W. Watkins, whose practice I had just taken over, kindly saw the patient with me. She refused chloroform, so Mr. Watkins explored the uterus with his finger without an anæsthetic. He removed a shred of membrane and two pieces of placenta of about the size of a hazel-nut from the left cornu of the uterus. These pieces of placenta were very firmly adherent. They were distinctly foul smelling. The uterus was douched with hydrargyri perchloridum, 1 in 2000, followed by 1 in 4000. An iodoform pessary was left in the vagina. The temperature was 102° and the pulse was 120. On the 7th, at the morning visit the temperature was 102° and the pulse was 112. The patient was suffering from diarrhœa. The discharge was scanty and hardly coloured. The milk was becoming scanty. At the evening visit the temperature was 102·8° and the pulse was 112. An intra-uterine douche of lysol was administered both in the morning and evening. On the 8th, at the morning visit the temperature was 104°. The diarrhœa was better, bismuth and liquor opii sedativus having controlled it. The tinctura ferri perchloridi was omitted. The patient complained of pain over the uterus. The discharge was not coloured and scanty and there was almost absolute suppression of milk. She was intensely anæmic. The tongue was furred but moist. The uterus was washed out with lysol. At the evening visit the temperature was 102° and the pulse was 112. The uterus was again washed out. A fresh supply of antistreptococcic serum having been obtained ten cubic centimetres were injected. The uterus was washed out with lysol. On the 9th, at the morning visit (8 A.M.) the pulse was 100 but weak and thready; the temperature was 102°. The patient complained of diarrhœa. There was no discharge. Pain was felt in the pubic region on coughing. She had had a restless night and complained of weakness in the head. She said she wanted to think but could not. The anæmia was more marked. At 9.30 A.M. the temperature was 103°. Ten cubic centimetres of antistreptococcic serum were injected. The uterus was washed out with perchloride, 1 in 2000, *followed by 1 in 4000. In the evening the temperature* was 103°. On the 10th, at 8 A.M. the pulse was 92 and the temperature was 101°. At 10 A.M. the pulse was 92 and the temperature was 99·8°. A lysol douche was given. In the evening the temperature was 102·8° and the pulse was 92. A lysol douche was again administered. A powder containing pulvis ipecacuanhæ compositus (ten grains) and quininæ sulphas (ten grains) was given at 9 P.M. On the 11th, profuse sweating had taken place during the night; the temperature was 97·8° and the pulse was 88. The same evening the temperature was 99°. After this the patient slowly recovered. The [illegible] but the discharge only became very [illegible]. A week later she had a slight shivering attack and the temperature ran up to 101° but it came down the same day and remained normal. During convalescence the temperature was constantly subnormal in the morning.

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[1] An Investigation into the Causation of Puerperal Infections, THE LANCET, April 8th (p. 915) and 15th (p. 992), 1905.

Remarks.—There was apparently some morbid intra-uterine condition before the confinement, for tenderness was most marked. Also during labour the patient was not able to aid the expulsion of the child by bearing down. She explained afterwards that when she tried to bear down it was "as if something was tearing inside her womb." Within 36 hours of delivery she had two rigors and a temperature of 102° with a weak irregular pulse of 120. Every symptom of severe septicæmia followed, suppression of lochia and mild diarrhœa being most marked. The most striking feature of the case was the patient's cheerful disposition. She made light of her illness, so much so that each morning her husband cheerfully informed me there was a great improvement and hardly realised the gravity of the case.

About 48 hours from onset of the pyrexia two very small pieces of stinking placenta were removed from the uterus. The temperature, however, remained raised for three days longer. Was this pyrexia due to toxæmia already resulting from the retained placenta or was it due to an additional streptococcic or other infection? The first two injections of antistreptococcic serum apparently had little effect. On obtaining a fresh supply of serum two further injections were made, the temperature falling to 99° within 24 hours of giving the last injection. I think at least this warrants a further trial of the serum treatment if nothing else. No ill-effects were observed from any of the four injections, there being neither pain nor the slightest inflammation at the site of injection. Within the 12 hours preceding attending on this case I had opened a foul axillary abscess and also a whitlow. After returning from these two cases I had on each occasion carefully sterilised my hands, scrubbing them with lysol, hydrargyri perchloridum 1 in 1000, and finally immersing them in carbolic 1 in 20. Also bearing in mind that I had opened these abscesses, at the confinement I was more than usually careful, sterilising my hand before every examination and making as few as possible. I, however, wore the same suit of clothes.

Murraysburg, Cape Colony.

DISLOCATION OF THE CARPAL SCAPHOID.

BY ANDREW FULLERTON, B.CH. R.U.I., F.R.C.S. IREL.,
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DISLOCATIONS of the carpal bones are exceedingly rare. Deaver[1] says that "the separate carpal bones are rarely if ever dislocated." Makins[2] mentions that "the scaphoid and semilunar have been seen to be dislocated, usually in compound injuries." Erichsen[3] describes dislocations of the os magnum, pisiform, and semilunar. Cheyne and Burghard[4] think that "dislocation of one carpal bone from another, although sometimes met with, is of such extreme rarity that the accident does not require any special mention." Hamilton[5] says: "I have found no account of an example of simple dislocation of single carpal bones except in the case of the os magnum, pisiform, and lunare." Gant mentions dislocations of the semilunar, cuneiform, pisiform os magnum, and unciform as having occurred but does no appear to have met with or heard of a case of dislocation o the scaphoid. Haughton and Holt[7] discuss the frequency o fracture and dislocation of the proximal row of carpal bon with displacement of fragments but dislocation of th scaphoid pure and simple is not mentioned.

The following case came under my notice at the Roya Victoria Hospital, Belfast, during 1904. A man, aged 5 years, about three years ago slipped on the pavement owin to the frost. He put his left hand behind him to sav himself and fell heavily on the front of his wrist. On risin he noticed a small lump on the back of his hand. He wa treated at hospital for a short time and went back to work the nature of his injury not having probably been recognised Ever since his wrist [illegible]. About three week before his recent attendance he [illegible] the back of hi hand and applied at the Royal Victoria Hospital for furthe treatment. On [illegible] projection, irregula in shape, could [illegible] of the left wrist, th middle being about three-quarters of an inch from the radi border and just below the level of the styloid process o the radius. The carpus was stiff and painful and the bone appeared to be welded together. Flexion and extension wer very limited. Several skiagrams were taken and reveale an undue sharpness of the styloid process of the radius and want of distinctness and separation of the bones in the centr of the carpus. It would appear from the skiagrams that th os magnum had become fused or closely joined to the neighbouring carpal bones.

Operation.—A longitudinal incision was made on th dorsum over the projection. The scaphoid was found displaced backwards and [illegible] tubercle presente on the back of the carpus. The bone was removed and tw small fragments, flat and irregular in shape, about one-thir of an inch in length and rather less in breadth, were foun lying loose in the cavity left. It could not be determine whether these were originally chipped off from the radius o one of the carpal bones. He probably fell on the prominenc of the scaphoid in front and so displaced the bone backward taking off a small portion of the radius (hence the sharpne of the styloid process) and probably fracturing one or mor of the other carpal bones. The callus thrown out woul probably account for the welding seen in the skiagram. Th tip of the styloid process of the ulna had evidently bee broken off.

The removed scaphoid presents the following appearance The superior surface is devoid of articular cartilage, smooth and eburnated over a triangular area corresponding to abou half the total extent. This area is confined to the anterio portion of the articular surface for the radius. The posterio portion is rough and non-articular. The inferior surfac (that for articulation with the trapezium and trapezoid) i devoid of cartilage and eburnated at its anterior extremity The posterior portion is rough and non-articular. The dorsa surface is normal. The anterior surface appears to have ha a small fragment broken off (perhaps one of the loose fragments above referred to). The external surface was slightl damaged during removal. The internal surface for articulation with the semilunar above and the os magnum below, ha become rough, owing, no doubt, to want of apposition of th normal articulating bones. It would therefore appear tha the scaphoid articulated at the two eburnated surfaces onl and these are diametrically opposite to each other.

Healing of the wound took place by first intention bu owing no doubt to injuries to other carpal bones the movements at the wrist joint and carpus are limited.

Belfast.

A CASE OF POISONING BY FLUID AMMONIA USED FOR DOMESTIC PURPOSES.

BY H. SAVORY, M.A., M.B., B.C. CANTAB.,
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A LITTLE four-year old patient of mine has had a narro escape from death by misadventure. She was playing wit a small doll's tumbler and asked her nurse to give her a dose of fluid magnesia in it. The nurse went to the cupboard and poured out about 40 drops of Scrubb's cloudy ammonia by mistake for fluid magnesia and gave it to the child, who put it at once into her mouth. This caused a severe spasm of the glottis and though some burnt the roof of the mouth and tonsils, in all probability very little was actually swallowed. The child was picked up partly unconscious and brought downstairs to me, as I happened to be in the house at the time. She had uttered no sound and seemed incapable of expectorating. I inverted her and opened the mouth and washed out what I could; she could not swallow but she had just had a large meal and the induction of vomiting removed what little ammonia remained in the mouth and gullet. It was impossible to administer any antidotes, even white of egg caused great pain when introduced into the mouth. Very soon her respiration became impeded with all the signs of œdema of the glottis. The intercostal and epigastric recession became so marked that my colleague (Mr. Gifford Nash) and I decided to prepare the instruments necessary for tracheotomy and I waited all night expecting at any moment to have to perform the operation but towards morning the laryngeal symptoms began to abate. Loud rhonchi and râles were audible all over the chest and the temperature rose at the end of 12 hours to 104° F. The child remained in a dazed, torpid condition; we could not hear what she attempted to say and it was doubtful if she heard when we spoke. She could not take food; white sloughs formed on the palate, fauces, and buccal mucous membrane, and the tongue looked red and raw. Gradually these conditions improved and at the end of a fortnight she had practically recovered but the voice remained weak, uncertain, and raucous.

I am placing this case on record as it seems to me that the danger to the public from fluid ammonia is not an inconsiderable one. There are deaths recorded from either smelling or taking this powerful poison but as it is not included amongst the poisons scheduled in the Pharmacy Act there is no obligation on the part of the seller to dispense it in a poison bottle or to label it "Poison" or "Not to be taken" or "Not to be smelled." In the short time that has elapsed since the misadventure to my patient I have heard of several similar accidents. Another little patient of mine picked up the ammonia bottle in the bathroom, sniffed at it, and dropped the bottle which broke. Fortunately the crash of breaking glass was heard by an elder sister who had the sense to pick the child up and carry her out into the open air. The child was very ill but recovered.

Dr. J. O. Harvey of Bexhill-on-Sea writes to me: "When surgeon to one of the Union Co. South African Mail boats a child of about three years of age was playing with what appeared to be an empty Scrubb's ammonia bottle, in the absence of its nurse, and I well remember the alarming consequences that ensued. Not only was it doubtful whether the child would live but whether the windpipe should be opened, the child remaining in a precarious condition for 36 hours. The amount in the bottle was quite small as it was regarded as an empty one. The whole thing made such an impression on me that I am in the habit when seeing Scrubb's ammonia in the nursery of regarding it as a dangerous thing to be there. It is a preparation largely used in households and by nurses and I have thought that the risks to children are not sufficiently known."

I have not searched the literature of this subject but I have little doubt that many other instances could be collected. I pointed out to the manufacturers of the ammonia fluid the desirability of some warning to the public that their preparation is poisonous but they replied that "the occurrence seems to them to emphasise the gross carelessness of the giver of the dose rather than any omission from their label." I notice, however, that the public are warned against injurious imitations. This accident, or a similar one, might happen in any household or nursery to which fluid ammonia gains access (in this case the ammonia reached the house as an advertisement sample and gained admission to the nursery unknown to the head of the house), for though nurses, and this one in particular, are the devoted slaves of their charges, there are always times of mental aberration and mistake. A fluted unbreakable bottle or a poison label would, in my opinion, tend to minimise these mistakes and secure the greater safety of the public.[1]

Bedford.

SLIGHT ERRORS OF REFRACTION AND THEIR INFLUENCE ON THE NERVOUS SYSTEM.[1]

BY C. ERNEST PRONGER, F.R.C.S. ENG.,

OPHTHALMIC SURGEON TO THE HARROGATE INFIRMARY.

TWO years ago I read at a meeting of this society a paper on the influence of slight errors of refraction as a starting point of many functional nerve troubles quite apart from any impairment of vision or local discomfort to suggest eye trouble. I mentioned some of the commoner remote effects of eye strain such as migraine and the various forms of headache, insomnia, vertigo, depression, irritability, choreic movements of facial muscles, and various troubles usually treated as disorders of the liver or stomach. Having referred briefly to epilepsy, *petit mal*, chorea, and hysteria, the question was submitted for your observation and consideration as to whether the real starting point of those varied symptoms to which the name neurasthenia has been given might not be slight error of refraction; that the soil being prepared as it were by its insidious harmful effects, the supervention of shock or any one or more of the long list of causes of neurasthenia which have been suggested might not bring about the crisis or breakdown which at first sight would be looked upon as the beginning of the condition of neurasthenia.

Your reception of my paper was most gratifying to me and it has been still more gratifying to note that the large majority of you have put to a practical test the propositions submitted to you. Some, of course, were sceptical and a few scoffed and it was remarked that "Pronger was going to cure everything with spectacles," and in reply I ventured to predict that we should in time hear much more of this subject. My paper, read and printed in March, 1903, was followed in September by a long article in the *British Medical Journal* on a book, "Biographic Clinics," brought out by Gould of Philadelphia, and it was very pleasing to me to find that many of the main points advocated in that book were identically the same as in my own paper. About 12 months later an article by Snell of Sheffield on Eyestrain as a Cause of Headache and other Neuroses appeared in THE LANCET[2] in which he quoted freely from Gould's book and corroborated it in detail.

From the dates given in some of the cases in my paper it will be seen that this special subject has engaged my careful attention for more than ten years (my first paper on this subject was in 1895) and Gould, in a letter recently received from him, tells me that he has long been urging this subject upon the profession. Now, when two men working upon the same lines and quite independently for some years arrive at practically the same results it would seem probable that their conclusions would be fairly accurate. More especially should it be the case in regard to these slight errors of refraction, seeing that many of the remote effects of the higher degrees have been recognised and recorded.

In continuation of my paper of two years ago I want to say something about neurasthenia, if I may venture to discuss a subject which has hitherto been generally looked upon as quite outside my department and belonging almost exclusively to the province of medicine. Now if we consider for a moment the many suggested causes of neurasthenia, and let us take for example a very common one, worry, we are at once struck by the fact that out of large numbers subject to this influence only one here and there actually breaks down under it. Is it that the worries and anxieties of these few are so much greater than those of the others, or is it that the nervous system is less stable, that there is some predisposing cause which renders it less able to resist the tax put upon it? We might go further, for in many cases of neurasthenia one of the earliest symptoms observed is a disposition to worry about the merest trifles and in such cases if really great worries or anxieties were to crop up a

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[1] According to our analysis the fluid ammonia contains about 120 times its volume of ammonia gas. We drew attention to the danger of toilet ammonia in lay hands in an annotation in THE LANCET of

that "a warning should be
ning ammonia for domestic
n large quantities and that
d to prevent the wholesale

[1] A paper read before the Harrogate Medical Society on March 30th, 1905.

[2] THE LANCET, April 30th, 1904, p. 1181.

where previously chaos reigned. It is impossible, of course, to say or conceive what might have been, but my own personal conviction is that I should have been less of an ass if my eyes had not troubled me so persistently. My internal and secret profanity must have at times satiated the devil himself, assuming such a personage to still exist. I sincerely hope that this happier frame of mind will become chronic and that you may long be spared to alleviate the suffering which can only be understood by those who have had to endure it for years as I have done. I have endeavoured to represent to you as nearly as possible my actual feeling on this subject and trust you will excuse my departure from conventional expressions in my effort to truthfully convey my ideas."

One meets with constant variety in the cases sent to one as neurasthenic and it is sometimes very difficult to tell how much is due to functional disturbance and whether there may not be some organic lesion present.

CASE 6.—A patient was sent to me in May of last year in whom no organic lesion had been detected, although she had been seen by several medical men and yet that patient died in the following November and the necropsy revealed chronic Bright's disease. This patient derived very great benefit from the use of glasses in the relief of her neurasthenic symptoms and the case is instructive in that it shows how necessary it is to bear in mind the possibility of refractive error being present as a complication in cases of organic disease. Had the Bright's disease been recognised her neurasthenic symptoms would no doubt have been attributed to that and the patient would not have been sent to me.

Especially would I suggest this point to you in connexion with gout, for when once that word has been used there is a great disposition both on the part of medical men and patients to attribute all symptoms to that special cause, and but for this complication being overlooked many cases of headache, insomnia, &c., might be speedily relieved. Perhaps it more frequently happens that serious brain or other lesions are supposed to exist in which the results show that the troubles are entirely functional. The following is an illustration.

CASE 7.—The patient, a man, aged 44 years, had suffered for some years from nervousness, dizziness, and headaches and for the last six months had been obliged to give up his occupation. From the severity of his symptoms generally his medical attendant wrote that he feared some serious brain trouble. The medical man who saw the case here asked me to examine him and I prescribed glasses for constant use. The medical attendant at home was at first somewhat annoyed as he had already sent the patient to an ophthalmic surgeon who had found slight astigmatism but had considered it so slight as to be of no special importance. The patient got rapidly better, returned to his occupation, and has since been to Harrogate for a holiday but feels that [illegible] This case shows how [illegible] of refraction and how [illegible]

CASES 8, 9, AND 10.—It is always interesting to watch the effects of treatment in cases in which the conditions are similar and in that respect the three following instances are of use. In the spring of 1903 three patients came under observation, all married, all about the same age, in similar conditions of life—one being a solicitor, one a medical man, and one a manufacturer—and having similar symptoms: headaches, irritability, depression and feeling unfit to continue the ordinary duties of daily life. They had all tried the usual remedies advocated in these cases, special attention having been paid to the functions of the liver. In spite of treatment they had all arrived at that stage in which something must be done, as they could not go on as they were. In all three cases a sea voyage had been prescribed. In all three cases the vision was quite good and there was no complaint of any kind directly connected with the eyes. The medical man came to see me and I ordered glasses for slight astigmatism to be worn constantly and he started for the voyage. The solicitor also went by the same ship but knew nothing of his fellow passenger and he did not consult me before leaving. The manufacturer after hearing my opinion of his case decided not to take the voyage but returned to his duties. The medical man tells me that the long rest and change of the voyage undoubtedly did him a great deal of good and he also noticed that he could read in the train without headache since wearing the glasses which he could not do previously. I, too, have observed that although the glasses are not in any way a necessity from a visual point of view, that he is now never seen without them, in fact, on three occasions he tells me that he has got into bed with them on. The manufacturer has taken no voyage but steadily improved in health and in six weeks reported himself as much better. The improvement continued and I saw him recently in his usual good health and enjoying life again as of old. He was rather indignant at being sent to me as he had been told previously that his eyes were normal, but he tells me he wears his glasses constantly and has done so ever since I first saw him. The solicitor returned from the voyage greatly disappointed as he was little if any better. A few weeks later, being as bad as ever, he consulted me and I prescribed glasses for constant use. In a letter received six months later his wife writes: "My husband is now very well indeed," the "very well" being underlined.

CASE 11.—It is my lot frequently to see instances in which the whole career of an individual has been blighted and changed as the result of a cause which might have been easily remedied had it been detected and its importance recognised. This nearly happened to the writer of the following letter who was considering the question of giving up his post when he was advised to consult me. This advice was a surprise to him as he had always attributed his symptoms to digestive disturbances and had had no discomfort in the eyes and was not conscious of any defect. He wrote me four months after his visit as follows: "I must tell you of the great benefit I have received from the constant use of the glasses you prescribed for me on July 1st last (1903). I had suffered from headaches for many years, the pain being chiefly frontal and at times so acute that the whole of my head felt as though it had been burnt. About three years ago I was subjected to a very peculiar attack; a sudden dizziness overtook me when just awaking from sleep and I fell into an unconscious condition which lasted for about 15 minutes. On recovering I was left with one of those violent headaches. These attacks I suffered from repeatedly and when up and about it required a very great effort to prevent oneself from becoming unconscious. I saw a London specialist who advised the use of bromides but with no definite result. Towards the end of June last Dr. —— advised me to consult you and I have worn the glasses ordered ever since. About ten days after this I had another of those attacks, perhaps the most violent I have had, this occurring early in the afternoon. Previous to this attack I had occasionally discarded my glasses but since then I am never without them. Four months have now elapsed and so far as these attacks are concerned there seems no probability of their return. Before my visit to you lapses of memory were almost a daily occurrence, now they are practically unknown and when in evidence are but momentary. The periods of dizziness have quite disappeared. I feel better in health, my brain is clearer, the headaches have never returned since I wore the glasses, and the state of depression into which I was sinking has entirely passed away."

Were I to assert that error of refraction is responsible for a large proportion of the suicides occurring daily and that it is a potent factor as a cause of insanity that assertion would probably be held up to ridicule and dismissed as absurd. Many things appear at first sight improbable but on reflection much less so and I will ask you to reflect for a few minutes on this subject. When you have seen as I have done, in a very large number of cases the effect of uncorrected errors of refraction on the nervous system you will be struck by the great frequency of the occurrence of such symptoms as insomnia, great irritability, extreme depression, impaired memory, difficulty of concentration of thought, lack of self confidence, apprehension, weariness and exhaustion, and a general want of stability of the nervous system. I have tried to illustrate error of refraction as the cause and the correction of it the cure for these troubles. How often the patients have told me that they have been on the verge of suicide and have used the expression that they were afraid they were going out of their minds. It is quite conceivable that suicide would be more likely to occur in those who had been for a long time enduring the mental torture which results from the conditions I have enumerated and which has rendered life a burden. I will read one or two extracts from actual reports of suicide: "The deceased had been very low spirited and had been under medical treatment for six months; she complained of pains in the head." Another case: "The deceased had been afflicted with nervous debility about four years." Again: "The deceased had suffered latterly from insomnia and had been much depressed." Again: "The deceased had suffered from influenza, later insomnia, and had been taking narcotics to induce sleep."

CASE 12.—If alongside these extracts you read some of the cases I have already quoted or the following letter it certainly provides suggestive material for consideration. The writer says: "I must tell you how grateful I am for what you have done for me. I should have written long ago but wished to give the glasses a thorough test and to see if the attacks of terrible depression returned which I have suffered from previous to seeing you. I am glad now to tell you I find the glasses a great comfort and have never once had a return of these particular attacks of depression which had hitherto made life a misery to me." Many of you will be able to recall instances of sufferers such as I have described flying to narcotics or alcohol for temporary relief from their distress and no doubt this leads to much of the secret drinking which prevails to so great an extent. In view of the large number of suicides attributed to alcoholic excess ought we not to look upon intemperance as a disease and always try to find out the circumstances attendant upon its commencement as to whether or not it might be due to a remediable cause? We should often be able to trace it to conditions of suffering such as I have described and on examining the patient the presence or absence of error of refraction would be a most important point.

CASE 13.—Errors of refraction are largely on the increase and for two reasons, first, as a result of the great demands made upon very young children by the educational system of the present day, and, secondly, from the fact that they are hereditary. Insanity is also largely on the increase, not only numerically but proportionately. May there not be a connecting link between these two facts? Much that I have said in regard to suicide might also be applied to the question of insanity. To those of you who have had much experience of cases similar to those I have represented it would not, I think, require a great stretch of the imagination to suppose that some of them might lose their mental balance and become insane or gradually drift into a condition of melancholia. Insanity is sometimes attributed to shock, but it would be an alarming thought to feel that any one of us if exposed to a severe shock might suddenly become insane. We could more readily understand such an effect being produced in one who has been a long sufferer from neurasthenia, and this reminds me of a case sent to me recently for neurasthenia. The medical attendant told me that she had on two occasions been out of her mind, the cause being attributed to shock at the loss of her sister who had suddenly disappeared when on board ship and had not been seen since. This patient had for a long time suffered from neurasthenic symptoms and had always been of a highly strung nervous temperament. She had slight astigmatism in both eyes but of different degree. She had previously been sent to two eminent ophthalmic surgeons but they had apparently not attached sufficient importance to the refractive error to insist upon its constant correction.

Again, what a very important position is always assigned to alcohol in the list of causes of insanity. If alcohol by itself were the cause of insanity we should expect even a larger number of cases to result seeing the vast extent of its use and abuse and also more frequent and more rapid cure on its complete withdrawal. In an epidemic of typhoid fever you would not be content to trace the cause to the milk only, but would pursue your investigations to the source of contamination. Would it not be more reasonable in this case also to investigate the condition of the nervous system which led up to the excessive use of alcohol and this would often take us back to that starting point which would suggest a very careful examination of the patient's eyes. The truly distressing condition of some of these neurasthenic cases suggests strongly to my mind that as there so frequently is a complete nervous breakdown, so if unrelieved there might be eventually a mental breakdown. I cannot help thinking that a thorough investigation of the previous history and a very careful examination of the refraction would result in some of the forms of insanity being traced back to those early manifestations of nerve troubles which have been shown to be due to eye-strain.

We have heard lately of pre-cancerous conditions and my suggestion is that we have also a premonitory stage in some of the forms of mental breakdown and that it is during this stage that so much may be done to avert disaster. T following is a suggestive and instructive case in regard this point.

CASE 14.—The patient, a woman, aged 38 years, was [illegible] had suffered intensely in her head [illegible] the last four years; not so mu [illegible] distressing sensations and a constant dre of going out of her mind. She suffered from great depr sion and nervousness and could not be prevailed upon to out by herself. She could not go to a theatre without mu suffering after it and, in fact, was practically debarred fr all social functions and quite unfit to attend to domes duties. She had been variously and greatly treated, h changed her place of abode several times, had had a cou of Weir-Mitchell treatment, she had consulted five differe medical men in Harrogate, a consultant in Leeds, a nearly all the medical men in a neighbouring town which she lived. She could see quite well without glas but promised to wear them as she would do anythi to get better. She persevered and very gradually b very surely improvement took place. In 18 months af I first saw her she was much better in every way, ca from her home to see me unattended by her husbar could go to theatres and attend to domestic matters, a life was now to her worth living. I have recently had further report from her husband who writes: "When wife first called upon you she was in such a state nervous prostration that she was totally unfit to perform go through the ordinary duties of life and I feel co fident that the wearing of spectacles enabled her to bat against her feelings and saved her from a mental brea down. For the past two years she has never been witho her glasses and now her health is nearly restored. M she now leave off the glasses out-of-doors?" This was very long-standing and severe case and some months elaps before very marked improvement was observed. Bearing mind her condition when I first saw her I can only endor the opinion expressed in her husband's letter.

I would suggest that in all cases of neurasthenia in whi error of refraction is present that it should become t routine practice to have that error corrected. If this skilfully done and the correction perseveringly worn by t patient I am quite convinced that those measures whi may be prescribed by the physician for the restoration nerve tone will be not only more rapidly successful but mo permanently so. I must ask you to receive these remar as far as possible with an open mind, not with the id of criticising my feeble attempts at the elucidation of su intricate and difficult problems but rather to try to find them some hints, some suggestions, to help you in yo efforts to throw more light upon those obscure subjects.

Harrogate.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AN THERAPEUTICAL.

A CASE OF SNAKE-BITE.

By J. C. O. BRADBURY, M.R.C.S. ENG., L.R.C.P. LON

HOUSE SURGEON TO THE VICTORIA HOSPITAL, FOLKESTONE.

A SCHOOL-BOY, aged nine years, was brought to the Victor Hospital, Folkestone, in a cab on April 14th with the histo that he had been bitten by a snake which he had picked u on "Sugarloaf" Hill, near Folkestone, about three-quarte of an hour previously. On admission the boy had an anxio and livid appearance, rapid pulse, shallow breathing, a subnormal temperature (95° F.). He complained of feelin sick and had, his friends said, vomited six or seve times within five minutes of being bitten. There wa a punctate wound on the index finger of the righ hand, the skin around this spot being almost black; th whole hand was also swollen and œdematous, so that seemed useless to try to localise the poison by a ligatur The swelling increased rapidly and after a period of l hours the right hand, arm, and shoulder were much swolle There was also considerable ecchymosis of the skin, exten ing even as far as the right breast and halfway up the neck this was so marked about one and a half inches around the bite that it presented quite a gangrenous appearance The child was treated with hypodermic injections of strychnine Brandy and milk were also administered Locally hot boric fomentations were applied but the improvement which was at first marked was not maintained, as vomiting started again on the morning of the 16th and continued until 6 A M on the 17th Since then the boy has gradually recovered.

Dr W J Tyson, under whose care the patient was admitted and with whose permission I publish these notes, thinks the case of interest on account of the severity of the symptoms, showing that a large amount of venom was injected, the skin of the finger was exposed at the time of the bite so that there was no material such as a sock or a glove to mitigate the poison The variety of snake was unquestionably the viper (*Pelias berus*)

Folkestone

NOTE ON A CASE OF FATAL PERITONITIS FOLLOWING AN OVERDOSE OF PURGATIVE PILLS

BY J D STAPLE, M R C S ENG, L S A,
MEDICAL OFFICER AND PUBLIC VACCINATOR ASHLEY DISTRICT BRISTOL UNION

ON May 12th I was called to see a patient who was a married woman, aged 32 years, and the mother of two children She informed me that being "a few days over her time" she had taken seven Beecham's pills on the evening of May 11th and four similar pills on the night of the 10th She thought that this treatment "would set her all right" She stated that she had never had any illness I found her suffering from excessive diarrhœa and she said that she had vomited twice during the night On the next day the diarrhœa had practically stopped, no vomiting had occurred, but there was a considerable amount of abdominal tenderness On the 14th the symptoms of peritonitis were well marked and I called in Mr D O Rayner in consultation who concurred in the diagnosis and treatment The patient died on May 18th

The coroner decided to hold an inquest and instructed me to make a post mortem examination, which I did some 12 hours after the patient's death, Mr Rayner being also present We found extensive enteritis and peritonitis but the appendix was perfectly healthy There was no perforation but the inflammation involved all the coats of the bowel The internal organs were healthy and the deceased was not pregnant The jury returned a verdict that death was due to peritonitis caused by the excessive amount of pills I recently read an advertisement in one of the London halfpenny newspapers stating that "females especially will find that Beecham's pills will restore free and regular conditions," a statement which may certainly be described as somewhat ambiguous

Bristol

NOTE ON SUCCESSFUL VACCINATION AFTER THE ONSET OF SMALL POX

BY FRANK ROBINSON, M D VICT, D P H R C P S ENG
LATE MEDICAL SUPERINTENDENT BRADFORD CITY SMALL POX HOSPITAL.

IN a recent issue of THE LANCET[1] Dr J Coote Hibbert records a series of cases of considerable interest, especially to those engaged with any frequency in the differential diagnosis of small pox He attempted vaccination in 20 cases of small pox after the appearance of the eruption and obtained a successful result in 11 instances In four cases success is stated to have been evidenced by indurated raised papules, while seven presented typical vesicles Possibly a difference of opinion might be entertained with regard to the four cases in which the local evidence of success was indicated by papules The seven instances however, in which typical vesicles were obtained which ran the usual course of vaccinia would appear to establish Dr Hibbert's point that successful vaccination after the appearance of an eruption does not exclude a diagnosis of small pox

In a thesis[2] relating to small pox in Bradford in 1894 I recorded a similar series of cases to those of Dr Hibbert, which, I think, tends to strengthen his contention My notes are not now available, so I am unable to give a detailed account, but must content myself with quoting the broad facts as they appear in the thesis in question In 22 cases vaccination was attempted at dates varying from the first to the fifteenth day of illness, with failure in 14 instances The following are the dates at which vaccination was performed in the eight successful cases, two of which were of earlier date than Dr Hibbert's in two cases on the first day of initial symptoms, in two cases on the first day of papular eruption, in two cases on the second day of papular eruption, and in two cases on the first day of vesicular eruption It was thus found possible to induce vaccinia as late as the first day of vesiculation—i e, the third day of the eruption and the fifth of illness Dr Hibbert obtained vesicles in ten instances during the first four days of the eruption and papules on the fourteenth day in the eleventh case

A point of interest is the previous condition as to vaccination of the patients Dr Hibbert records that three of his 11 cases were not primarily vaccinated, while in seven of my cases there was no history of vaccination, and the eighth had but one fair mark and was 47 years of age The question as to whether vaccinia exerted any influence on the course of the attack in these cases naturally presents itself Dr Hibbert was unable to detect any modifying influence on the rash or on the course of the disease, and it may be noted that in two semi confluent cases vaccinated on the first and third days of the rash respectively, the vaccinia vesicles were very well marked Of my own cases, four were confluent in type, two were severe discrete cases, while two were mild in degree The confluent cases were very severe, were all primarily unvaccinated, and one out of the four proved fatal Of the discrete cases only one had been primarily vaccinated My impression at the time was that a favourable therapeutic influence was exerted by vaccinia, but the number of cases recorded is so small that one would hesitate to lay any great stress on that view Both Dr Hibbert's series and my own would, however, appear to establish the possibility of successfully vaccinating during the vesicular stage of small pox and possibly later This is a point of some importance in view of the strong tendency which Dr

result as a point

Medical Societies.

DEVON AND EXETER MEDICO CHIRURGICAL SOCIETY—A meeting of this society was held on May 12th, Dr J Mortimer the President, being in the chair—Dr R V Solly showed (for Mr G L Thornton) the following microscopic specimens (1) A Blood Film showing Malignant Malarial Parasites in the form of crescentic gametocytes free among the corpuscles (2) a Blood Film showing many Flagella of these parasites free among the corpuscles, (3) a Film Preparation of the Bacillus Pestis from Agar Culture showing well marked polar staining, (4) a Section of a Lymphatic Gland showing the Bacillus Pestis, and (5) a Film Preparation showing the Comma Bacillus, or Spirillum Cholerae Many involution forms were present—Dr Solly then gave a lantern demonstration illustrating, in the first place the life history of culeces and anopheletes and also the features by means of which the two genera may be distinguished in the egg larva, pupa, and imago stages A series of slides were then shown illustrating the sexual stage in the mosquito and the asexual stage in human blood of the three species of malarial parasites, benign tertian malignant tertian, and quartan Slides were exhibited demonstrating the peculiarities of the tsetse flies glossina morsitans, which conveys nagana, and glossina palpalis which conveys human trypanosomiasis or sleeping sickness, also the trypanosomes of these diseases and other varieties of trypanosomes, including the trypanosoma Tremanii found in the stone owl (athene noctua) and the wonderful transformations which it underwent in the stomach and the intestines of the common gnat, culex pipiens, as discovered by Professor Schaudinn These changes showed a great resemblance to the sexual cycle of the malarial parasite in the stomach of anopheles The subjects of the Leishman-Donovan bodies, the Congo floor maggot, and the jigger were also touched upon and illustrated.—Mr. J. D. Harris and the President made remarks on Dr. Solly's demonstration and the proceedings terminated.

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[1] THE LANCET May 20th 1905 p 1337

[2] A Clinical Record of 220 Cases of Small pox. 1895. (Vict. M D thesis)

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held on May 26th, Mr. C. D. Fitch, the President, being in the chair.—Mr. J. Lionel Stretton showed two girls from whom he had removed large masses of Tuberculous Glands in the Neck. The first patient was 17 years of age and the glands which were removed weighed one and a quarter pounds. The second patient was 19 years of age. There was a large mass in the neck and at its centre a small scar where an attempt had been made to remove it six weeks previously in America. The growth was found to involve the right sterno-mastoid muscle and it was necessary to remove the whole of this, together with the jugular vein, through one incision along the anterior border of the muscle. The mass consisted of chronic inflammatory granulation tissue, containing many quite typical miliary tubercles. There was practically nothing to be seen of the nature of lymphatic gland, but at one place the process had invaded striated muscle. Mr. Stretton said that the case proved the implication of the muscle, which he had several times before been obliged to remove whole or in part. This experience, however, appeared to be at variance with that of some surgeons.—Mr. Stretton also showed a female child, aged three years, whose Wrist he had Excised for Tuberculous Disease. The whole of the carpus and metacarpus, together with the ends of the radius and ulna, were removed. The wound healed by primary union and there was a fair range of movement.—Dr. O. C. P. Evans showed a man, aged 48 years, the greater part of whose Right Elbow-joint he had Removed nine years previously for an Injury to the Joint. The ends of the radius and ulna had been taken away, the end of the humerus being left. The man had a very useful arm and could carry on his work as a farm labourer.—Dr. Evans also read notes of a case of a woman, aged 36 years, upon whom he had performed Cæsarean Section and Hysterectomy. The operation was necessitated by a rupture in the posterior aspect of the uterus complicating a hand presentation. The woman had previously had nine normal labours.—Mr. Dykes showed a case of Convulsive Tic and also read notes of a case of Aneurysm of the Innominate Artery which was being treated by needling and had diminished in size.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on June 3rd at Manchester in the Pathological Theatre of the Medical Department of the Victoria University, Dr. Thomas Barr, of Glasgow, the President, being in the chair.—Cases and specimens were shown by Mr. Pinder, Mr. H. E. Jones, Mr. F. H. Westmacott, Mr. L. Sewell, Dr. A. K. Gordon, and Dr. W. Milligan; and papers were contributed by Dr. P. McBride, Dr. J. Dundas Grant, Dr. Gordon, Dr. J. S. Barr, Mr. Westmacott, Mr. A. Wilson, Dr. J. D. Lickley, and Mr. Sewell. The most important items upon the programme were, however, a lecture by Professor W. Stirling upon Otocysts and the Ampullary Apparatus and a paper by Professor A. H. Young and Dr. Milligan on the Continuity of the Several Cavities of the Middle Ear.

Reviews and Notices of Books.

The Principles and Practice of Medical Jurisprudence. By the late ALFRED SWAINE TAYLOR, M.D., F.R.C.P., F.R.S. Fifth edition. Edited, revised, and brought up to date by FREDERICK J. SMITH, M.A., M.D. Oxon., F.R.C.P. Lond., F.R.C.S. Eng., Lecturer on Medical Jurisprudence at the London Hospital; Medical Referee to the Home Office. In two volumes. London: J. & A. Churchill. 1905. Vol. I., pp. 975; Vol. II., pp. 924. Price 36*s.*

THE first edition of this well-known work appeared in 1865. Its publication was due to the author's belief that a comprehensive treatise would be welcomed not only by medical practitioners but also by members of the legal profession and others specially interested in the subject. That this belief was justified was demonstrated by the fact that an edition was exhausted about every ten years. The fourth edition was edited by Dr. (now Sir) T. Stevenson. The present edition has been revised by Dr. F. J. Smith and a perusal of its pages well shows the admirable manner in which he has carried out a difficult and heavy task. The last 10 or 20 years have witnessed such unparalleled activity in all branches of the sciences ancillary to medicine in general and medical jurisprudence in particular that Dr. Smith has naturally had to make considerable alterations in the new edition. He has, in fact, found it necessary to rewrite almost entirely some articles and to recast the whole plan of the work in order to bring it into line with the results of modern research.

There is much interesting matter to be found in "Section I., Introduction." The manner in which coroners' inquests should be conducted is a subject which is being energetically discussed. The opinion expressed in this work is that the inquiry affords no certainty for the detection of crime, that it affords no protection to those who are wrongly charged with crime, and that in some cases it screens a criminal by a verdict based upon an imperfect inquiry in which the important medical facts are either not understood or are misinterpreted by the jury.

The main defects in the present system of holding inquests are considered to be: (1) in a large proportion of cases there is no post-mortem examination of the body by a qualified medical man; (2) in a small proportion even of those necropsies which are made the cause of violent death may be overlooked through the want of familiarity of the inspector with the signs of a violent death or with the steps necessary to be taken in a medico-legal inquiry; (3) the verdicts of coroners' juries are not infrequently ridiculous and quite contrary to the medical evidence; and (4) it is by no means unknown for a coroner to call no medical evidence whatever.

The remarks on Evidence are admirable and we can strongly recommend a perusal of them to all practitioners, for medical evidence is often very difficult to give in a thoroughly satisfactory manner. The section on Medico-legal Responsibility in the examination of a person, alive or dead, is also a most interesting one. The importance of obtaining the consent of an individual before he or she is examined cannot be too strongly insisted on and numerous instances are cited in which the neglect of this precaution led the medical witness into serious difficulties. The subject of identity, both of the living and of the dead, is ably dealt with. The completeness with which the matter is considered is shown by the fact that its discussion occupies 130 pages. A large number of cases are quoted illustrating the numerous difficulties which may arise.

In the first volume many other matters are described in the same complete and explicit manner. Amongst these may be mentioned the signs of death, survivorship, wounds and personal injuries, death connected with extremes of temperature, starvation, and death occurring from various forms of asphyxia. Sections will also be found on suicide in general, lunacy in general, lunacy in relation to the law, and also on life insurance.

The second volume contains sections on various medico-legal points connected with the reproductive organs and on toxicology. Some of the most difficult cases with which medical witnesses have to cope are those concerned with pregnancy, rape, abortion, and infanticide, and occasionally skilled evidence is required in cases of divorce, legitimacy, and paternity. It seems scarcely necessary for us to remind practitioners how important it is to acquaint themselves most thoroughly with every aspect of the subject in which they have to give evidence. Counsel on either side will have done so and although the witness may travel with perfect security over the thick ice of his examination in chief, yet the floating ice of cross-examination may present many dangers unless he is fully prepared beforehand with the knowledge acquired by careful examination and study. In the volume now before us the fullest details are given as to the numerous points that may arise and we can speak in high terms of the manner in which these important subjects are dealt with.

The portion of the volume dealing with toxicology is also characterised by the clear and thorough way with which each detail is considered. Each individual "poison" is described in a systematic manner under the following headings: source and method of occurrence, toxicity and fatal dose, duration, symptoms, treatment, post-mortem appearances, and analysis. A large number of poisonous substances are thus dealt with and this portion of the work is in every way most praiseworthy. The volume concludes with a chapter on Medical Jurisprudence in India by Dr. W. J. Buchanan, in which attention is drawn to those aspects of medical jurisprudence which are likely more especially to interest practitioners of medicine in India and other parts of the East under British rule.

In conclusion we may mention a special feature of these volumes—namely, the perfect mine of illustrative cases which they contain. Dr. Taylor's cases were chosen with much skill and his remarks on them were so judicious that in many instances Dr. Smith has left the descriptions intact. For his own part he has brought the work well up to date, some of the most recent judgments (one as recent as Nov. 9th, 1904) having been introduced. These cases are of the greatest value and the comments on them add considerably to their interest. We congratulate Dr. Smith on the successful result of his labours and consider that Taylor's "Principles and Practice of Medical Jurisprudence" as now edited is one of the best treatises on this subject in the English language.

A Text-book of Insanity. By Dr. R. VON KRAFFT-EBING. Authorised Translation from the last German Edition by CHARLES GILBERT CHADDOCK, M.D. Philadelphia: F. A. Davis Company. 1905. Pp. xvi.-638. Price, extra cloth, $4.00 net; half russia, $5.00 net.

THE late Professor von Krafft-Ebing's comprehensive work on Psychiatry, based upon 33 years of observation of the insane, is introduced to the English-reading medical world in the present translation. It is divided into three books, dealing respectively with the introduction to the study of psychiatry and general and special pathology and therapy. These books are composed of parts and chapters and the latter again of divisions and subdivisions, which system of exposition, whilst theoretically good, is likely to bewilder by its complexity. Instances of this could be given did space allow but we must content ourselves by referring to Part iii. of Book III. as an example. Throughout the work this tendency to divide and to subdivide is noticeable in what often appears to be an artificial and arbitrary manner.

Book I. gives a good historical review of the development of psychological medicine as a science. Dealing with the place of mental disease in the general domain of cerebral disease the author reminds us that the conception of psychoses as functional diseases may be given too wide an application and thus may encourage neglect of investigation of the pathologico-anatomical foundation of disease. We would add neglect also of bacteriological and chemical investigation, research in this relation being urgently needed. The author thinks it may be said "that there is not a single diffuse alteration of the cortex of the cerebrum, be it hyperæmia, anæmia, œdema, or inflammation, which does not manifest itself clinically by a disturbance of the psychic functions." We do not know that there is any evidence for this view in respect to the three first-named alterations; we are not, in the first place, able to admit that such alterations can be diagnosed.

Book II. deals primarily with disturbances of sensation, feeling, intellect, and will, of consciousness and of the motor, vaso-motor, trophic, and secretory functions in insanity. These matters are fully discussed; the author feels himself justified in giving definite teaching on what some would judge to be hypothetical matters. Here, also, he considers the causation of insanity, with its course, termination, prognosis, and diagnosis in general, together with general treatment. On these topics the usual lines are followed; all are thoroughly dealt with. We may refer more especially to the chapter on prognosis; the remarks on diagnosis also are very good. An outline for the examination of the mental state is given; we are pleased to observe that the author in his scheme includes the signs of degeneration, which he goes into rather fully, thereby emphasising his appreciation of the necessity for anthropometrical examination, which, we are glad to admit, is recognised in some asylum schemes in this country, although the general tendency is still to regard such work as superfluous and in the nature of a fad. Under treatment are discussed "means to prevent the fluxion of blood to the brain" (bleeding, diminishing the activity of the heart, dilating the peripheral vessels, and so on) and "means of increasing the flow of blood to the brain" (dilating the blood-vessels, facilitating the flow of blood to the brain, and the like). It may be doubted whether much of value can be achieved by such means. "Psychic" treatment is duly considered. As regards hypnotic suggestion, it is shown that this cannot be expected to succeed in insanity. We believe that the method has been discarded.

Book III., which comprises the greater part of the work, deals with the special pathology and therapy of insanity. The basis of classification of mental diseases of the adult brain assigns the latter to two classes according as they are accompanied by constant pathological lesions (organic psychoses) or not (functional psychoses). The former class comprises such states as acute delirium and dementia paralytica, and the latter mania, melancholia, and so on ("disease states of the normal robust brain") and paranoia, periodic insanities, and the like ("disease states of the abnormal predisposed brain"). The intoxication psychoses are a transitional group between the two classes. In this scheme holes may be picked as in all similar attempts, but we think that a classification on pathological lines is to be approved, even though it cannot as yet be elaborated for lack of knowledge. The disorders now commonly described under dementia præcox are discussed under the heading "stupidity or primary curable dementia," which condition is contrasted with melancholia cum stupore in the orthodox way familiar to students in the "eighties." The author considers it questionable whether hebephrenia can justifiably be regarded as a peculiar form of disease. We agree with him and apply the same criticism to the term "katatonia." The student, in our opinion, loses nothing by the absence of the usual chapter on this and other forms of "dementia præcox," which is at present *de rigueur* in the orthodox text-book. The different kinds of insanity are thoroughly described. A good account is given of the neuropathic condition and its manifestations. The author describes "hysteric psychoses" but we find the exposition of these states far from clear or convincing. We think it may fairly be said of this work that the style is often laboured and verbose. On p. 576 is the statement that dementia paralytica "may develop out of cerebral neurasthenia if the blood-vessels are abnormally permeable." Similar extraordinary statements are made with confidence in the course of this work. In fact, we do not think that pathology is a strong feature of the book which is rather that of a clinician. The various types of disease are copiously illustrated by cases from the author's large experience.

This is an elaborate work, suitable more particularly for the alienist and advanced student. Dr. F. Peterson of New

York introduces it with a biographical sketch of Professor Krafft-Ebing which is an interesting account of the life-work of the brilliant alienist of Gratz and Vienna.

Life Insurance Examinations: A Manual for the Medical Examiner and for all Interested in Life Insurance. By BRANDRETH SYMONDS, A.M., M.D. New York and London: G. P. Putnam's Sons. 1905. Pp. 214. Price 4*s.* net.

IN preparing this concise manual the author has been influenced by the desire to set forth the duties and the obligations of a medical examiner for life insurance. As a medical director of one of the American companies and as a lecturer on life insurance examinations he approaches his task with ample experience of the requirements from the official standpoint. That this book is addressed to the younger generation is evident in the prefatory pages, since the author discusses whether the course of instruction at a first-class medical school will enable a man to examine healthy people, and he holds that the condition of average health presents a problem for which he is not prepared; that an alert young practitioner hunts for some pin-hole defect which he magnifies through excess of zeal; and that an applicant for life insurance minimises his symptoms and diseases and has little or no sense of commercial honour when dealing with an impersonal thing like a corporation. These things a well-equipped practitioner might be expected to anticipate though the author thinks it is not reasonable to suppose that a man can have such knowledge intuitively. There is much of general interest in the historical account of life insurance and the section on fundamental points supplies important data relating to expectation, selection, insurance companies, and insurance policies. Much time and trouble would be saved if all medical examiners would act upon the directions laid down in the section on the relations between the examiner and the company; these are explicit and sensible and apply equally to all companies and all forms of life insurance. Although the author advocates a golden mean between antagonism and sympathy with regard to agents his remarks seem unduly charitable, since the weak point of all insurance companies is that the interest of the agents cannot coincide with that of the office. The chemical examination of the urine and the significance of cardiac murmurs are briefly discussed but the conclusion is that all deviations from the normal should be fully described for the information of the company with which rests the interpretation of the facts.

The Principles of Chemistry. By D. MENDELEEFF. Third English edition, translated from the Russian (seventh edition) by GEORGE KAMENSKY, A.R.S.M., of the Imperial Mint, St. Petersburg, and edited by THOMAS H. POPE, B.Sc., F.I.C. In two volumes. London: Longmans, Green, and Co. 1905. Pp. 1190. Price 32*s.*

OUR last marked reference to the great Russian chemist and his work was made in a leading article in THE LANCET of Feb. 27th, 1904, p. 591, in connexion with his views on the nature of the ether. Chemists are inclined to regard Professor Mendeléeff's chemical conception of the ether as speculative, but we are bound to remember that he has during his remarkable career made not a few speculations which have turned out to be, after all, an intelligent prediction of facts. Therefore we listen to what he has to say with respect. At any rate, no one could fairly convict him as a man of narrow views. On the contrary, his writings show the liberal spirit of the true philosopher. His views on the chemical nature of the ether are added in the form of an appendix to the volume before us. Advancing age seems to have impressed upon him the advisability of committing to print the ideas passing in his mind upon the constitution of matter and a great inducement to make these views known occurred when the phenomenon of radio-activity was announced. Shortly, his view is that the ether is an element lighter than hydrogen and that radio-activity really amounts to the emission of a peculiar rarefied ether gas capable of exciting the luminous vibrations. He anticipates adverse criticism but to some extent meets it by giving as his reason for making known his views that he has not many years for delay. "When I applied," he writes, "the periodic law to the analogues of boron, aluminium, and silicon I was 33 years younger than now and I was perfectly confident that sooner or later my prediction would be fulfilled. Now I see less clearly and my confidence is not so great. Then I risked nothing, now I do. This requires some courage, which I acquired when I saw the phenomena of radio-activity. I then saw that I must not delay, that perhaps my imperfect thoughts might lead someone to a surer path than that which was opened to my enfeebled vision." Here speaks the true philosopher and here is once more but another instance of a great master, old in years, confessing, as his great prototype Newton did before him, that in spite of the vast number of added facts and phenomena brought to his notice the *vera causa* seems as far off as ever. The volumes stand unrivalled in their clear and simple account of the principles of chemistry. But the work is not confined to the mere consideration of principles, for they constitute, as a matter of fact, an excellent source of reference for experimental data. Professor Mendeléeff has never failed to marshal just those facts to his aid which formed links in the chain of evidence. The number of chemical substances for which he has found a place in the index is remarkable; in fact, in a sense the work will be found to serve the purpose of a dictionary of chemistry so thoroughly and comprehensively has the author treated his subject. The present edition is practically identical with the previous one except that his chemical conception of the ether forms an article in the appendix, the corresponding place being occupied in previous editions by an article that has now been incorporated in the text of the book. The work is a classical contribution and both author and translator have acquitted themselves admirably. Moreover, the present issue has enjoyed the advantage of being edited by Mr. Thomas H. Pope.

The Edinburgh Stereoscopic Atlas of Anatomy. Section I. Contents 50 plates: Thorax, 1–15; Lungs, 1–3; Heart and Pericardium, 1–12; Mediastina, 1–6; and Central Nervous System, 1–14. The work to be issued in five sections each containing 50 subjects with descriptive text. Edited by DAVID WATERSTON, M.A., M.D. Edin., F.R.C.S. Edin., F.R.S. Edin., Lecturer and Senior Demonstrator in the Department of Anatomy, University of Edinburgh. London and Edinburgh: T. C. and E. Jack. 1905. Price, complete, £6 5*s.* net.

WE have examined with great interest the first section of this atlas and have already referred at sufficient length in these columns to the circumstances and auspices under which it is being produced. The series of 50 views now issued comprises illustrations of the thorax and the central nervous system and is subdivided into sections devoted to the thoracic walls, the heart and the pericardium, the lungs, the mediastina, and the brain. Fifteen reproductions of photographs are given of the thoracic walls, the pleuræ, and the pericardium; amongst these are special views illustrating the topographical anatomy of the heart and its valves. It is interesting to learn that these have been taken by a method of double exposure, first with the sternum and the costal cartilages in position and then after their removal. The results are very striking, the viscus being seen as through a semi-transparent covering and its relations to ribs and intercostal spaces are well depicted. A careful examination of the photographs of the heart thus taken and reproduced in this series shows that its relations vary somewhat from those ordinarily accepted as correct. The relations of the lungs and the pleural sacs, of the pericardium and of the structures in the upper aperture of the thorax, are all well shown. Only three photographs of the lungs are reproduced; these views are taken from above and in front and from the mediastinal aspects. It seems a pity that it was not found possible to illustrate the surface relations of the posterior parts of these organs. The views of the heart and the pericardium leave but little to be desired and convey a good idea of the shapes, the relations, and the connexions of the various cavities. The arrangements of the valves and the positions of the thin portions of the septa are well brought out. Some of the views of the mediastina appear to be rather complicated and it is not always possible to trace the pins which carry the guiding labels to their exact destinations in the depth of the pictures. In view No. 2 of the mediastina the vagus nerve appears to be indicated as the left superior intercostal vein and several of the labels are quite illegible. In No. 3 the right subclavian and the right *external* jugular veins are said to unite to form the innominate, an obvious slip. A beautiful series of photographs of the brain is given and these cannot fail to be of great use. They include views of the surface, of the ventricles, and of sections. We doubt, however, the wisdom of including a picture of the hydrocephalic brain; it seems rather out of place in an anatomical series. The stereoscopic effect of the pictures is excellent and they have evidently been most carefully prepared. The cards might have been issued in a stronger case with advantage as they are of considerable weight.

The Investigation of Mine Air. Edited by Sir CLEMENT LE NEVE FOSTER, D.Sc., F.R.S., and J. S. HALDANE, M.D. Edin., F.R.S. London: Charles Griffin and Co., Limited. 1905. Pp. 191. Price 6*s.*

THIS is a contribution of the greatest importance in connexion with the study of the constituents of mine air. In reality it is a collection of papers written by several authors on the nature, significance, and practical methods of measurement of the impurities met with in the air of collieries and metalliferous mines. Dr. Haldane, whose excellent work and inquiries on the subject are well known, has contributed a section dealing with rapid methods of analysis which have not been hitherto published. From time to time Dr. Haldane has made some valuable observations on the subject in official reports to the Government and we welcome in this collected form the information which he has gained by experience. He has designed methods of analysis in its special application to the examination of mine air, he has studied the question of the significance of the results, and he has given an excellent account of the effects of the impurities on man. His contribution in the present book on the interpretation of the analysis of mine air is most valuable.

The account given by the late Sir Clement Le Neve Foster on the effects of carbonic oxide in connexion with the Snaefell mine disaster in 1897 affords most interesting reading. His long confinement in the poisonous atmosphere was probably the starting-point of the illness which ultimately proved fatal. His devotion to duty was remarkable. He was intensely practical and was held in the greatest esteem by his co-workers and by those in whose life interests he laboured. It is doubtful whether a more graphic account has been written concerning the sensations, symptoms, and after-effects of poisoning by carbon monoxide. His coolness under the prospect of being left to die under the insidious action of carbon monoxide claims admiration. "How soon," he wrote, "I realised that we were in what is commonly called a 'tight place' I cannot say but eventually, from long force of habit, I presume, I took out my notebook. At what o'clock I first began to write I do not know, for the few words written on the first page have no hour put to them. They were simply a few words of good-bye to my family badly scribbled." Later he made a note of the time and at two o'clock he wrote: "Good-bye, we are all dying, your Clement; I fear we are dying, good-bye all my darlings all, no help coming, good-bye, we are dying, good-bye, good-bye, we are dying, no help coming, good-bye, good-bye." A few minutes later he wrote, "The box does not come. ..... I feel as if I was dreaming, no real pain, good-bye, good-bye. ...... We are all done." At length rescue was effected and the account of the stages of gradual recovery is of great interest. The anæsthetic action of carbon monoxide was evident from the fact that Sir Clement Foster experienced numbness of the fingers and he had, in fact, burnt his wrist and hand in a candle flame and had no notion that he had done so until a friend in the evening called his attention to a big blister. This was five hours or more after the burn.

Monsieur Léon Poussigue, manager of some French collieries, contributes an account of the methods there employed for the systematic examination of the air and control of the ventilation. The method of estimation of fire damp which is described should be studied by English mining engineers, as apparently it is as yet little known in this country. The first section is a translation of the treatise on the analysis of mine air by Professor Otto Brunck of the Royal Saxon Mining College, Freiburg. The instructions given are in simple terms and should be a valuable guide to mining engineers.

This book should be in the hands of all those concerned in the control of mining operations, for it is well calculated to fulfil the noble purpose of saving human life and preventing suffering.

LIBRARY TABLE.

The Arris and Gale Lectures on the Neurology of Vision. By J. HERBERT PARSONS, B.S., D.Sc. Lond., F.R.C.S. Eng. With two plates and 22 figures. London: Hodder and Stoughton. 1904. Pp. 70. Price 2*s.* 6*d.* net.—The title hardly fits the limited scope of the two lectures which make up this brochure. Lecture I. deals with the Afferent Visual Paths. Besides giving a *résumé* of the results already obtained the author adds some experiments of his own. It seems evident that of the two branches into which the optic tract divides as it turns round the cerebral peduncle the lateral root contains the visual fibres and ends in the lateral geniculate ganglion, while the mesial branch joins the mesial geniculate body and consists of fibres not connected with vision. The white line of Gennari, or Vicq d'Azyr, or of Baillarger in the cortex cerebri in the neighbourhood of the calcarine fissure has been known since the early part of the last century and this visuo-sensory cortex has recently been exhaustively investigated by Bolton These white fibres represent the terminations of the optic fibres. Lesions of the occipital lobe produce hemianopia without affecting the pupil reflexes. The fovea almost invariably escapes. Lesions of the mesial surface near the calcarine fissure produce the most serious disturbance for their size. The second lecture deals with the Innervation of the Pupil. There is a full historical introduction. The existence of a dilator muscle in the iris is admitted and the anterior layer of the retinal pigment epithelium is regarded as acting as a dilator muscle. Evidence by Szili goes to show that the sphincter pupillæ is also derived from the retinal epiblast. "These muscles, therefore, would resemble the arrectores pilorum of the skin in being formed from the epiblast." "Budge (1851-55) first seriously attacked the problem of the innervation of the pupil and it is only within the last few years that anything of importance has been added to his results, though they have been corrected in detail." This lecture gives these advances and corrections and anyone interested will do well to peruse this brochure. An excellent bibliography is appended. The author records his own observations on the effects produced on the pupil by stimulation of the cortex cerebri.

Hay Fever. By WALTER HERRIES POLLOCK and GUY C. POLLOCK. London, New York, and Bombay: Longmans, Green, and Co. 1905. Pp. 222. Price 3*s.* 6*d.*—Let no one be deceived by the medical title. This is not a serious contribution to science, in spite of its inclusion in the list of new books on science in the *Athenæum.* It is a very entertaining story-book where farcical episodes result from two causes connected with medicine. A copy of a prescription is given by a layman to a sufferer from hay fever and the directions on the bottle are obliterated by a splotch of sealing-wax. Many overdoses are taken and as the drug is cannabis indica the results afford material for amusement. The sufferer is a stockbroker and some excellent fun is obtained from the irresponsibility of his actions while under the influence of the drug. The lively note is well sustained throughout and, though temporary relief from hay fever is produced by cannabis indica, the book ends, as it starts, with a hearty sneeze. The moral is, Avoid untrained prescribers and shun overdoses.

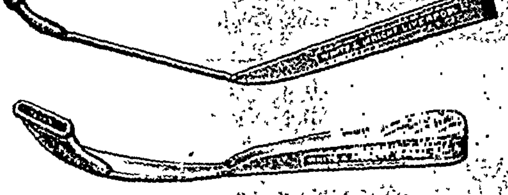
Les Rayons de Roentgen; Appareils de Production; Modes d'Utilisation; Applications Chirurgicales. Par EDMOND LOISON, Médecin-Major de 1re Classe, Professeur Agrégé du Val-de-Grâce. 1 volume in-8vo de 680 pages, avec 1191 figures dans le texte. Paris: Octave Doin, Editeur. 1905. Price 10 francs.—This work is divided into three parts, physical, technical, and surgical. The first or physical part contains a description of the various electrical appliances which are utilised in the production of the radiations discovered by Roentgen. Space is not occupied with the elementary subjects which every medical man is either acquainted with already or can find in his books, but, on the other hand, very full information, theoretical and practical, is afforded from a radiological point of view regarding the more advanced branches of electrical production. The second or technical part, which is subdivided into five sections, is concerned with the choice and management of the different appliances under various conditions, including military operations, and in addition to radiography in general deals as well with chrono-radiography, endo-radiography, stereoradiography, and metroradiography. In the final section of this part the author treats of radiotherapy, including a *résumé* of what is at present known about the deleterious effects exercised by the rays. In the third or surgical part Surgeon-Major Loison depends upon his own personal observation. He has produced a most valuable contribution to the literature of a new subject.

L'Abus des Lavages d'Intestin. By Dr. CHARLES ESMONET of Châtel Guyon. Reprinted from the *Archives Générales de Médecine.* April, 1905. Paris: Guérin, Derenne, LLuis, et Cie.—In this little pamphlet Dr. Esmonet draws attention to the "detestable tendency" which patients exhibit to administer intestinal injections to themselves in spite of all the directions which their medical men may give them against the abuse of such injections. He quotes the case of a young woman who had suffered from muco-membranous colitis for six years. During the last four years she was in the habit, twice a day, of washing out her colon with an injection of two litres of fluid. She suffered from acute spasm of the colon and never had a natural motion. The injections were stopped and belladonna was prescribed when she rapidly recovered. Dr. Esmonet concludes by pointing out that intestinal injections have their uses but that when once the large intestine has been thoroughly evacuated the injections should be stopped.

New Inventions.

AN ELEVATING VAGINAL DIRECTOR.

IN a small number of gynæcological laparotomies drainage of the pelvis is of advantage. It is well to drain at its most dependent part—i.e., from the bottom of Douglas's pouch directly into the vagina—and in the experience of the writer the most efficient agents are the glass vaginal drainage tubes introduced by Sir William Sinclair. The creation of a communication between Douglas's pouch and the vagina, whether carried out from above or from below, may be a source of delay and sometimes of difficulty. It implies interruption of the operation, fouling of one or both of the operator's hands necessitating re-sterilisation or change of gloves, and, if performed from below, alteration of the position of the patient. The instrument figured abolishes these disadvantages. For want of a better name it has been termed an "elevating vaginal director." It consists of a handle with a rigid shank on the end of which is fitted a flattened tube which has a transverse measurement of one and a quarter inches. The edges of the tube are thickened to prevent infliction of injury. The assistant introduces the instrument into the vagina and guides its upper end into the posterior fornix. By depressing the handle the upper end of the posterior vaginal wall is lifted up carrying before it the peritoneum. Through these structures the operator can readily feel the margins of the flattened tube and in some cases can see their outlines. The operator should make certain that no bowel is adherent to the bottom of Douglas's pouch, and should carefully ascertain that the orientation of the instrument is correct. Palpation with the fingers at once shows whether the cervix lies, as it should, immediately in front of the flattened tube. The vaginal wall stretched across the latter is then incised with knife or scissors, the points of the cutting instrument being prevented by the tube from damaging any other structures. Before the withdrawal of the director the cut edges of the vaginal wall are examined for bleeding points. Subsequently the assistant guides a Sinclair's tube along the vagina into position. Thus the operator's hands remain at all times clean and unsoiled and the course of the operation is uninterrupted. In ordinary circumstances the vaginal wall can be lifted up to the level of the abdominal wound. When inflammatory processes have more or less fixed the pelvic tissues the [illegible] less but is quite sufficient to permit of [illegible] being made with an ease which contrasts strikingly with former methods.

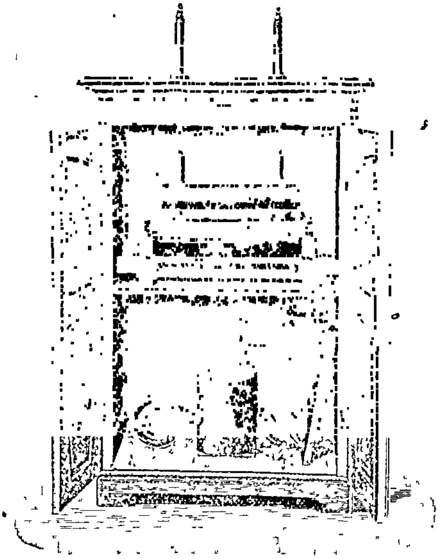


Messrs. White and Wright, Renshaw-street, Liverpool, have devoted much pains to the making of the director.

Liverpool. ARTHUR J. WALLACE, M.D. Edin.

A NEW HIGH TENSION TRANSFORMER AND A NEW FORM OF RADIUM APPLICATOR.

Messrs. W. Watson and Sons, of 313, High Holborn, London, W.C., are showing a new high-tension transformer for producing the x rays and high frequency currents, without induction coil or primary interrupter. It is made to work directly from the alternating current main. Where the supply is continuous a converter is provided to change it to alternating. The current is first led to a switchboard which is provided with the necessary measuring instruments and from which the whole apparatus is controlled. From this the wires go to the wooden cabinet which contains the transformer and the valve cell. This latter constitutes one of the chief features of the apparatus. It consists of a somewhat modified Nodon valve and is placed in series with the primary winding of the transformer. Its action is to suppress the impulses in one direction with the result that the primary winding of the transformer is supplied with a current which is more or less unidirectional. This valve will work for long periods of time without any attention. The secondary high tension current is thus also more or less unidirectional and can be used without further treatment for x ray work provided that a special bi-cathodal tube is employed. For ordinary x ray tubes a valve tube is provided which completes the rectification of the current. This valve tube is of peculiar design and will work for a long time without altering its vacuum to any material extent. The illumination of the x ray tube is very steady and the intensity of the light is under perfect control. The whole operation takes place in almost perfect silence, so quiet is the working of the apparatus. For high frequency currents the valve cell is cut out and the high tension alternating current is led directly to the high frequency apparatus which may be any of the types in ordinary use. The instrument is a distinct advance on the usual induction coil and interrupter.



The same firm are showing a new form of radium applicator made after the suggestion of Mr. T. J. P. Hartigan. It consists essentially of a thin quartz cover which permits a more full effect being obtained from the radium. The latter is hermetically sealed into the quartz by means of a silver back piece which may be attached to various carriers for application to the œsophagus, larynx, bladder, &c., the size of the applicator being practically that of a No. 12 catheter. It is also fitted with a metal cap somewhat after the style of a compass cover and the cap has a small slot cut on one side which will permit of the emanations being confined to any particular area.

A METHOD OF MOUNTING SECTIONS OF ORGANS FOR MUSEUMS.

A METHOD has been devised by Mr. F. F. Leighton of Bristol for exhibiting the cut section of an organ in such a way as to avoid the distortion due to spherical vessels or the difficulty of close examination when flat-sided vessels are employed. It is easy of execution and may prove of use to curators of museums. Thin slices of organs, prepared by one of the colour-preserving methods, are cut and mounted in shallow cells formed by cementing strips of plate glass, half an inch wide and one-fifth of an inch thick, to the edges of a flat glass plate. Old photographic plates which have been cleaned serve the purpose well. Canada balsam heated till it will set hard on cooling is used as the cement. After placing the section in the cell so formed a second plate is cemented over it. One of the strips forming the sides of the cell is cut short so as to leave an opening by means of which melted glycerine jelly can be poured into the cell and the section thus imbedded in the jelly.

BRANDY STERULES.

KNOWING how seldom it is that one can obtain a pure grape brandy when called to a case Mr. Martindale, chemist, of New Cavendish-street, London, W., has, at my suggestion, put up, in the form of his well-known "sterules," a brandy made from the grape. One or two of these brandy "sterules" can easily be carried in a small case as they take up very little space. It is only necessary to break off the top of the glass when one requires to utilise the contents.

STUART HALLOWS, M.B. Edin.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on June 2nd, Mr. JOHN TWEEDY, the President, being in the chair.

It was resolved that diplomas of Fellowship should be issued to 35 successful candidates and that Licences in Dental Surgery should be issued to 50 successful candidates.

A report from the board of examiners in dental surgery was received and adopted. The Council decided: (1) To [illegible] surgery of the Dental Board [illegible] holders of such licence to [illegible] examinations together without previous passing of the preliminary science examination. Similar privileges were accorded to the holders of the degrees or licences in dental surgery recognised by the College, provided that they produce evidence (*a*) of having passed a satisfactory preliminary examination in general education, (*b*) of having completed the necessary curriculum of professional study, and (*c*) of [illegible] professional examinations for [illegible] dental surgery. It was also decided [illegible] of Part I. of the second professional examination all candi- [illegible]

[illegible] the Membership and Fellowship and Diploma in Public [illegible] In every case the examiners [illegible]

[illegible] that it had been arranged that [illegible] to the members and visitors of [illegible] held on Wednesday, July 12th, from five to seven [illegible]

A letter was read from Mr. Henry Morris reporting the proceedings of the General Medical Council at its late session.—The best thanks of the Council were given to Mr. Henry Morris for his services as the representative of the College in the General Medical Council.

A letter was read from Sir Alfred Cooper resigning his seat on the Council, as he contemplates retiring from practice in the near future.—The resignation was accepted with sincere regret.

The PRESIDENT reported that a meeting of the Fellows would be held on Thursday, July 6th next, for the election of four Fellows into the Council in the vacancies occasioned by the retirement in rotation of Sir Henry G. Howse, Mr. Edmund Owen, and Mr. Rickman J. Godlee, and by the resignation of Sir Alfred Cooper.

The Fellows' subscription dinner will be held in the College on the evening of election day.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XV.[1]

THE PRESENT STATE OF MEDICAL EDUCATION—(*Continued*).

The Practical Unanimity of the Medical Scheme.—The Small Anomalies.—The Title of Doctor.—The London Medical Student.—The Falling off at the London Medical Schools.—The University of London to the Rescue.—The Separation of the London Medical Schools from their Hospitals.—Sir Edward Fry's Commission.—The Centralisation of Science Teaching.

IT has been seen that all medical education in England, through whatever portal the student intends to present himself for registration, is practically upon the same model, while the General Medical Council, in its intent to establish and to maintain a good and uniform standard, scrutinises the final tests of the corporations and societies from exactly the same point of view as is employed in scrutinising the universities. The result is that, roughly speaking, every medical student in the country receives the same education and is tried at the end of the same allotted period by the same tests. But this is to speak roughly indeed, as appears from the fact that the examinations of the Universities of London and Oxford have both recently fallen under the ban of the General Medical Council, although the last visitations have had such highly complimentary results, while at the same time the examination for the Licence of the Apothecaries' Hall of Dublin has been considered, after inspection, "sufficient," "sufficient" implying, of course, in the words of the Act, a standard which will "guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery."

But no one seriously supposes that the men who have taken their places upon the roll of the medical profession after complying with the educational requirements of the Apothecaries' Hall of Dublin have ever been better equipped for that profession than are the *alumni* of Oxford or London. It is true that we have in all cases the inspector and visitor of the General Medical Council, presumably on the same instructions, applying the same tests, seeing that the same provisions for fair examination exist, that the same regard is being paid to certain outlying provinces of medicine and surgery, and so on, with the apparent result that at one time there was greater fault to be found with the processes by which the student obtained the important hall-mark of M.D. Lond. or M.D. Oxon. than with those by which he is enabled to write himself down L.A.H. Dub. There can, it is suggested, be but one explanation of the position. Surely and sensibly, though in contradiction to the spirit and purpose of the law of the land, the General Medical Council inspects and visits the examinations of the different bodies from different points of view. The suggestion must not be made too much of, but none the less it must be made and its significance noted in connexion with the arguments advanced for the "one-portal system," the much debated measure of reform under which all medical men would be compelled to enter their profession by the passing of one State examination.

The important questions involved in the institution of such a State examination will fall naturally for discussion in a later chapter but it is impossible not to see that in many ways our present scheme of medical education, though it is practically unanimous in design, and though it is regulated by a coördinating authority, presents an awkward number of anomalous features. For example, in the examination schedule of one university the subject of "physics" includes the subjects "light" and "sound" and does not do so at another; "zoology" at one place and "biology" in another appear to mean the same thing; the medical student at Oxford who has passed his first M.B. examination is in the same stage of his curriculum as his brother student at Cambridge who has passed his second M.B. examination. Consider again the awkwardness of the multitude of medical titles, leaving aside for the present moment the vexed and most important question of who has a right to the title of Doctor. In England there are three corporations which can grant diplomas qualifying the possessors to be enrolled upon the Medical Register—viz., the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries of London. Two of the titles bear the name of the capital and one the name of the country, but the limitations implied have no existence, so that apart from their historic reason the titles are silly and misleading. In Ireland, again, we have the Royal College of Physicians of Ireland, the Royal College of Surgeons in Ireland, and the Apothecaries' Hall of Dublin; in Scotland the Royal Colleges of Physicians and of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow. This means that in Ireland the diplomates of the Royal Colleges are named after their country and in Scotland after their metropolitan city, as the Irish Licentiates of the Apothecaries' Hall are named, but, again, the limitations are only apparent. Everybody can practise everywhere. Again, in the Royal Colleges of Physicians of all three countries the Membership is an honour diploma qualifying for admission to the Fellowship, the ordinary diploma being a Licence. In the Royal College *of* Surgeons of Edinburgh and the Royal College of Surgeons *in* Ireland (why this queer change of preposition?) the ordinary diploma is a Licence. At the Royal College of Surgeons of England alone the Membership is the ordinary diploma and there is no Licentiate. A Member of the Royal College of Physicians of London is the holder, that is to say, of an honour diploma enabling him, if he have positive and negative virtues and advantageous opportunities, to become a Fellow of his College, but a Member of the Royal College of Surgeons of England holds the pass diploma of his corporation entitling him only to a certain microscopic consideration from his corporation, so microscopic that some members may be heard to say in cold blood that their connexion with their College is absolutely valueless to them. All these anomalies make it very difficult for the public to understand that, not only from a legal point of view but from a professional point of view all medical men enjoy the same status—that is to say, that they all owe their places upon the Medical Register to the successful negotiation of examinations supervised by the General Medical Council in accordance with the Medical Acts. Those Acts provide but one class of medical men—viz., properly equipped practitioners of whom an official list has to be kept which the public may consult and so avoid the wiles of quacks. The public, however, do not understand this and the legal profession appears to understand it every whit as little. In the *Daily Telegraph* dated March 6th, 1905, there appeared an account of a police court case where a Licentiate of the Society of Apothecaries, giving evidence for the prosecution, was thus addressed by the solicitor for the defence: "Yours is the lowest degree a medical man can take." The legal gentleman, if correctly reported, was here rude and ignorant—rude because the words are not those which a member of a learned profession should address to a member of another learned profession; ignorant because there is no "highest" and "lowest" in the qualifications by which a man obtains the right to give medical evidence. If the exponents of the law are thus betrayed into vulgar error we can hardly blame the public for not understanding the legal position of medical men and for believing in the existence of some professional hierarchy.

But far more important to the medical profession than the smaller anomalies in style and title is the embarrassing fact that only those who graduate in medicine at one of the universities bear by academic right the style which is popularly granted to all medical men—viz., the title of Doctor. The diplomates of the Royal Colleges and the Licentiates of the Societies of Apothecaries are not able to style themselves "Dr.," though the public will not allow them to describe themselves otherwise. This is extremely galling for the diplomate, as the public cannot comprehend his not possessing the title by which they prefer to address their medical adviser. They are apt to regard him as an inferior man. Hence a never-ending subject of discussion among medical men and hence a position which must come within the scope of reform soon. "The man's the gowd for a' that", is more undoubtedly true about the practitioner in medicine than about the member of any section of the community and many a man possessing only the pass title of his corporation enjoys a position every whit as good socially and scientifically as his colleague who is a medical graduate, but this does not alter the fact that the classification into "Drs" and "Mrs" of the rank and file of the medical profession does a real injustice to a great number of men, especially to the London medical student whose peculiar position at the present moment must be considered in some detail

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[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., and XIV. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), 22nd (p. 1039), and 29th (p. 1151), May 6th (p. 1218), 13th (p. 1287), 20th (p. 1375), and 27th (p. 1449), and June 3rd (p. 1533), 1905, respectively.

Twenty five years ago the average annual entry of medical students intending to take out their whole curriculum in one of the 12 London schools was little short of 700 It varied from 670 to 730, and to these there had to be added a fair number of students who having done their preliminary work elsewhere, joined a London medical school to complete their course by 'walking a London hospital During the "eighties" and "nineties" the common entry of general students at all the schools gradually dropped, now one school and now another appeared to suffer more than its fellows, but the story was one of regularly decreasing popularity of the London schools Dr J Kingston Fowler, the dean of the medical faculty of the University of London, who has made the position of the London medical student his particular care, has recently given,[3] upon the authority of the several deans of the schools, 424 as the annual average number of medical students entering for the whole curriculum in London during the period 1900 04 and having regard to the fact that figures so obtained would not constitute an under statement of fact, we should probably be safe in assuming that not more than 400 students are likely next October to enter for a complete course of medical education in London The broad significance of the desertion of London by the medical student must not escape us London is not only the capital of this country and this empire but it is a truly world's capital in a way and to an extent that Paris and New York are not If, as would appear self evident medicine and surgery can only be learned where men and women are congregated together in sufficient density to display numerous types of disease then it follows that London should possess the first medical school in the world An unexampled wealth of material should be utilised by the finest processes of tuition or the world is deprived of what it has a right to expect When a medical student turns his back for choice upon London and seeks his education elsewhere, when the famous hospitals of the metropolis do not attract him, when to reside at the world's headquarters appears to him to offer no rewards commensurate with its drawbacks, a serious position is implied By so much as the work done in the wards and out patient departments of the London hospitals is not utilised for educational purposes, by so much is our country placed at a disadvantage compared to others—we are wasting scientific opportunities The world is the poorer and Great Britain is especially the poorer The advantages of living in London and the field that is offered by London for the observation of disease cannot have escaped the attention of the student or his parents A huge seaport the seat of a court and a Government a teeming industrial centre finding employment for tens of thousands of operatives, a fashion and pleasure capital a focus around which 20 residential cities are more or less loosely grouped, and the money exchange of civilisation,—that is London, and such a city, or rather such a congeries of cities must have within its ill defined ramparts examples of all sorts and conditions of physical ill Before the student of disease would turn his back upon the opportunities thus offered to him he must feel that he would suffer in London from disabilities so serious as to annul the benefits

Readers of THE LANCET know the position so well that it can be put before them quite briefly, though the remedy is still, and will possibly for some time remain, the subject of debate These are the cardinal facts Medical education in London is in a displayed and confessed condition of muddle, the muddle is made worse by the shortage of medical students and consequent pecuniary loss to the schools, the London medical student cannot secure a medical degree upon terms which obtain elsewhere though his qualifications for a degree are undeniable How far these things depend upon one another is not as unquestioned as is the existence of the condition but the connexion is undoubted There are in London 12 medical schools each complete in itself and all offering to teach the medical student everything that he requires from the beginning to the end of his curriculum Each school possesses, in addition to lecturers upon, and demonstrators of, anatomy and physiology, teachers of all the ancillary subjects and each has striven to provide the necessary laboratories and class rooms for such an undertaking Fifty years ago the scope of the medical student's education being what it was, a medical school attached to a metropolitan hospital could easily provide all the necessary educational facilities for a student, 25 years ago the 12 separate schools were all working fairly satisfactorily as separate institutions, although those few persons who considered the matter outside their own immediate interests were able to prophesy imminent trouble Now the scheme has considerably broken down Since 1880 the expenses of medical education have been enormously increased The development of physiology the recognition of the intimate connexion between practical chemistry and biology on one side and pathology on the other the increase of our familiarity with electrical phenomena —these and many other advances in our scientific knowledge will occur to the mind at once as involving a medical school that would aspire to be completely equipped in grave expense All the London medical schools responded gallantly to the calls made upon them by the progress of modern medicine, some were enabled to do so much more completely than others but the story has been on every side one of unselfish profusion The medical education of England had to a great extent, been confided to the London medical schools and the men responsible for these schools made strenuous efforts, and for some time with no mean measure of success to meet the demands upon them But it has of late been borne in not only upon the authorities of the smaller medical schools but upon many connected v is useless to continue to in London of 12 separate co

Several of the larger hospitals might be able to maintain themselves as individual centres but amalgamation was seen to be the right course for the smaller schools To support in several places upon money that could be ill afforded a laboratory and a class room for the instruction by an unpaid teacher or a small group of lads was seen to be hopelessly uneconomic when one teacher in one class room could be paid to do the work properly And as the numbers of the London students began to drop off this position became clearer At first it led to increased expenditure by the smaller schools in the idea of attracting more students whose fees would justify the cost to the school—and in some cases to the hospital—of provision for an up to date education, but lately the futility of this course has been recognised For lately owing to several things, but chiefly to the reconstitution of the University of London whereby the medical schools of the metropolis became affiliated to the University the position of the London student became better understood It became recognised that to a great extent he was not deserting the London schools so much because he found the teaching in them inadequate as because for several reasons it was very difficult for him to obtain a medical degree

Immediately the subject of a medical degree for the London student is mentioned we are confronted with the dilemma that there is a medical degree available for him and for the rest of the empire—that of the University of London Why, asks the partially informed man does he not take advantage of what is offered to him? Or regarding the matter a little differently Why should the standard of the London degree be lowered that the London student may be able to pass the tests?

It is true that the degree in medicine of the University of London is of a high standard—probably when every branch of medical learning is considered with the examiner's eye the London degree is the best medical degree in the United Kingdom But it has not been wholly the intellectual difficulty of obtaining the degree that has kept the London student in greater numbers from competing for it—the fault has lain also and to an extent that has not been realised in the absence of any systematic teaching for London medical students directed towards their obtaining the London degree The 12 schools were strong some of them, in one direction and weak, some of them, in others In one school the dean seeing the paramount value of a medical degree, would exhort the student to obtain it; in another school the dean might not be over-interested in that matter or, indeed, in the students generally. The matriculation at the University of London undoubtedly was an obstacle to many students. This is still a test examination offering considerable difficulty to a lad on the threshold of a professional career, but the examination has now been made more reasonable in scope and design and should offer no insurmountable barrier to the properly taught student. And if he has some difficulty in the beginning of his career that is where difficulty should come, for the proper grounding that is insured by a searching, but not unduly hard, examination at the beginning serves the student an excellent turn later. A good general knowledge, which may be elementary but must be sound, of the preliminary subjects makes the rest of the curriculum so much simpler that the fortunate student who has begun by passing a fairly rigorous test can never understand the trials and vexations that seem to await his contemporaries at the hands of their examiners. At the University of London, after passing a distinctly high grade of matriculation the student finds himself confronted with a preliminary scientific examination which, again, is of the nature of an honour examination. Here the well-grounded candidate should be ready for the fray, but no soldier, however good, can fight effectively without weapons. And some of the London medical schools have not until recently provided the proper facilities for passing the examination. There is not a school in London, and there never has been, where an intelligent student of rather exceptional industry, bringing method to bear upon his work, could not pass the examinations for the London degree, but every student is not by nature orderly and industrious—nay, more, he may possess neither quality as they are understood by examiners and yet possess them both in a high capacity as a practical man for the practical issues of life. (Be it understood that examinations, whatever their purpose, are not [illegible] and that the medical examinations of [illegible] London are, and have been, in no way distinguished for their practical character.) These facts put a different construction upon the comparative failure of the London medical student to graduate in medicine at his University. It will be seen at once that the elements of chance have played a great part in his career and yet may do so. His school may not provide the necessary facilities or teachers; his classes in special subjects may be so small that the stimulus of competition may be much absent; his curriculum is not mapped out for him with a medical degree at the inevitable end; on the contrary, there are alternative tracks along which he can reach the Medical Register. All these things are obstacles to a smooth career and though they are frequently surmounted by young men possessing no vast claims to mental superiority still—now one, now the other, now all combined—they prove fatal to the efforts of many who in a more favourable environment would be able easily to satisfy intellectual tests similar to those of the University of London. It is a partial view, therefore, that regards the fact that a great many London students do not obtain a medical degree as a necessary reason for demanding the lowering of the standard for obtaining that degree. This is to shut our eyes to the truth that medical education in the metropolis at the present moment, in spite of much excellent individual effort, is a somewhat disorderly affair which requires consolidation and simplification very badly.

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[3] The Times, Feb 22nd, 1905

The public as well as the medical profession has lately had a chance of seeing the situation clearly, for it was brought into considerable prominence at the beginning of this year by a valuable report made to the King Edward's Hospital Fund for London by a small committee consisting of Sir Edward Fry (chairman), Lord Welby, and the Bishop of Stepney (Dr. Cosmo Gordon Lang). This committee was appointed by the King Edward's Hospital Fund for London in response to a growing feeling that money might be diverted from the objects for which it was intended if hospital authorities, choosing to consider their hospital and its attached school inseparable bodies, should make up the deficiencies in the school accounts out of moneys received for the charitable institution. The terms of reference to Sir Edward Fry's committee were very simple. The members were asked to consider and to report whether any money given or subscribed for the relief of the sick poor to the 12 London hospitals having medical schools is used directly or indirectly by all or any of those hospitals for the maintenance of medical education. The arrangements of the hospitals exising in January, 1905, were to be taken as the subject of the inquiry, and the committee was asked also to report, in the event of any hospital subsidising its school out of money properly belonging to the hospital, whether the hospital received an adequate return for such subsidies. The committee got to work with commendable promptitude, being a small and thoroughly competent body with definite issues before it, and made its report at the end of February. The report found that two hospitals only out of the 12 could be acquitted of the charge of subsidising their schools out of hospital funds; that two medical schools could not be ascertained to be clearly deriving any pecuniary benefit from their associated hospitals; and that all the other eight medical schools directly or indirectly received contributions from hospital funds. With reference to what repayment was made by the medical schools to the hospitals for their subsidies the committee reported that no return was ascertainable from the schools which could be held to recoup the expenditure of money upon pathological and bacteriological laboratories, though it was allowed that the schools supplied the hospitals with a valuable amount of skilled gratuitous service. Finally, the commissioners added to their report the following paragraphs[3] which were only loosely related to the terms of reference but which are of the greatest value as showing a sound appreciation of the position of the London student:—

> "25.—We have formed the opinion that a broad line of distinction ought to be drawn between the studies of the first three years of a medical student's curriculum and the studies of the last two years—or, in other words, between the preliminary and intermediate studies on the one hand and the final studies on the other; and that whilst the latter studies can only be pursued with advantage within the walls of a hospital and nowhere in the world with more advantage than in London, the earlier studies have no real relation with a hospital and are therefore more properly to be pursued in an institution of a university character; and further, that the attempt of many of the hospitals to associate with themselves schools teaching the preliminary and intermediate subjects is a great, if not the chief, source of the exhausted condition of the funds of many of the schools and the consequent demand of the schools on the funds of the hospital.
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> "26.—It is therefore with great satisfaction that we find that the statutes of the University of London (Paragraph 80) direct the Senate to 'use its best endeavours whenever practicable to secure such common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres'; and if this object can be carried into effect we believe that it will free some of the schools from burdens which they find it difficult to bear."

These paragraphs were seen at once to strengthen enormously the hands of those who believe that in the reconstitution of the University of London lies the salvation of the London student. A central school at the University, or two or three central schools founded as integral parts of the University, would secure for the London student proper education in all the preliminary parts of the examination. He would be taught by well paid professors in well-furnished laboratories—he would, in short, enjoy a proper educational training, well organised, and well directed to a definite end as does his brother student in Liverpool or Edinburgh.

The efforts of the present teachers of the introductory and ancillary subjects in London must not be despised any more than must those of a small hospital, desperately short of money, which founds and tries to support all the machinery for a modern scientific medical education at the cost of £5000 or more. The hospitals and schools of London have struggled manfully to deal with the situation. They have strained their resources—one or two of them to snapping point—in their endeavour to fulfil their proud functions of the past and their lecturers and demonstrators have gallantly seconded their efforts by doing admirable unpaid work. But the students are not attracted and without the students the struggle cannot and need not be continued.

The common experience of those who have interested themselves in the London student, no less than the report of Sir Edward Fry's committee, shows these three things and we have to make up our minds to what degree they are inter-related. We have—(1) a decided falling off in the numbers of the London students; (2) a system of medical education that is manifestly faulty as well as uneconomical; and (3) undoubted difficulty in obtaining a medical degree in London. Cannot all these three things be related so that if the University of London can provide the proper scheme of education the students will return to the London schools where the best clinical material for their later studies may be obtained? And should not the degree of the University of London be secured by a good proportion, say 75 per cent., of the students when they receive proper teaching to that end? I believe so, and I do not attach great importance to the cry that a medical degree for London students implies the lowering of the standards of the degree of the University of London. With considerable disadvantages the London medical student as a rule takes the diplomas of the English Conjoint Board and we know that this final examination is of a really high character. Those qualified by the Board take high places almost invariably when they enter for competitive examinations; and the number of men who, possessing the double diploma of the London Conjoint Board, reach high positions in private practice and in public appointments is great. These things go to show that the want of a medical degree to the London student is an accident due to faulty arrangement, but an accident which may militate so seriously against his future career as to have decided many students to seek their medical education elsewhere than in the metropolis. Many hospitals—London and provincial—all the important ones in fact have laid it down that their medical staff shall be graduates in medicine. The mere diplomate, though he may be known to have passed an examination that would have amply secured for him a doctorate at centres other than London, cannot compete for posts at hospitals against the holders of medical degrees of any sort. And in private practice he is liable to be told that whatever the people may call him he is not a "real doctor." The London student knows all this too well, and the columns of THE LANCET have borne frequent testimony to the reality of the grievance that has been suffered, and still is being suffered, by the London student. But the situation has not as yet been remedied.

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[3] See THE LANCET, Feb. 25th, 1905, p. 521.

The question is, Can the newly constituted University of London come effectively to the rescue? There is no doubt that the Faculty of Medicine of the University has done its best to meet the case. When the Senate of the University came into office it recognised the obligations imposed upon it by statute and requested the Faculty of Medicine to consider the position of medical education with the view of reform. The Faculty of Medicine consisting of some 400 recognised teachers many of whom are connected with the London medical schools appointed a committee from which it received an important report. The gist of the report can be realised from its result, for a movement was at once inaugurated for the foundation of an Institute of Medical Sciences to serve as a central school for the education of the students of the University in those subjects the study of which must precede professional study proper—which would necessarily be undertaken at a hospital. An appeal was made to the public signed by Lord Rosebery, the Chancellor of the University, and all the chief officers of the University begging for the immediate support of an Institute of Medical Sciences. This appeal was received by the whole of the press of London with outspoken approval and met with a prompt return, several munificent donations being received. Subsequently a letter signed by the treasurer or chairman of every London hospital concerned was addressed to the Chancellor of the University endorsing the action of the Senate. All these important and responsible officials, who had been compelled by the positions which they held in connexion with the general hospitals of London and their medical schools to give the proposal that the University should undertake the teaching of the preliminary scientific subjects of the medical curriculum the most serious consideration had come to the same opinion. They were convinced, and had no objection to saying so publicly, that the adoption of the recommendations of the Royal Commission in favour of the concentration of the teaching of the preliminary subjects had become a matter of urgent necessity in the interests alike of the hospitals and the medical schools.

It must not be supposed that this opinion is held unanimously by all London medical teachers; on the contrary, there are teachers at the London medical schools who consider the plan of fusion of all the schools into one central institute, as far as the purely school subjects are concerned, to be a mistaken policy. They admit that the smaller schools depend for their very existence upon some amalgamation scheme and think that these schools might well enter into a form of combination among themselves for courses in the non-professional scientific subjects, leaving anatomy and physiology still in the hands of each hospital school. The larger schools they consider might, being affiliated to the University of London, be helped by the University with any money that the University can raise for such educational purposes, but it seems in their opinion unwise to dissociate all preliminary science teaching from the teaching of the purely professional subjects (which must be taught at a hospital) because day by day practical medicine is becoming more and more dependent upon laboratory inquiry. The opponents of a scheme of centralisation use the argument of economy every whit as keenly as its advocates, as can be seen by reference to Mr. Henry Morris's able oration delivered before the Medical Society of London on May 15th and published in THE LANCET of May 20th, p. 1313. Much money has already been spent upon perfecting the medical schools of the various hospitals and to a certain extent this money will be wasted while much more money is yet required before the Institute of Medical Sciences becomes a possibility. But the wastefulness of removing the study of the preliminary sciences from these numerous newly constructed institutions is not as great as it looks. Annual subsidies from the University to the different efficient centres would mean year by year a set of separate smaller payments that would in the aggregate amount to more than the one set of large payments necessitated by a central institution, while many more chances of maladministration would be introduced. Again, the money already subscribed for and spent at the separate medical schools will not be wasted entirely, or even at all. The laboratories intended for the pursuit of physiology and chemistry, can all be employed for those sciences medically applied—i.e., for pathology. There is great and immediate need in London for improved clinical and pathological laboratories if London is not in this respect to drop behind the provinces, for everyone recognises as the most salient characteristic of modern medicine its association, through pathology, with chemistry and physiological chemistry, an association which grows momentarily more intimate. None of the money spent on bringing medical schools up to date will be wasted. The laboratories can simply be used to supply other needs that are very severely felt. The huge size of London is an argument against making it compulsory upon all students to attend one place and one only, but there might be one Central Institute of Medical Sciences at the University of London and two others perhaps auxiliary to it; there can be no doubt however that economy will be best served by the concentration of the science teaching of the medical student in one, two, or perhaps three centres.

These things have occurred of course to the minds of the Senate of the University of London, for this body has lately appointed a committee to confer with representatives of University College, London, and King's College, London, and of the schools of the University in the faculty of medicine as to the practicability of securing common courses of instruction in the preliminary and intermediate subjects of medical study at University College and King's College, such common courses to form part of a scheme for the concentration of the study of those subjects in the University. The wish is to utilise to the full extent the existing opportunities for concentration afforded by University College, London, as a northern centre and King's College, London, as a southern centre while waiting for the foundation of a Central Institute. It is recognised that the resources of University College and King's College are inadequate to accommodate all the students at present in the London schools and for a time it will be necessary to continue the teaching of the preliminary and intermediate subjects at some of the schools. Naturally it will be the larger schools—those of St. Bartholomew's Hospital and London Hospital, for example—that will remain for some time unchanged and it is at these schools that permanent resistance to a complete centralisation scheme may be expected. Every school naturally resents being forced into a centralisation scheme, for any method of amalgamation wears the appearance of confessed weakness, and the large schools where as yet no urgent necessity presses for the strength that comes from union, may well be expected to make a fight for individuality. Conscious of having done their work thoroughly well they do not see why they should give up doing it and the feeling is one with which we must all sympathise.

Yet in the interests of the London student we must wish earnestly to see the day of amalgamation approach. The larger schools may say that it is not the inefficiency of their teaching that has caused the dearth of London students; but rather the facilities offered by other medical centres for attaining a medical degree. To this the reply is that equal facilities can only be obtained under an amalgamation scheme. Such splendid work has been done by London teachers in adverse circumstances, and in return for little or no payment, that it would be indeed ungracious to suggest that the quality of the teaching is not what it was, but without making any such suggestion it is undoubtedly true that some of the best London teachers are snapped up by other medical schools and well paid by them. So that again centralisation appears as the remedy for existent evils. The bringing of all the medical students of London, at the beginning of their career, into one of two or three schools which are not connected with this or that hospital but which form an integral part of the University of London would naturally turn the student's eye from the beginning of his career upon the M.D. of London as his proper goal. All his early education would be towards that end, and being systematically instructed, he would not find the purely scientific examinations so hard as to form an unjust barrier against his legitimate aspiration to be a medical graduate of his university, thus escaping the drawbacks of professional life without the title of Doctor.

Amalgamation will certainly take a step forward quite shortly and we shall then have practical experience of its value to the London medical student. To prophesy that it will to a great extent remove his grievances may seem over sanguine, but is it? At a central school he will receive from selected teachers proper training. He will then go to his hospital well grounded in science, well prepared for future teachings, and definitely embarked upon an attempt to obtain a medical degree. At the hospital he will receive the individual attention that at a central school he may have lacked, and his practical education by the bedside can hardly fail to be improved by the lightening of the educational burdens of his teachers—the medical staff of the hospital. There seems to me no reason why 75 per cent. of the London students in such circumstances should not obtain the medical degree of their university with no undue delay and with no series of merited or unmerited "ploughings." And when this position is reached it will surely mean that London will again be recognised as *par excellence* the centre of the world for medical education.

(To be continued.)

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 9, 1827.

In my preceding letters upon the subject of the Royal Commission for visiting the Universities of Scotland, I stated that the inclinations of that body are believed, by those who are more immediately to be affected by the changes that may [illegible] introduced, to tend towards recommending an assimilation, in respect to medical discipline, of the Scotch to the English Universities, by an extension of the period of medical education in the former from *four* to *eight* years, the first half of that period to be consecrated to what is called preliminary study. The writers also on this subject, in Scotland, by whom the Commission are [illegible], or whom they may deign to prompt, are earnest in recommending, for *all* the branches of the medical [illegible], what they call a *due* and *adequate* course of preliminary education, without condescending to explain, or [illegible] knowing themselves what precise meaning they would attach to these words. They do not favour us with either a *maximum* or a *minimum*. But, of course, according to their doctrines, the more the young medical brain is saturated with collateral knowledge, before it receives any of a strictly medical nature, the better. If they be sincere in these opinions, I can only say it appears to me that a species of epidemic insanity prevails in [illegible]; and, if otherwise, that they are only [illegible] vocation—exercising [illegible]." This doubling [illegible] considered by many [illegible] double the expen[illegible] to the student, [illegible] cultivation of medicin[illegible] of the community. [illegible] to the public, and is who[illegible] spirit of the institutions of a free country. On the part of the student, it would be a grievous waste both of time and money, for which he could not reasonably hope, by future professional exertions, to obtain adequate remuneration. But this is not all; for as I said, in one of my former letters, "unless the head of the medical student have an infinite capacity for knowledge, the less it is loaded with attainments not necessarily connected with medicine, the more it is likely to imbibe of strictly professional acquirements." I therefore concur with Dr. Duncan, jun., that, "in devising plans for the reform of the education of professional men, it is of the greatest consequence to keep constantly in view the distinction between those kinds of [illegible] and scientific knowledge, which are a[illegible] to the safe exercise of the professi[illegible] is desirable, and for the interest of the practitioner that he should possess, and those which are merely ornamental. "[illegible]tem," says he, "which will have a t[illegible]glect any branch of which he ough[illegible] never be compensated by any ext[illegible] those of which his ignorance is harm[illegible]. Medicine is a practical profession. That knowledge is most essential to the students, which renders them the most useful servants of the public; and all reputation for extrinsic learning, which is acquired at the expense of practical skill, is meretricious, and deceives the public by dazzling their judgment."[1]

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[1] Excerpt from a letter to the Editor of THE LANCET, dated London May 18, 1827, and signed "An Anti-Monopolist, C."

UNIVERSITY OF CAMBRIDGE.—On June 1st Mr. Beck, Master of Trinity Hall, was elected Vice-Chancellor for a second year.—The spec[illegible] has proposed a scheme by [illegible] and M.D. degrees who are [illegible] all their examinations ma[illegible] *absentiâ.*—A studentship in [illegible] in the University in memory [illegible] Anthony Wilkin of King's College.—Dr. L. Humphry, Dr. S. West, Dr. W. Hale White, and Dr. J. Rose Bradford have been appointed examiners in medicine; Dr. W. Rivers Pollock and Dr. M. Handfield-Jones, examiners in midwifery; and Mr. T. H. Kellock, Professor H. G. Barling, Sir Hector C. Cameron, and Mr. C. W. Mansell Moullin, examiners in surgery for the ensuing academical year.

NATIONAL HEALTH SOCIETY.—The annual distribution of medals and certificates given by the above society took place on May 30th at Grosvenor House, London, W. Princess Christian handed the awards to the recipients and Lord Derby presided. Amongst those present were Sir William Church, Sir Frederick Treves, Sir William Broadbent, Sir Thomas Smith, Sir James Crichton-Browne, Dr. Robert Hutchison, and Dr. Clement Godson. Sir William Church, in proposing a motion to the effect that the work of the National Health Society is deserving of all support, its object being the diffusion of the knowledge of the laws of health among all classes of the community, especially among women, who are responsible for the hygiene of the home and the rearing of healthy children, said that during its 32 years of existence the society had done incalculable good. Sir Frederick Treves seconded the motion, remarking that though the report of the Privy Council Committee on Physical Deterioration revealed nothing of a very alarming character it had certainly shown a state of affairs which was not creditable to the country. It was within the province of the National Health Society to find a remedy for the evils shown to exist by that Committee. The motion was adopted and a vote of thanks to Princess Christian, who is president of the society, terminated the proceedings.

THE LANCET.

LONDON: SATURDAY, JUNE 10, 1905.

Air-borne Infection from Small-pox Hospitals.

IN THE LANCET of June 3rd, p. 1520, we referred to the excessive local incidence of small-pox which has so often been traced when hospitals receiving acute cases of this disease have been situated within or near populous neighbourhoods, and to the remarkable evidence of this characteristic "hospital influence" which has been afforded by different epidemics during the last few years. We revert to the subject in order to consider the trend of recent discussions on the cause of these repeated manifestations of small-pox "hospital influence." More than twenty years have passed since Mr. W. H. POWER suggested that the infective ability of particulate matter derived from acute cases of small-pox was not necessarily limited in its range to the room containing the patient or to the interior of a hospital in which small-pox patients were under treatment. At that time, as now, the high degree of infectivity (to unprotected persons) of the atmosphere of a small-pox ward or sick room was generally recognised and was attributed to what no doubt is its true cause, the presence in the air of an abundance of floating particles derived from the affected portions of skin and mucous surfaces. Mr. POWER, recalling familiar facts respecting the transit of various kinds of floating particulate matter for considerable distances through the open air along lines of definite convection currents, suggested that in course of the many days in which a small-pox hospital is used during an epidemic occasions now and then arise when infectious particles carried upwards from the hospital are conveyed by local air currents to places in the neighbourhood of the hospital without undergoing any great degree of dispersion. The hypothesis of "aerial convection" depends on an assumption of the probability that this may occur. The necessity for the hypothesis was that it afforded a consistent explanation of the sum of the facts which had then been ascertained with regard to "hospital influence": in particular the recurrence and the persistence of small-pox round the same hospital in different epidemics; the manifestation of "hospital influence" at different hospitals, notwithstanding strict administrative precautions and close supervision over the incomings and outgoings of nurses, porters, visitors, and ambulances; and the fact that the exceptional incidence of small-pox was seemingly independent of the lines of communication and traffic to and from the hospital but was distributed in all parts of the neighbourhood of the hospital. It afforded an explanation likewise of the otherwise perplexing circumstance that the incidence of small-pox on houses near the hospital was graduated in its intensity, the percentage of houses attacked becoming less as the distance from the hospital increased. Moreover, Mr. POWER found that manifestations of "hospital influence" coincided with meteorological conditions (especially calm days, or days with light and variable airs from almost any part of the compass) which would favour local convection currents of the kind supposed. The alternative theory that all these phenomena of "hospital influence" had resulted in some way or other from personal communication and traffic was tested by Mr. POWER in a variety of ways but after prolonged inquiry failed to afford any adequate explanation of the facts. Since Mr. POWER'S work numerous other instances of "hospital influence" have been investigated and analysed on similar lines and with like results. When it has been possible to give the labour necessary to ascertain the proportion of houses attacked at different distances from the hospital clear evidence of graduation has practically always been obtained. In the case of some hospitals, however, the position has been complicated by the inadequacy of the buildings, by overcrowding, mismanagement, and insufficient supervision of patients and staff. Accidents such as the escape of patients from the hospital grounds have occurred, and there has been clear evidence of communication between patients within the hospital inclosure and persons outside. So that in these cases, whatever may have been also taking place as to aerial convection, it has been evident that opportunities have been afforded for small-pox to spread in the neighbourhood of the hospital by personal communications. It has been maintained in view of these instances that, if only the facts could be fully known, "hospital influence," wherever and whenever it has occurred, would be found to have resulted wholly from personal infection of this kind. This view was developed and skilfully defended by Dr. A. NEWSHOLME in the recent discussion at the Epidemiological Society. The argument is that it is practically impossible to prove a negative; that it is therefore impossible in the case of the best-administered hospital to say that no communications have taken place between patients or infectious members of the staff on the one hand and persons living near the hospital on the other; and that the hypothesis that numerous and persistent communications of this kind have, after all, occurred is always to be preferred to the hypothesis of aerial convection.

The difficulty in accepting this position, however, is that it involves a series of assumptions—for example, a continued series of visits by infectious patients or staff to houses all round the hospital, graduated in inverse relation to the distance—which, when applied to a number of hospitals in different situations and under widely different conditions of administration, impose a far greater strain upon the imagination than any involved in the aerial hypothesis. And the most recent examples of "hospital influence" are by no means easy to reconcile with Dr. NEWSHOLME'S theory. As Dr. BUCHANAN pointed out, the hospitals lately concerned have been those of cities which leave little to be desired in the way of hospital organisation and administration and readiness for emergency. Nevertheless, Liverpool has been unable to prevent "hospital influence" being exerted by each of its three small-pox hospitals, while in Glasgow the characteristic spread of the disease has been manifested year after year in four successive epidemic periods. In the case of the hospital ships in Long Reach it would be necessary to assume numerous and periodic communications between patients or staff and a variety of persons on the opposite bank of the Thames, nearly half a mile away, an assumption for which there seems to be little warrant. A further difficulty arises in explaining the case of Gateshead, where the "hospital influence" was mainly felt, not in Gateshead itself, the place from which the patients came and which furnished all the hospital traffic, but in the district of Felling, which sent no patients to the Gateshead Hospital and had no traffic or other communication with that hospital. Nor can the hypothesis of unknown personal communications be reconciled with the experience of Monsall Hospital which Dr. J. NIVEN related to the Epidemiological Society. Here in the course of a few days small-pox appeared in four separate wards of the fever hospital which adjoined the small-pox hospital, while at the same time an outbreak occurred in the neighbourhood beyond. Not only did inquiries fail to trace personal communication in either set of cases but it was evident that any assumption of unknown communications which could explain the fever hospital cases could not also account for the outbreak outside and *vice versâ*. On the other hand, both outbreaks were readily explicable by aerial convection, which would have been favoured by the prevailing meteorological conditions. It is well known that no indication of "hospital influence" has been obtained in the case of hospitals containing patients suffering from other diseases usually received into isolation hospitals, scarlet fever, diphtheria, or enteric fever, or in the case of hospitals receiving only convalescent cases of small-pox. When patients in the acute stage of these four diseases are compared it is probable that small-pox, by reason of the character and abundance of its rash, would be capable of causing the highest degree of contamination of air with infective matter. In this connexion Dr. NIVEN's recent experience of the absence of small-pox from the neighbourhood of Clayton Vale Hospital at a time when the skin of all the acute cases was kept thoroughly and systematically oiled or was protected by means of special dressings deserves mention. If in future epidemics it should still become necessary to use hospitals in populous neighbourhoods for small-pox or to treat small-pox patients at their homes Dr. NIVEN's system of minimising the risk of aerial contamination would seem well worthy of trial.

"Toujours en Philanthrope."

IT can very rarely happen that a book which is in its essential nature an autobiography, and still more rarely one which is the autobiography of a non-medical writer, can call for such notice at our hands as is implied in making it the subject of a leading article; but the volume entitled "In Peace and War," recently published by Sir JOHN FURLEY, appears to us to be worthy of such an exceptional distinction. It contains the record, for something like 40 years, of a life which has been almost continuously devoted to the organisation of assistance for the wounded in war and also, in the intervals between campaigns, to the best methods of bringing "first aid" to the victims of accidents in peace. It covers the period from the outbreak of the war between Germany and Denmark in 1864 to the close of our own recent struggle in South Africa and it brings vividly before us, with all the force of simplicity, something of the lives and the acts of the great civilian surgeons who have carried their skill to so many battle-fields, as well as of those of their more strictly military colleagues. Unlike many of the people who from time to time declare their "great interest" in medical science, Sir JOHN FURLEY makes no pretence to the possession of professional skill or knowledge and he certainly would never volunteer an opinion, in any given case, either as to the course which it would be judicious for the surgeon to pursue or as to the probable results of his ministrations. The work which he made his own was to secure that, wherever there was need, there, so far as foresight could provide, assistance should be at hand, not only in the shape of skilled surgeons and nurses, but also in the shape of all the things essential to the success of their ministrations, such as stretchers, ambulances, food, clothing, and medicines. Gifted with an infinite power of contriving and persuading, eloquent in many languages, felicitously audacious whenever audacity seemed the road to success, scornful of red tape, oblivious of frontiers, and always on the best possible terms with "our friends the enemy," Sir JOHN FURLEY has been the good genius of modern warfare. It can be no matter for surprise that his precise status, his right to be in this or that particular galley at a given time, has been a puzzle to many *martinets* and to many politicians, or that the KING of ITALY should have given expression to his perplexity on the subject. "They tell me," said His Majesty, "that Mr. FURLEY is not in the medical profession and yet I hear him called sometimes doctor and sometimes professor and to-night he was announced as Professor Dr. FURLEY. I have seen him more than once on Red Cross missions and he was here at the International Medical Congress. In what capacity does he act?" Being told "doubtless as a philanthropist," His Majesty graciously recognised the character and, when bidding adieu to the guests, expressed his hope of seeing Sir JOHN FURLEY again before long, "toujours en philanthrope."

It is a curious reflection that some of the most considerable advances of medical science during the last half century have been due to the labours of the great French *savant* who was not himself a physician, and that some of the most considerable advances in the direction of rendering surgery accessible to the injured have been due to those of a practical organiser who is not himself a surgeon. In times of peace, the work of directing Red Cross organisations being temporarily in abeyance, Sir JOHN FURLEY has found ample employment for his energies as one of the most active members of the Order of St. John of Jerusalem in England, and in that capacity has taken a very considerable share in the construction of that network of ambulance service which now covers the whole of the British Empire, and by means of which thousands of people, more especially among those who are likely to be brought into contact with accidents, have been instructed in the proper methods of dealing with them at the moment and on the spot. At every railway station men are now to be found who have been taught how to handle an injured person, how to lift and to carry him, how to extemporise a splint which may prevent a simple fracture from becoming a compound one, how to arrest hæmorrhage, and, in short, how to deal with almost any description of injury in a way to prevent it from being aggravated by roughness or want of skill. All this is due to the operations of the Order, and Sir JOHN FURLEY has not only promoted these operations as an active member of many important committees, but he has also been distinguished as an inventor of ambulances and cognate apparatus. His long experience has shown him exactly what is likely to be required and his mechanical skill and ingenuity have supplied contrivances which do not seem likely to be superseded. Perhaps his last achievement of this kind was the designing and superintending the construction of the South African hospital train, which consisted of seven bogie carriages, each about 36 feet in length and eight feet in width, the passage through the centre being continuous; four of these carriages were constructed to carry 72 invalids and 16 orderlies, whilst the others were arranged for two medical officers, two sisters and other members of the staff, a dining room, dispensary, linen closet, kitchen, pantry, and store room. This train was despatched to Ladysmith as soon as the siege was raised and at once took up 54 invalid soldiers with whom it reached Durban on the following morning and transferred them to the hospital ship *German*. The cases taken were the worst that could be selected at Ladysmith and Intombi, and it was not thought possible that all of them could survive the journey of 19 hours. During the 18 months in which the Red Cross Committee was responsible for it, this train made 108 journeys and travelled 42,115 miles. In the first six months the journeys were entirely in Natal but they were gradually extended until they touched Johannesburg and Pretoria. From this point journeys were also made to Komati Poort and once to Cape Town and back. In all, 321 officers, 19 nursing sisters, and 7208 non-commissioned officers and men were carried as patients; and only three of the soldiers and three members of the staff of the train died on the road.

Perhaps the most generally interesting part of Sir JOHN FURLEY'S book is the account which he gives of the siege of Paris by the Germans and of the subsequent outbreak of the Commune with its ghastly history of murder and incendiarism. During these events he seems to have borne a charmed life, and although he was constantly exposed to fire there is no mention of his having sustained a scratch. Every line bears unconscious testimony to his powers of fraternisation, even with the most unlikely people, and the reader obtains many glimpses of a queer society of soldiers of fortune, pressmen, and warlike amateurs of every description, as well as of men holding high command on both sides of every conflict that is described. Of an invitation to smoke and to drink beer with Prince BISMARCK Sir JOHN FURLEY records that he *cautiously* availed himself, and he seems to have gone in and out at Versailles very much according to his pleasure. Another narrative to be noted is that in which he describes his success in liberating a young Irishman named O'DONOVAN, a press correspondent, who was arrested by the Carlists in 1873 on suspicion of a design to poison DON CARLOS, and who had been more than six months in prison, and in daily imminent danger of being shot, when Sir JOHN FURLEY heard of his sad plight. The English Government was unable to intervene diplomatically, as to do so would have been a recognition of the Government of the Junta. In these circumstances, Sir JOHN FURLEY put his head into the lion's mouth, and not only withdrew it safely but succeeded in releasing his fellow countryman and in conveying him over the frontier into France. The episode forms an introduction to a singularly graphic and picturesque account of the battle of Estella, in which, after three days' continuous fighting, the hardy Basque mountaineers totally defeated a force very superior to their own. In a word, it may be said that Sir JOHN FURLEY'S "philanthropy" has taken him into well-nigh every country, during the last 40 years, in which fighting has been carried on, always with the object of minimising the sufferings which it has occasioned. The narrative is a brilliant record of good work done for mankind, and the simple and straightforward style of the author is such as to command full credence for even the strangest parts of his most interesting narrative.

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The Medical Defence Union.

THE annual report recently issued by the Medical Defence Union demonstrates that that body is still in a flourishing condition. The balance-sheet must afford satisfaction to the members, for the sum securely invested proves the financial stability of the society. The legal expenses were high but this only shows that the council has done its utmost for those members who have appealed to it for advice and assistance. It is the just boast of the officials that no expense is spared to obtain the best legal aid possible in each individual case. This procedure is, of course, highly praiseworthy and likely to inspire confidence in the minds of the members. The solicitor's report affords much interesting material for study and reflection. No less than 182 cases were referred to him and completed within the year. Of this number, 61 were concerned with libel and slander against members of the union. In no single instance was a member attacked in this manner without, as a result of the action taken on his behalf, his professional good name and reputation being fully cleared. Viewed from a legal standpoint, there is, as the solicitor points out, probably no class of case in which the element of uncertainty in regard to result is more strongly marked than that of libel and slander. We think, therefore, that the union may feel justly and deservedly proud that of the 383 cases undertaken within the past nine years on behalf of its members in order to vindicate and to protect their professional honour and reputation, in three only have adverse verdicts been recorded. 31 of the 182 cases dealt with in the past year relate to actions for malpraxis which were defended on behalf of members. This is a class of charge which may be easily brought against a medical practitioner and may prove very costly to defend. Further, such actions are generally instituted by persons who have no means of their own and consequently are unable to pay any costs in which they may be mulcted.

Litigants, however, appear to have become impressed with the knowledge that, unless there is something actually tangible to go upon and their complaint has some foundation more substantial than that of mere lay opinion, it is an unwise expedient to bring an action against a medical practitioner who has at his back the powerful resources of the union. Consequently the number of cases under this particular heading shows a decrease rather than an increase as years go by.

The work of the union does not lie, however, entirely in individual defence of its members, but collective defence also claims the attention of the council. Every endeavour is made to suppress unqualified practice and several cases of this nature have been undertaken with success during the past year. A number of cases of impersonation have also been dealt with. The thanks of the whole profession are due to the union for these efforts to detect and to punish, as far as the unsatisfactory state of the law will permit, those individuals who attempt to deceive the public. We have on several occasions commented on the value to medical practitioners of the various defence associations which are now in existence. To whichever branch of the profession a practitioner may belong he is never free from the possibility of attack by unscrupulous or deluded individuals in matters which seriously affect his reputation. If he attempts to fight such an action alone he will not improbably find himself in a very serious position. The secretaries and the solicitors of the defence societies, owing to their great experience, have become specialists in such matters and we therefore once again strongly advise our readers to become members of one or another of these most useful societies.

Annotations.

"Ne quid nimis."

THE VISIT OF THE CHANNEL FLEET TO EDINBURGH: AN INTERCHANGE OF MEDICAL COURTESIES.

IT was particularly appropriate that the medical men of Edinburgh should take the opportunity afforded by the visit of the Channel Fleet to entertain in the most cordial manner the medical officers accompanying the fleet, for Scotland has been the place of birth or the place of education of many surgeons who have held with honour to themselves and to their profession positions in the medical service of the Royal Navy. Two names in particular may be singled out for mention—those of Dr. James Lind and Sir Gilbert Blane—for to them belongs the honour of first attempting to regulate the sanitary condition of the seaman's life, the particular object of their endeavours being the elimination of scurvy. To Blane is generally attributed the discovery that lemon-juice was useful in the treatment of scurvy, but, as a matter of fact, the remedy had been strongly recommended by Lind some years previously. Lind's treatise on scurvy was published in 1754, while it was not till 1780 that Blane published his small book, "On the Most Effectual Means for Preserving the Health of Seamen, particularly in the Royal Navy." Scurvy is, for practical purposes, almost a thing of the past, and on the whole the health of the sailor, whether in His Majesty's navy or in the mercantile marine, is now well cared for, but, none the less, modern shipbuilding and modern conditions of life have introduced new problems of sanitation which require close attention from the medical man. The "*ship's doctor*" of the future will have to be a thoroughly well-educated physician, surgeon, and sanitarian, and must use every opportunity that he can obtain to exchange views with his colleagues on shore. For this reason the interchange of courtesies between the medical officers of the Channel Fleet and the medical men of Edinburgh is particularly interesting and we congratulate those concerned in bringing it about. On May 22nd Mr. H. Alexis Thomson gave a demonstration to the medical officers of the Channel Fleet of recent methods in the treatment of venereal disease and exhibited slides showing the pathology and bacteriology of venereal lesions, afterwards conducting the party through the installation of Turkish and other baths in the Royal Infirmary and the new gynæcological theatre. Later the Royal College of Physicians entertained the visitors at luncheon, the President, Dr. J. Playfair, being in the chair. On May 23rd Dr. Claude B. Ker took a party over the New City Hospital for Infectious Diseases before lunch, after which he escorted them to Craig House, where they were received by Dr. T. S. Clouston and shown over the splendid building for the treatment of the insane and over the East House after tea, when Dr. W. Ford Robertson gave a most instructive demonstration of the microscopic pathology and bacteriology of general paralysis of the insane. On May 24th Dr. George Mackay gave a demonstration of external diseases of the eye and the use of the electro-magnet and other instruments. The guests then lunched with the infirmary surgeons and were later conducted over the Macewen Hall. On May 29th the medical officers of the fleet gave a luncheon to their entertainers. This was rendered possible by the generosity of the ward-room officers of the flagship, H.M.S. *Exmouth*, who lent their ward-room for the purpose to the medical officers of the fleet. The guests were afterwards conducted round the ship, the turrets, and torpedo room, and were greatly interested. On May 30th Mr. Harold J. Stiles gave a surgical demonstration in the Sick Children's Hospital, thus ending an interesting series. The significance of an occasion that was thoroughly pleasant to all concerned lies in the fact that here we have a definite and successful attempt on the part of the medical officers of the navy to get into touch with their civil colleagues. The medical officers of the services have in the past been isolated even more than their particular circumstances warrant from all professional relations, and this situation has had unfortunate results. But into these services, under improved regulations, we are now seeing a very good grade of officer pass and it seems to us of real importance that whenever an opportunity arises of renewing social and scientific relations with their civilian brethren full advantage should be taken of it.

THE CENTRAL MIDWIVES BOARD AND THE BELFAST MATERNITY HOSPITAL.

THE Central Midwives Board was established for the purpose of preventing incompetent and uninstructed women from undertaking obstetric work but in connexion with the operations of the Board in the North of Ireland an unfortunate misunderstanding has arisen which, if not corrected, will disqualify many midwives of the very class which the Board was intended to uphold and to encourage. The nurses in question were trained at the Belfast Maternity Hospital, an institution which has existed for more than a century, is a well-known school of midwifery, and is officially recognised as such by the Central Midwives Board. These facts notwithstanding, the Board *has seen fit to* take up a position which is suggestive of comedy rather than of administrative earnestness by refusing to place on the roll of certified midwives the pupils who had been trained at that hospital previously to April 1st, 1905. No reason for this singular decision was at first assigned but it has since become known that the nurses were to suffer because a certain application from the Belfast Maternity Hospital was too late in arriving. To this the hospital authorities have replied that the new Maternity Hospital—the largest in Ireland outside Dublin—was not ready for occupation until the end of 1904, that they had informed the Central Midwives Board as to the position of affairs more than a month previously, and had received an assurance that the subject would be considered when the new buildings were ready. The irony of the situation is heightened by the fact that "women in *bonâ fide* practice" a few years ago may be admitted to the roll while these Belfast nurses who have been carefully trained and have passed an examination are excluded. When legislation on the subject of midwives was in progress it could hardly have been the intention of Parliament to bring about such an anomaly as this, and we trust that it will be possible to find a means both of satisfying the requirements of the Central Midwives Board and of avoiding an obvious injustice to the Belfast nurses.

THE ANALYSIS OF RAIN AND THE PUBLIC HEALTH.

THE abundant fall of rain this week has to some extent allayed a very real anxiety which was being felt as to the shortage of water-supply. The condition of the country was perilously near a serious drought, and when a drought occurs so early in the year and at a time just preceding the summer months, which in normal times are dry, the outlook cannot be said to be assuring. But it is often overlooked that rain has another very important function besides that of supplying water for the field, the stream, and the reservoir. is a very powerful purifier of the air and its cleansing effect is very marked on the atmosphere of cities and towns and manufacturing districts. In fact, the sanitary condition of the air of a given place may be fairly gauged by chemically examining the falling rain for impurities. The quantity of impurities so scavenged is in many instances as remarkable as it is variable. In other words, what may be called the sewage of the air varies in kind and amount in accordance with the number and kind of agencies which are at work polluting the air. An analysis of rain, therefore, conducted at intervals is calculated to afford valuable knowledge of the sanitary condition of a place and it seems to us that no meteorological observations in connexion with their bearing on the public health can be regarded as complete unless in addition to recording the rainfall they record also the analysis of rain as regards impurities. Instances are not wanting to illustrate the valuable indications given, from a point of view of health, by an analysis of rain. Thus the rain falling in Manchester has been found to contain 7 parts per 1,000,000 of free ammonia, 0·3 part of organic ammonia, 47 parts of sulphuric acid (sulphates), and 5·88 parts of hydrochloric acid (chlorides). London has similarly shown 3·4 parts of free ammonia, 0·2 part of organic ammonia, 20 parts of sulphuric acid (sulphates), and 1·25 parts of hydrochloric acid (chlorides). Inland rain, on the other hand, has given the following results: free ammonia, 1 part per 1,000,000; organic ammonia, 0·10 part; sulphuric acid (sulphates), 5·52 parts; and hydrochloric acid (chlorides), 3·99 parts; while the rain collected on the sea coast gave the following: free ammonia, 1·90 parts; organic ammonia, 0·40 part; sulphuric acid (sulphates), 5·88 parts; and hydrochloric acid (chlorides), 56·15 parts. The figures suffice to show the value of this method of investigation and it is interesting to note that according to these results country air contains less impurities than sea air though they are augmented in the latter case by the salt of the sea. The method, too, would give valuable results, we think, in connexion with the attempts to mitigate the smoke nuisance. The impurities of the air which are washed out by the rain would obviously bear a direct relation to the number of chimneys which are polluting the air with filthy smoke. An abatement of smoke, therefore, would be indicated probably by a diminution of the amount of impurity in the rain. We commend the suggestion to that useful institution, the Coal Smoke Abatement Society, which by adopting a system of periodically submitting rain to analysis might obtain direct evidence as to the success or failure of its efforts. We should, at all events, like to see the meteorological observations throughout the country in regard to quantity of rain supplemented by a column recording its quality also.

THE DANGERS OF CIRCUMCISION AS PERFORMED AMONG JEWS OF THE POORER CLASS.

AT the Stepney coroner's court Mr. Wynne Baxter held recently an inquest upon the infant son of a tailor of the Jewish faith in which the jury returned a verdict of "Death from hæmorrhage after circumcision," adding to this that it was due to misadventure. Before their conclusion was arrived at, however, the coroner had had a good deal to say to the mohel who had performed the rite as to the acts and omissions which had preceded the fatal result and had received from him replies that were not altogether satisfactory. The mohel, a Mr. Baum, had circumcised the child and an hour later had seen that the dressing had come off and had replaced it, and again afterwards, finding that hæmorrhage had recommenced, had taken steps to stop it but had not succeeded. He had then recommended that a medical man should be summoned and after some delay, on account of the gentleman first called upon being absent, a medical man had seen the child. Eventually before the child died three medical practitioners had endeavoured to stop the bleeding and to save his life, and the first of these was blamed by the coroner for not having realised the serious nature of the case when first he saw it. Some discussion took place as to the precise nature of the symptoms, and as to the causes which led to them, but the general facts upon which the coroner founded his observations were not peculiar to the particular case before him but were such as may be found arising at any time after circumcision not performed by a medical man, and similar conditions may on any occasion constitute a source of danger to life. Mr. D. A. McCombie, who with his partner, Mr. G. Michael, had been summoned when the child was in too serious a condition for them to be able to save his life, summed the matter up in his evidence by saying that "the case was rather out of the ordinary and the mohel, in his opinion, had failed to recognise fully the fact." The coroner further elicited the intelligence from Mr. Baum that he did not belong to the Initiation Society formed to teach followers of his calling their business. He also drew from him the retort that the members of the society were all young men and that he was an expert mohel. He had stated earlier that he had practised for more than 20 years. This throws light upon his attitude and upon the question of delay, and in these circumstances the coroner's observation was well founded that "mohelim are like midwives and liable to get into trouble if they do not bring proper skill to bear." The operation of circumcision when performed by a layman who has been partially instructed or has had some experience in its performance bears this resemblance to the delivery of a pregnant woman by a midwife that it may be performed in a considerable number of cases, if not without danger, at any rate without any untoward result calling public attention to the underlying risks. When, however, anything out of the usual course occurs the attendance of a medical man becomes necessary at once and if the unusual symptom escapes notice or if its serious nature is either not recognised or disregarded the absence of timely medical aid is likely to be followed by fatal consequences. It may not necessarily be that the mohel or the midwife is unwilling to ask for the assistance of a medical man owing to a feeling of false pride or of self-sufficiency. It may simply be that from want of actual experience of the kind of danger which has arisen and from absence of such knowledge as medical training, even without actual experience, may impart, he or she may fail to recognise at an early stage the existence of conditions which would claim at once the attention of a medical practitioner. Later the fact that danger is there may be observed but it may then be too late and the obtaining of a medical man's attendance at such a juncture may not be easy. On many occasions, however, apart from ignorance, there will be the risk that the half-trained person, relying upon himself or herself, may resent the implication of want of skill and not only may not suggest the calling in of medical assistance but may actually resist it when it is suggested by others. The coroner in the case under comment did not have this fault to find. Indeed, he called attention to the fact that the mohel had asked that a medical man should be called in, although he had done so later than he should have done. Mr. Wynne Baxter intimated that but for this he should have directed the jury to return a verdict against him of manslaughter.

LIQUOZONE IN THE CORONER'S COURTS.

AT the Stoke Newington coroner's court Dr. W. Wynn Westcott on June 5th held an adjourned inquest upon two children who died after taking daily doses of liquozone. One case was briefly referred to in THE LANCET of June 3rd, p. 1538. Since then Dr. H. R. Oswald has held an inquest at the Rotherhithe coroner's court upon a woman who had been taking liquozone; he adjourned the inquiry for further toxicological evidence. The main facts of the Stoke Newington cases are as follows. Mr. S , having obtained a free sample bottle of liquozone on May 17th, proceeded to take some himself for the relief of hæmorrhoids and to give some to his wife to relieve her neuralgia; success followed in neither case. The directions covering the sample did not specifically advise its use as a vermicide, but Mrs. S. proceeded to dose her two little girls with half an ordinary teaspoonful of liquozone appropriately diluted and given once daily before breakfast; she believed that her daughters suffered from worms but they were otherwise in very good health; Mrs. S. informed Dr. Wynn Westcott that she considered "germs meant worms." It is apparently common for those who take liquozone to complain of subsequent nausea and "pain in the stomach," the proprietors considering this a proof of its desired activity. There are no explicit directions as to what dosage children should receive: adults are told to take a teaspoonful in water, "for children it must be proportionately diminished." The elder child, aged nearly four years, became ill on May 21st, and when seen by Mr. T. W. M. Harneis on the 22nd she was delirious and collapsed and had had vomiting and diarrhœa; she died from exhaustion on the 23rd. The ounger child, aged two years, was attacked with similar ptoms on the 22nd and died on the 26th. The ner instructed Dr. F. J. Smith to conduct both psies. Dr. Smith found all the viscera of the en healthy and normal except for a small patch in cous membrane of the stomach of the elder girl tive of the effect of an irritant poison.

Dr. J. R. Wallace gave evidence as permanent medical adviser to the British Liquozone Company; he had often taken liquozone without ill-effects but he had never analysed its contents; he doubted if an overdose could be taken, but he excepted babies from this statement Mr. Avory, K.C., and Mr. C. Matthews are appearing for the company. Dr. Wynn Westcott again adjourned the inquest until a report could be furnished by Sir Thomas Stevenson on behalf of the Home Office as to the nature and the probable effects of the administration of liquozone in these cases.

RECOVERY FROM TUBERCULOUS MENINGITIS.

THE possibility of recovery from tuberculous meningitis is denied by many writers, though cases have been recorded in which a patient recovered from what appeared to be an attack of tuberculous meningitis and succumbed to a second, the necropsy showing signs of both recent and old meningitis. In other cases the diagnosis of tuberculous meningitis was borne out by the presence of tubercles in the choroid. The recent operation of lumbar puncture has furnished still stronger proof of the possibility of such recovery. At the meeting of the Société Médicale des Hôpitaux de Paris on May 12th M. Paul Claisse and M. Abrami reported the following case. A man, aged 30 years, was admitted into hospital on March 11th, 1905. He had been in good health until the beginning of the month, when, without apparent cause except overwork, he became weak and the least effort caused fatigue, appetite was lost, memory was impaired, and he suffered from slight but continuous frontal and temporal headache. He slept badly and awoke in the night covered with perspiration. His condition became worse and he lost flesh considerably. The temperature was 100·4° F. and the tongue was furred but moist. Examination of the patient was negative. On March 13th there were temporary delirium, marked retraction and sensitiveness of the abdomen, alternate dilatation and contraction of the pupils (*instabilité pupillaire*), and "paradoxical reflex" (contraction of the pupils in the shade and dilatation on exposure to light). There were no other signs of meningitis, such as rigidity of the neck, Kernig's sign, or modification of the reflexes. Lumbar puncture was performed and 12 cubic centimetres of clear fluid flowed out in a jet. It contained a good deal of albumin and fibrin and an abundance of lymphocytes. Tubercle bacilli were not found in the fluid but two guinea-pigs inoculated with it developed tuberculosis. The patient became drowsy and refused food and when questioned manifested delusions of persecution. On the 14th he became violent, his neck was a little rigid, and the meningeal tâche was obtained. The temperature was 100·2° and he was constipated. The abdomen was always retracted and sensitive. On the 15th there was slight inequality of the pupils. On the 16th there was a tendency to a cataleptoid state and he preserved for a long time whatever position his limbs were placed in. On the 17th he showed some improvement; he answered questions and did not complain of his head but he was still delirious at times. A second lumbar puncture was performed. The liquid removed amounted to 15 cubic centimetres and was clear. It contained less albumin and fibrin and fewer lymphocytes than that removed before. The improvement continued and complete recovery followed. On April 4th a third lumbar puncture was performed and the fluid obtained was perfectly normal. In this case there was a striking parallelism between the improvement in the symptoms and the condition of the cerebro-spinal fluid. The diagnosis of the tuberculous nature of the meningitis was based upon the symptoms, the cytology of the cerebro-spinal fluid, and the inoculation experiments. The symptoms exactly corresponded to those of the delirious form of tuberculous meningitis, which is well known in adults. One of its characteristics is the absence of severe meningeal symptoms, such as vomiting and Kernig's sign, as exemplified in this case. The cerebro-spinal fluid had the usual characters found in tuberculous meningitis—an albuminous and fibrinous liquid containing an abundance of lymphocytes. As to the non-success in finding the bacillus tuberculosis in the fluid, many writers have encountered a considerable number of failures. Thus Pfaudler could find the bacillus only in 33 per cent. of cases in the early stage of tuberculous meningitis and in 75 per cent. in the last days of the illness. All these cases were fatal, therefore it is not astonishing that the bacillus could not be found in a case of recovery.

THE COLONIAL NURSING ASSOCIATION.

THIS association was established for providing trained hospital and private nurses for the British colonies and dependencies and other British communities abroad nine years ago and the report for the year ending April, 1905, shows that there has been a steady and increasing demand for nurses. Since April, 1904, more than 50 new candidates have been added to the roll of the association. Of the 121 nurses employed during the year 94 have been in Government service and 27 have acted as private nurses. Last year 109 nurses were employed, 81 by the Government and 28 by private persons. The special demand for nurses possessing a midwifery training has caused the committee of the association to impress upon nurses contemplating service abroad the importance of possessing *the certificate of the Central Midwives Board* and many of the candidates have been registered under the new Act. The work of the association is hampered by want of funds; its aims—to establish trained nurses in all British communities beyond the sea—cannot be persevered with unless the public subscribe more liberally than they have done hitherto. The address of the association is the Imperial Institute, S.W.

THE DESIRABILITY OF A STANDARD EYE DROPPER.

THE wide variation in size of the droppers used in ophthalmic work is the subject of contributions in the *American Journal of Pharmacy* for March, p. 125, by Dr. P. N. K. Schwenk, Dr. Wendell Reber, and Mr. M. J. Wilbert. Since the majority of eye drops contain alkaloids or their salts it is important that a correct dosage should be obtained. The administration of too large a quantity of these potent medicaments may produce undesirable results. The excess finds its way with the tears through the canaliculi into the nose and thence into the highly absorbent mucous membranes of the upper air passages, where it is absorbed into the circulatory system. It is usually considered by ophthalmic surgeons that one minim is the unit of measure and that one drop is its equivalent. The strengths of solutions are regulated accordingly, but owing to the wide variations in the eye droppers that are employed corresponding variations are found in the size of drops as delivered into the eye. Dr. Schwenk suggests the employment of a straight dropper with a tip 2·0 to 3·5 millimetres in diameter; a tube of this size should deliver 60 drops of an aqueous solution to the drachm, allowing an inclination of the dropper of 45° to the horizon. The size of a drop bears a direct ratio to the surface from which it is delivered, so that in a curved dropper the solution follows the curve to the point of rest and produces a larger drop than if delivered from a point. The same is true of beaded droppers. Dr. Reber points out that the standard dropper delivers drops of different size with different liquids varying with the specific gravity and other physical characters of the liquids employed. To avoid an excess of a solution finding its way into the circulatory system he cautions patients to press a soft handkerchief over the inner corners of both eyes near the tops of the tear ducts. He considers that owing to the great power of absorption of the mucous membrane of the nose the entrance of one-hundredth of a grain of an alkaloid into the circulatory system in this way would be equal to the entrance of one fiftieth of a grain by the stomach. Mr. Wilbert describes a form of eye dropper as used in Germany which partially overcomes this difficulty. It consists of a small vial having a perforated stopper through which is introduced a corrugated or twisted glass rod which forms the dropper. The advantages of this device are that the glass rod does not hold more than two or at the most three drops at a time, that the drops form and disengage slowly, and are in addition but slightly affected by any unavoidable tremor. This discussion is useful and emphasises the need that exists for uniformity of construction in vessels employed for delivering eye drops. As aqueous solutions are almost invariably employed it should not be difficult to obtain vessels of a given size and standardised to deliver drops of distilled water slowly of such a volume that 60 drops should measure one fluid drachm.

MUNICIPAL MILK-SUPPLY.

IN an annotation in THE LANCET of April 1st, p. 873, we very briefly referred to the methods adopted by the municipality of the city of Rochester, U.S.A., in regard to the supply of milk. The plan there adopted was mentioned by Dr. G. F. Cleary in a paper which he read at a meeting of the Royal Sanitary Institute on March 25th as an example not merely of the success of a hygienic principle but of practical operation also. Under the supervision of Dr. G. W. Goler every precaution is taken at the Rochester depôt to sterilise not the milk but everything with which it comes into contact.

A central station at which the milk is prepared is organised each [illegible] trained nurse and assistants [illegible] ottles, &c., and where all of [illegible] nilk laboratory. Everything coming in contact with the milk is thoroughly sterilised in steam sterilisers. The milk itself is not subject to any pasteurising or [illegible] are only an open [illegible] the production and [illegible] m the milk is taken [illegible] which are carried to [illegible] per cubic centimetre.

We now learn that the cost of distributing the milk and, what is far better and more important, of spreading abroad some knowledge of the care and feeding of infants has averaged less than £180 per annum. It is a pity therefore that any hesitation to carry out the supply of milk on strictly hygienic principles is shown, for, as a matter of fact, the cost, whether maintained by public or private enterprise, need not be great and in any case the results are calculated to afford a very ample compensation in the prevention of infant mortality.

ANTIDOTES TO NICOTINE.

IN a note recently brought before the Académie des Sciences[1] M. O. Zalackas compares the action of strychnine, eserine, and the cruciferous plant Nasturtium officinale as antidotes to nicotine. He finds from experiments on rabbits in particular that there is no antagonism between strychnine and nicotine. With eserine the antagonism is more marked.

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[1] Comptes Rendus, March, 1905, p. 471.

A non-toxic dose of nicotine neutralises a toxic dose of eserine, provided that the nicotine is administered before the eserine. In the case of the rabbit the same result was obtained when the order of administering the injections was reversed. But a toxic dose of nicotine does not at all neutralise a toxic dose of eserine, though the neutralisation is apparent owing to the effects of the eserine being masked by the nicotine. It is a curious fact, as Martin Damourette has shown, that nicotine possesses both stimulating and paralysing properties. Now, it sometimes happens that the paralysing effects, which probably form a small part of the properties of eserine, are added to the paralysing effects which form a large part of the effects of nicotine, so that the drugs tend to exert the same action. M. Zalackas considers Nasturtium officinale to be a most useful antidote to nicotine. This plant is rich in nitrogen, iodine, and iron; when it grows in soils containing the two last-named elements it is especially rich in them. The fresh plant is bruised in a mortar and the juice is then expressed and filtered. He describes in detail an experiment on a rabbit. A toxic dose of nicotine (0·025 gramme) was injected into the jugular vein of a rabbit and in the course of a minute the symptoms of poisoning by nicotine supervened. Just when asphyxia appeared to be imminent a Pravas syringeful of the juice, containing 0·3 gramme of caffeine, was similarly injected. After ten minutes diuresis set in, the urine smelling strongly of tobacco. After an hour half a syringeful of the same liquid was administered. As a result the urine was copiously excreted, the convulsions gradually diminished in intensity and frequency, the respiration and circulation became normal, and sensibility returned. The restoration to health was, however, accompanied by a pronounced salivation. Experiments with dogs gave equally satisfactory results, so that M. Zalackas claims Nasturtium officinale to be *par excellence* the antidote to nicotine.

CEREBRO-SPINAL RHINORRHŒA WITH RETINAL CHANGES.

IN 1899 Dr. StClair Thomson published a monograph on cerebro-spinal rhinorrhœa containing an account of one case observed by himself and of 20 others which he had been able to collect from medical literature. The condition is so rare as to render every case important. In the *American Journal of the Medical Sciences* for May Dr. S. I. Schwab and Dr. J. Green have recorded a case in which retinal changes were present. In eight of the collected cases optic neuritis or atrophy was observed and in five of these vision was reduced to perception of light or completely lost. A woman, aged 32 years, complained of a continuous watery discharge from the right nostril. Examination showed nothing abnormal in the throat or the nose. The discharge began two years before and was continuous both by night and by day. The quantity varied from a few drops to three or four cubic centimetres per hour. When the patient was worried or fatigued the quantity increased. The fluid was clear and tasteless and did not stiffen or stain the handkerchief. When the head was inclined the flow increased. There were occasional headaches which were not influenced by the amount of the discharge. The patient was neurotic and there were increased knee-jerks, anæsthesia of the pharynx, hyperæsthesia in the small of the back, and tremors of the hand. The fluid was of specific gravity 1010 and did not contain albumin or mucin. On centrifugalisation it yielded a few leucocytes. It reduced Fehling's solution. The right optic disc was pale and its inner margin was blurred. The veins were full and slightly tortuous; the arteries were narrow. The left disc was blanched and the vessels were contracted. Four years before the discharge from the nose began the patient noticed haziness of vision and consulted an ophthalmic surgeon who noted: "Neuro-retinitis; swelling 3 D. in the right disc; left disc beginning to atrophy." That the fluid which escaped was cerebro-spinal did not admit of any doubt. Dr. Halliburton, who examined the fluid in Dr. StClair Thomson's case, says: "The diagnosis of cerebro-spinal fluid from other forms of watery flux from the nose need not in future present any difficulty. The constant and long-continued escape from the nostril of a perfectly clear watery fluid should always arouse suspicion as to its subarachnoid origin. When this fluid is found to be free from taste, smell, and sediment, when albumin and mucin are found to be practically absent, and when Fehling's solution is reduced by it, the suspicion becomes a certainty." Little is known as to the etiology of this curious affection. Whether it is due to some inflammatory process or to anatomical defects in the skull are undecided questions. The presence of ocular changes are of great importance because they point to some more general process. In the case recorded above it is noteworthy that the optic neuritis was observed four years before the discharge of fluid from the nose.

THE adjourned annual meeting of the Medico-Psychological Association of Great Britain and Ireland, held on May 18th, was further adjourned to July 19th, in order to receive the report of the statistics committee, and this adjourned meeting will commence at 10.30 A.M. at the rooms of the association, 11, Chandos-street, Cavendish-square, London, W. The Council of the association has fixed July 20th and 21st for the annual meeting, under the presidency of Dr. T. Outterson Wood, at the rooms of the association as above. The honorary secretary will be glad to receive the titles of any papers which members may desire to read at the meeting.

ON Wednesday evening, June 14th, Sir Richard Douglas Powell, President of the Royal College of Physicians of London, will deliver the Bolingbroke Lecture at the Bolingbroke Hospital, Wandsworth, at 8.45. The South-West London Medical Society which is responsible for the arrangements with reference to the Bolingbroke Lecture, extends a cordial invitation to all members of the medical profession to be present on the occasion. The subject of the lecture will be Some Clinical Lessons from the History of Medicine in the Last Half Century.

THE medical officer of health of Cape Colony states that for the week ending May 13th the condition of the colony as regards plague was as follows. At East London eight cases and at Queenstown one case were discovered during the week, all the patients being natives. Plague-infected rodents were found at Port Elizabeth, Uitenhage, East London, and King William's Town. In the other districts of the colony no case of plague in man or the lower animals was found.

WE regret to announce the death of Mr. Frederick James Gant F.R.C.S., which took place on Tuesday last, June 6th, at his house, 16, Connaught-square, London, W. Mr. Gant, who was for over 50 years connected with the Royal Free Hospital, was the author of a "Manual of the Practice of Surgery," which in its day had considerable popularity among students.

AT a meeting of the council of the Medical Defence Union held on June 1st Dr. W. A. Elliston, ex-President of the British Medical Association, was elected President of the Union, *vice* Mr. M. A. Messiter, resigned.

MR. W. Bruce Clarke, surgeon to St. Bartholomew's Hospital, will be a candidate for a seat on the Council of the Royal College of Surgeons of England at the approaching election.

SANITATION AND THE PANAMA CANAL

THE SOLUTION OF CERTAIN CLIMATIC AND HYGIENIC PROBLEMS

BY JOHN GEORGE LEIGH

II [1]

THE most prominent and noteworthy characteristic of the climate of the Isthmus of Panama, as compared with that of more temperate regions, is the remarkable uniformity of temperature throughout the year This is well illustrated in Table I, compiled from information collected by the United States Weather Bureau Among the elements which determine this uniformity may be mentioned the direct heat received from the sun, the proximity of the two oceans, the fact that the winds blow across the country almost unobstructed by hills or jungle, and the influence of the excessive volume of aqueous vapour held in suspension in the atmosphere Under the tropical sun the evaporation from the oceans is abnormally rapid and consequently the ill *effects of the* high temperature are accentuated by a humidity extremely debilitating to those bred in or accustomed to, a temperate climate Thus, quite irrespectively of endemic diseases and the abominable sanitary conditions which have heretofore prevailed, not only in the small native settlements but also in the cities of Panama and Colon the Isthmian climate has physiological effects demanding unceasing vigilance on the part of those subjected to it

TABLE I —*The Climate of the Isthmus of Panama compared with that of other Localities*

Localities	Approximate latitude	Years of observation	Average temperature				Maximum recorded
			Annual	Hottest month	Coldest month	Difference	
	°		°F	°F	°F	°F	°F
Isthmus of Panama	9	26	79 7	81 0	78 3	2 7	99
Washington D C	39	25	54 7	76 9	33 2	43 9	104
New Orleans	30	25	68 6	82 4	53 3	29 1	99
Key West	25	21	77 5	84 4	70 5	13 9	—
Wadi Halfa	23	—	80·0	94 3	64 0	30 8	119
Havana	23	10	76 8	82 4	70 3	12 1	101
San Juan Porto Rico	18	12	78 3	81 5	75 7	5 8	101
Kingston Jamaica	18	10	78 1	81 1	74 6	6 5	—
Barbados	13	20	75 6	76 9	73 4	3 5	—
Cayenne	4	1	79 7	82 0	77 1	4 9	—
Manila	15	17	80 0	84 0	77 0	7 0	100

Since the period of the Spanish conquest many unprofitable attempts have been made to colonise the country, but the only foreigners who have been able to withstand the climate with any measure of success have been people of Iberian extraction inured from their birth to a tropical environment, the Caribbean negroes employed by the French canal companies who have remained in the Isthmus and a few Chinamen who have become permanent residents *These races have become so strangely* mingled that it is often possible to trace in the face of a single individual the features or racial characteristics of the three peoples, plus those of the native Indian

Near the sea and along the greater part of the line of the projected canal, much of the land is low lying swamp, the washings of the soil full of vegetable remains brought down by the rivers in their flood For miles round the country reeks with exhalations from decomposing organic matter, and the deleterious effects of these emanations con[illegible] of specific diseases but as un[illegible] on all sides All the physio[illegible] the tropics are here found in exaggerated forms The abnormal moisture of the atmosphere lessens evaporation from the skin and lungs, and this condition in alliance with the continuous heat, readily induces languor, loss of appetite, depression of spirits and dulness of the entire nervous system, with consequent reduction of the pulse rate, decrease in respiratory action, poverty of the blood softness of the tissues, disorders of the kidney, stomach and intestines, and a tendency towards congestion of the liver and spleen Fevers—malarial, bilious, and congestive—are responsible for a large proportion, possibly four fifths of the sickness incidental to the climate Foreigners seldom, if ever, acquire the same comparative immunity from local diseases as is enjoyed by the natives, they are always subject to febrile disorders, and in the intervals between the attacks suffer from the depressing and debilitating symptoms already described The most trying period is probably September and the two following months, during which dysentery is common and frequently accompanied by a type of bilious fever closely approaching in malignity and fatality the much dreaded ' yellow Jack

Nowhere in the world is the close affinity between marshy districts and certain diseases more clearly demonstrated, nor can it be denied after the experience gained in the construction of the Panama railroad, and especially in connexion with the excavation of the canal traversing the same region, that the morbific effects of marsh miasmata are largely increased by the disturbance of the surface soil and, on the other hand may be considerably lessened as the excavators reach strata more free from organic matter in decomposition The extent to which miasmata may spread over land is a complicated and not always easily determined question inasmuch as it appears largely to depend upon local conditions For instance the presence or removal of trees has a remarkable effect in intercepting or diffusing the noxious gases and often particularly in Italy, it has been found that the destruction of a belt of wood adjacent to marshy land has been instrumental in introducing fever to a heretofore healthy district No such effect, however, appears to have followed the clearings along or near the canal route in the Isthmus of Panama The first stages of the work were executed in an atmosphere begirt by luxuriant vegetation gradually reduced as the operations extended until at last a passage was created for an unrestricted passage of air and as this work progressed the general hygienic conditions appear to have improved

Still it is as certain to day as ever it was that malarial fevers and other similar diseases are continually present in the Isthmus in aggravated forms, and that, pending the completion of the sanitary reforms already in progress or contemplated in and about the cities of Panama and Colon, yellow fever must always be considered endemic in the Canal Zone It is fortunate for the canal enterprise, whether regarded from the standpoint of the engineer or the economist that it *should now be under the control of* an administration which has had extensive and recent experience in dealing with kindred climatic and health problems The scourge of yellow fever may it is believed, be eliminated by the methods which proved so successful at Havana, and although it must be confessed certain disclosures concerning the management of affairs during the past 12 months are not altogether encouraging we may, I think, anticipate with considerable confidence an early realisation of this hope The effective control of malaria is by far the graver problem, especially during the period of canal construction, and it is quite within the bounds of probability that, should the measures adopted by the American authorities prove inoperative or be at any time relaxed, the mortality among the labourers on the Isthmus will be no less serious than it was in the days of the de Lesseps Company No one, it may be noted *has* expressed himself more emphatically on this point than Dr Gorgas

Thanks to the valuable records of observations and other data collected during the past 20 years under the auspices of the two French canal companies and the United States Government, it is possible to convey in comparatively brief space a very definite idea of the climate of the Canal Zone and its influences upon the progress of canal construction As foremost in the work of summarising these details and analysing them in such manner as to develop in the most convenient and convincing form the information which they convey, prominent mention should be made of General Henry L Abbot, one of the most eminent of American hydraulic engineers and long associated with Panama Canal studies To the latter I am much indebted for several of the figures and tables included in the present portion of this paper

The low latitude of the Isthmus of Panama brings the sun at the zenith twice during the year, once at noon on

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[1] No I was published in THE LANCET of June 3rd 1905 p 1530

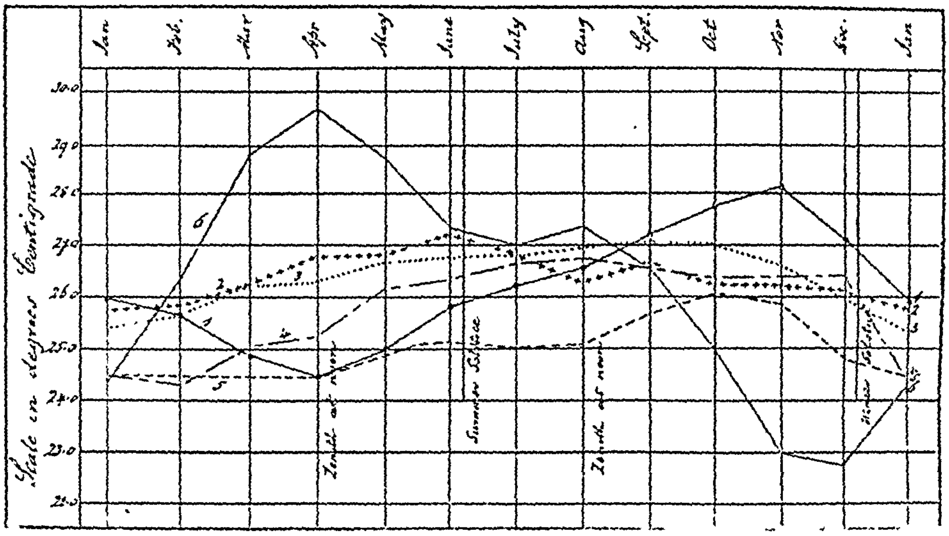
April 13th when it is journeying northward to reach its summer solstice on June 21st, and again on August 29th, when returning towards its winter solstice, which it reaches on Dec. 21st. The direct heat transmitted at these altitudes is then proportional to the sines of 90°, 75° 41′, and 57° 24′, or to the numbers 1·00, 0·97, and 0·84 for the zenith, the summer solstice, and the winter solstice respectively. It should, however, be noted, first, that the length of day, and hence the duration of solar radiation, attains its maximum in June and its minimum in December, and that this element consequently tends to reduce the natural fall of temperature during the sun's northward journey and, on the other hand, to augment it during the approach to its southern limit; and, secondly, that the temperature of the air as registered by the thermometer is affected by the modifying influence of the aqueous vapour held in suspension, which by day tends largely to reduce, and by night largely to increase, the temperature of the air at the earth's surface.

Another factor to be considered is the influence of the two oceans bordering the isthmus. In this connexion it may be of interest to remark that daily observations during several years of the temperature of the water at Colon and at Naos, Bay of Panama, have resulted in the following data:—Colon: annual average temperature, 79·3° F.; maximum, 81·9°, occurring in September; and minimum, 75·8°, in February. Naos: annual average, 76·1° F.; maximum, 80·0° (October); and minimum, 67·8° (February). The general movements of the atmosphere, which in large degree determine the influence of oceans upon neighbouring shore climates, are here governed by the locus of the ascending current of warm air following the sun in its travels north and south of the solstices. It must also be remembered that, while the great equatorial current of warm water entering the Caribbean Sea largely modifies the direct action of the sun upon its temperature, the Pacific on the other side, in the absence of such current, becomes a great natural thermometer to register the direct heat received, but with a retardation of about two months, both in maximum and minimum, representing the time required to influence the temperature of so large a volume of water.

The curves in Fig. 3 are an attempt to combine in diagrammatic and comparative form the several elements to which reference has been made. If the direct action of the sun as modified by humidity were alone considered there would be a range of monthly mean temperature of about 3·75° between the sun's first zenith transit in April and the middle of December. This, however, is reduced by the powerful joint influences of varying humidity, varying length of night, and of the two oceans to an observed range of 2·51° between June and January and a computed range of 1·64° between the sun's August transit of the zenith and January. The curves indicating the influence of the oceans show that the Atlantic is the more powerful, and this conclusion is confirmed by the remarkable identity of temperatures prevailing on the isthmus and along the northern coast of South America. But for the influence of the Atlantic the northern winds of the first four months of the year would sensibly aid the Pacific, then relatively cold, in moderating the temperature at Panama.

An analysis of the records of diurnal variations of temperature during a series of years, which have been made at a number of posts in the Isthmus, demonstrates that charac-

FIG. 3.



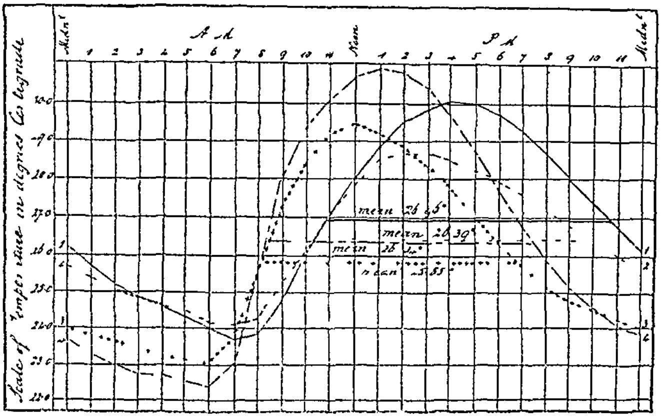
Absolute influence of different factors upon the monthly temperatures on the Isthmus of Panama. (1) the air during the night time; (2) of the observed temperature; (3) of the computed temperature; (Caribbean Sea; (5) of the temperature of the Bay of Panama; and (6) of humidity and sunshine by day.

TABLE II.—*Hourly Variations in Temperature, in Centigrade Degrees.*

Hour.	Dry season, January-April.				Rainy season, May-December.			
	Colon.	Alhajuela.	Panama.	La Boca.	Colon.	Alhajuela.	Panama.	La Boca.
1 A.M.	25 28	23·37	25·18	25·76	24 65	23·82	25·80	25·33
2 A.M.	25·22	23·08	24·97	25·33	24 40	23 62	25·70	25 10
3 A.M.	25·08	22·80	24·75	24 94	24·20	23·43	25·56	24 83
4 A.M.	25 02	22·58	24·59	24·60	24 00	23·25	25·45	24·59
5 A.M.	24·82	22·37	24·45	24·30	23·88	23·13	25·37	24·39
6 A.M.	24·75	22·25	24·31	24·02	23·85	23·07	25·26	24·16
7 A.M.	25·00	23·04	24·27	23·71	24·20	23·78	25·29	24 07
8 A.M.	25·70	25·58	24·66	23·82	25·25	25·35	25·62	24·37
9 A.M.	26·82	28·05	25·85	24·75	26·58	27 29	26·20	25·21
10 A.M.	27 47	29·43	27·05	26·00	27·48	28·56	26·78	26 23
11 A.M.	27 98	30·20	27·88	27·23	28·05	29·28	27·24	27·11
Noon	28 22	30 64	28·32	28 08	28·40	29 54	27·40	27 82
1 P.M.	28·10	30·85	28 55	28·87	28·40	29·34	27·48	28·43
2 P.M.	27 85	30·75	28 82	29·50	28·32	28·90	29·56	28·90
3 P.M.	27·68	30 40	29·22	29·91	27·82	28·35	27·50	28 66
4 P.M.	27·42	29·81	29·28	30·05	27·52	27·78	27·40	28·48
5 P.M.	26·85	28·83	28·97	30·00	26·98	27·09	27·18	28·22
6 P.M.	26·35	27·71	28·45	29·77	26·25	26·29	26 96	27·92
7 P.M.	26·02	26·67	27 67	29·24	25·82	25·70	26·72	27·57
8 P.M.	25 98	25·90	26·95	28·71	25·70	25 27	26·52	27·22
9 P.M.	25·75	25·21	26·45	28·02	25 40	24·88	26·36	26·79
10 P.M.	25·70	24·65	26 02	27 41	25·20	24·56	26·22	26·41
11 P.M.	25·60	24·18	25·65	26·77	25·05	24·28	26 06	26·05
Midnight	25·50	23·78	25·38	26·29	24·85	23 99	25·92	25·72
Mean	26·26	26·34	26·57	26 96	25·93	25·85	26·40	26·39
Maximum ...	30·60	34·50	31·60	35·20	32·20	35·90	32·10	32·90
Minimum ...	20·00	18·00	22·00	22·00	20·60	18·90	23·80	20·00

teristic differences exist only between the Caribbean coast, the interior, and the Pacific coast, and between the four dry months (January, February, March, and April) and the remaining eight months, when heavy rains prevail. These differences, recorded in Centigrade degrees, will be found exhibited in Table II. For greater convenience in later reference the Fahrenheit equivalents are given. It should be noted that these records—compiled from observations by the United States Weather Bureau—refer to the time of the seventy-fifth meridian (Bogota), and that consequently 19 minutes should be subtracted before comparison with observations based upon local time. This has been done in Fig. 4, which illustrates Table II.

FIG. 4.



Observed diurnal variations of temperature (local time) in the dry and wet seasons. (1) La Boca, dry season. (2) La Boca, rainy season. (3) Alhajuela, rainy season. (4) Alhajuela, dry season.

It will be seen that, as was shown in the case of the monthly averages, the changes of temperature from hour to hour and day to day are subject to far less variation on the Isthmus than in regions more remote from the equator. It should be remembered, however, that all compilations such as the above are based upon observations made where the thermometers were not exposed to direct solar radiation, and that, consequently, labourers exposed to the sun would experience much higher temperatures. As Alhajuela is about midway between the oceans it has been selected as a locality well suited to represent the climate of the interior of the isthmus. It is situated in the valley of the Upper Chagres, among the hills which here represent the mountain chain adjacent to the western littorals of North and South America and its altitude is but 150 feet above the sea. The temperature here at sunrise in the dry season is about 72° F., rising rapidly it reaches about 81° at 1 P.M., and then gradually falls to the minimum at sunset. During the rainy season, on the other hand, the temperature at sunrise is about 74° F., reaches a maximum of about 85° at noon, and then falls to about 80° at sunset and to the minimum at sunrise. At La Boca, on the Bay of Panama, the minimum temperature occurs later, at about an hour after sunrise, when it is 75° in both the dry and rainy seasons. The maximum, 86°, in the dry season is reached at 4 P.M. and 84° in the rainy season, at about 2.30 P.M. The fall is more gradual than in the centre of the isthmus, the mercury receding but little from the maximum point until after sunset. In short the changes of temperature on the Pacific coast are less decided and later than in the interior, though the daily average is about the same.

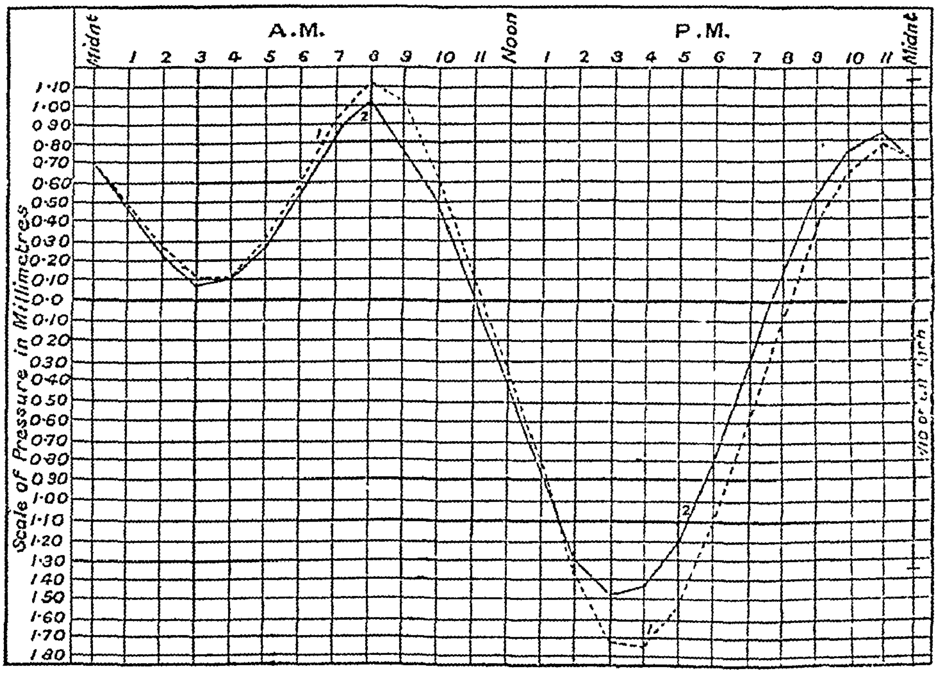
Of considerable importance, both in connexion with the study of isthmian climatic conditions and as bearing upon the construction of the canal, is the fact that the rainfall on the Caribbean side greatly exceeds that in the interior or on the Pacific slope, and is also much larger than that on the Caribbean coast of South America. Thus, during the period of the observations referred to above, the annual average rainfall was: at Colon, 130 inches; at Alhajuela, 103·8

TABLE III.—RAINFALL IN INCHES AT VARIOUS POINTS ON OR ADJACENT TO THE PANAMA CANAL LINE.

Month	Atlantic coast			Pacific coast					Interior stations					
	Colon	Bohio	Mean	Panama	Naos Island Panama Bay	Taboga Island Panama Bay	La Boca	Mean	Alhajuela	Gamboa	Gorgona	Obispo	Culebra	Mean
January	3·89	9·34	6·62	0·70	0·50	0·17	1·97	0·83	0·75	2·41	3·28	1·76	0·86	1·81
February	1·44	1·50	1·47	0·73	0·08	0·00	0·03	0·21	0·16	0·68	0·60	0·42	0·23	0·42
March	1·58	2·29	1·94	1·56	0·35	0·00	1·55	0·86	0·75	0·88	1·17	0·83	0·28	0·78
April	4·32	4·94	4·63	2·84	1·71	0·81	3·72	2·27	4·09	3·21	2·37	2·69	1·95	2·86
May	12·04	13·90	12·97	7·58	4·77	6·34	9·81	7·12	13·03	10·88	11·57	10·95	12·00	11·69
June	13·50	13·31	13·40	7·86	5·49	8·16	8·23	7·44	12·95	9·53	9·30	11·69	10·23	10·74
July	16·70	18·13	17·42	7·58	4·29	6·15	10·17	7·05	13·03	10·09	13·26	8·83	7·57	10·56
August	15·13	20·15	17·82	6·81	4·78	7·12	5·39	6·03	12·01	12·86	14·22	9·78	8·86	11·55
September	12·68	16·73	14·70	7·48	7·42	7·33	7·31	7·38	12·95	10·94	13·53	12·20	9·13	11·75
October	14·15	20·44	17·30	9·49	6·64	7·32	11·12	8·64	14·64	13·03	11·25	10·45	11·71	12·22
November	20·69	20·15	20·42	11·57	6·26	4·05	10·43	8·08	16·07	12·25	10·38	10·61	11·26	12·11
December	12·14	9·25	10·70	2·75	3·21	6·56	4·78	4·33	3·11	6·62	5·48	9·05	11·19	7·09
Total	128·26	150·48	139·39	66·78	45·50	54·01	74·51	60·24	.03·54	93·38	96·41	89·26	85·27	93·53

inches; at La Boca, 74·5 inches; at Barbados, 39·6 inches; at Trinidad, 56·5 inches; and at Curaçoa, but 16·1 inches. It is evident from Table III. that in each section of the isthmus there is a fairly well-defined dry season, that this comparative exemption from rain is more characteristic of the interior and Pacific coast than it is of the region adjacent to the Caribbean Sea, and that (after allowing for the so-called dry seasons) there may yet be expected in each of the sections an annual rainfall of respectively 85 to 104, 45 to 75, and 128 to 150 inches. High as these figures are they compare most favourably with the annual records of rainfall, averaging nearly 300 inches, at Greytown, the proposed Atlantic terminal of the once much-discussed Nicaragua Canal. It will clearly be no small advantage to the engineers of the Colon-Panama waterway to be able to depend upon several consecutive months of relative drought in which to lay cement and to prosecute other difficult work. Frequently during the rainy season the downpours are remarkable, even for the tropics, and a few hours suffice to transform trickling streams into foaming torrents. Particularly is this the case with the Rio Chagres, the bed of which is followed for about 23 miles, from Obispo to the low lands on the Caribbean coast, by the line of the future canal.

FIG. 5.



Diurnal curve of barometric pressure at Alhajuela. (1) Mean of the four dry months for four years, mean pressure, 759·99 millimetres (2) mean of eight rainy months for four years, mean pressure, 759·72 millimetres.

Recent records accord with earlier data in demonstrating the remarkable uniformity of barometric pressure throughout the Isthmus. For example, the extreme range at Alhajuela during four years has been only 0·42 inch, the maximum reading, 30·99 inches, being noted in February, 1900, and the minimum, 29·67 inches, in November, 1902. The horary variations may best be studied in the form of departures from the mean reading, which enable a direct comparison to be made between the curves in the dry and rainy seasons, as shown in Fig. 5.

Although considerable mortality attended the operations of the first canal company it never reached the dimensions conceived by popular imagination. After the *débâcle* of 1888 and the revelations of the liquidation period no charge which could be brought against the de Lesseps' administration was too serious for belief. This was especially the case as regards its treatment of imported labour and the shortcomings of its health department. As a matter of fact, corrupt and inefficient as was the de Lesseps' *régime* in all that related to finance and engineering, the gravest accusations which could with justice be urged in connexion with its medical and sanitary services were that each was lavishly extravagant, that the expenditure involved was absurdly disproportionate to the results achieved, and that its returns as given to the public could seldom be relied upon. One consequence of the not unwarranted prejudice provoked by the scandalous disclosures which followed the failure of the first determined attempt to pierce the Central American isthmus may be found to day in current ideas respecting the mortality and sickness involved in the endeavour. There is little doubt that in the majority of instances people have debited to the de Lesseps company events of half a century earlier, when the Panama railroad was in course of construction and the most elementary principles of medicine and sanitation, as we know them, were flagrantly defied both as regards white and coloured labour.

The health statistics, if such were ever compiled, during the building of the Panama railroad have never been made public. Several contemporary writers, however, have left us their impressions and among these mention may be made of Dr. J. A. Liddell. This authority has recorded, in a paper in the *New York Journal of Medicine*, vol. viii., 1852, that of 382 patients treated by himself during a year's service on the Isthmus no fewer than 250 suffered from remittent fever with bilious, gastric, or enteric complications. He also pointed out that labourers from the United States could not be relied upon for three successive months; before the end of the second month one-half the force would be on the sick list or permanently enfeebled. Little imagination is required to picture the appalling mortality which must have attended the enterprise, for at that time it was not understood—or, if understood, the lesson was ignored—that natives of the temperate zones cannot with any measure of safety perform arduous manual labour under exposure to a tropical sun, and that the most that can be expected from the white man in such a climate is the performance of duties of supervision. Even in the early years of the French operations on the canal these principles were occasionally neglected, with, of course, serious consequences. There is also little doubt that much of the mortality of this period might have been prevented by a larger provision of drainage works, a more rigid enforcement of sanitary regulations, and the exclusion of employés, European as well as coloured labourers, whose mode of life and constitutions unfitted them for work in the tropics.

There still exists much diversity of opinion as to the amount of confidence which can be placed in the figures relating to health conditions which have from time to time been circulated by, or on behalf of, the French canal companies. The latter were obviously prejudiced in favour of returns calculated to cheer their shareholders and employés, and at the same time to create an impression in the outside world that affairs on the Isthmus were subject to continuous amelioration. Consequently it is not very surprising that the official statistics fail to show that high mortality from diseases incident to the climate which has been suggested by travellers and independent observers There is no doubt that during the early years of the de Lesseps' *régime* gross sanitary abuses prevailed and that the system of charging the contractors for the care of their men when in hospital was the cause of much mortality being unreported and of labourers being kept at work when they should have been under medical care Of the state of affairs when the canal was commenced we may learn much from a paper contributed to the *Boston Medical and Surgical Journal*, vol cvi, No 16, 1882, by Dr A C Heffenger This authority declared that it was impossible for him to obtain access to the records of the company and that all his investigations pointed to the conclusion that the reports issued by the latter were garbled and incorrect He states, indeed, on the authority of a physician resident in Panama, that during the first 11 months of preliminary work on the canal, when there cannot have been a very large force on the Isthmus, no fewer than 65 Europeans and 800 labourers died from disease Dr H Davidson, in his "Geographical Pathology," published in 1892, remarks that, with a force of 7000 men, the Compagnie universelle reckoned to have about 1000 men always in hospital, and from other sources we learn that, in March and April, 1882, in Panama and its vicinity alone, there died 37 out of fewer than 100 engineers, that "there was not a single French engineer who had been able to attend to the work beyond one year and a half although the contract called for two," and that during September, 1884, the company buried 654 officers and men

In face of these statements and of others of like tendency, to which it is unnecessary to refer in other than general terms, I cannot ask readers to accept as other than approximate many of the figures included in Table IV At the same time I wish it clearly to be understood that this reservation in no way reflects upon the good faith of the distinguished authority to whose labours I am indebted for these statistics Dr Lacroisade was for many years chief medical director of the well equipped hospital at Ancon erected by the de Lesseps Company, no one has fuller knowledge than he of Isthmian conditions, and his views on the subject are entitled to careful consideration It is of undoubted interest to note in connexion with this table that whereas the percentages of sickness and mortality for general ailments remained comparatively unchanged during the successive epochs, they fell in marked degree in later years for diseases incident to the climate Dr Lacroisade cannot, I think, be wrong in attributing this improvement to the better accommodation provided for the labourers, to the stricter surveillance inaugurated by the Compagnie nouvelle, to a gradual re clearing of the route, and especially to the fact that the excavations in recent years have reached a level below the poisonous emanations of decaying organic matter

TABLE IV —*Official Health Statistics of the Panama Canal*

Years	Average effective force employed	Percentage of disease			Percentage of mortality		
		Diseases of Europe	Diseases due to climate	Total	Diseases of Europe	Diseases due to climate	Total
Compagnie universelle du Canal Interoceanic de Panama (de Lesseps Company)—							
1881	923	21·02	42·02	63·04	1·94	4·74	6·68
1882	1 910	18·85	47·64	66·49	2·21	4·39	6·60
1883	6 287	23·24	42·62	65·86	2·20	4·46	6·66
1884	17 615	27·58	36·95	64·57	2·58	4·08	6·66
1885	15 215	11·93	49·14	61·07	1·73	3·79	5·52
1886	14 935	14·01	43·88	57·89	1·67	3·43	5·10
1887	16 217	21·82	39·25	61·07	2·22	3·99	6·21
1888	13,725	12·17	40·46	52·63	1·81	2·54	4·35
Mean	10 854	18·83	42·75	61·58	2·05	3·92	5·97
Liquidation period							
1889	1 826	—	—	—	—	—	—
1890-94	About 800	—	—	—	—	—	—
Mean	971	—	—	40·68	—	—	2·83
Compagnie nouvelle du Canal de Panama—							
1895	1,225	—	—	49·35	2·05	0·89	2·94
1896	3 715	—	—	39·91	2·08	0·84	2·92
1897	3 980	—	—	51·85	1·99	1·00	2·99
1898	3 400	23·26	13·65	41·91	1·73	0·27	2·03
1899	2 500	19·76	5·84	25·60	2·24	0·12	2·36
1900	2 000	17·05	8·50	25·55	3·00	0·25	3·25
1901	2,000	18·60	6·35	25·45	1·55	0·20	1·75
Mean	2,703	20·92	8·71	37·17	2·10	0·51	2·61

Some explanations seem desirable to account for certain of the fluctuations observable in the above table Considerations of space forbid more than cursory mention of these expository circumstances, the reader being referred for a fuller hygienic history of the period to the valuable report issued in 1899 of the commission constituted under Article 75 of the statute incorporating the New Panama Canal Company and to a letter by Dr Lacroisade published in the *Medical News*, vol lxxx, p 707, New York, 1902 It will, of course, be understood that all the figures given below are quoted from the official records and, consequently, not above suspicion For example, I cannot but think that the number of recorded deaths during the years 1881–88—namely, 4987, of which 1018 were attributed to yellow fever—represents very imperfectly the actual condition of affairs and the same must be said of the statements that of the 254 engineers and other officials sent out from France from January, 1881, to September, 1883, but 40 died and that of 89 serving under the Compagnie nouvelle in an equivalent period only three fell victims to the climate

Reverting more particularly to Table IV, it may be noted that the increased percentages in 1887 are attributed to epidemics of small pox and beri beri, which were suppressed by vaccination and the discharge of Chinese and African labourers In 1898 no yellow fever or other epidemic disease visited the Isthmus, and despite the acknowledged large percentages of sickness and mortality observable in the table the general health of the canal employés was reported as satisfactory Between May and the middle of December in the following year there were about 139 cases of yellow fever in the city of Panama, the victims being chiefly foreign sailors and Colombian soldiers from the mainland A Frenchman, recently arrived and employed on the harbour works at La Boca, contracted the disease but recovered and with this exception no sickness of an epidemic form was reported among the Canal Company's employés Outside the canal region, however, in June and July, there was a sharp outbreak of influenza and in September an epidemic of measles caused numerous deaths In March, 1900, yellow fever reappeared in Panama and between that date and Sept 10th 138 cases were reported in the city chiefly among the Colombian soldiers One employé of the Canal Company was also attacked but recovered, and with this exception, according to the reports, there was no sickness of an epidemic form, the somewhat higher death rate being attributed to chronic diseases of a general type In 1901, also, no epidemic appeared among the canal force, to the Isthmus, however, in January yellow fever was again imported by a priest and sister of charity coming from Buenaventura Altogether there were four cases, of which three proved fatal There was a serious outbreak of small pox in April in the city of Panama and this

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(To be continued)

H R H the Princess Louise, Duchess of Argyll, has signified her intention of being present at the Café Chantant which is to take place at the Hotel Cecil, Strand, London, on Wednesday afternoon, July 5th, in aid of the Regimental Homes and Benefits Agency.

ANCIENT EGYPTIAN BURIAL RITES.

IN a leading article in THE LANCET some years ago upon the Ethnological Significance of Ancient Egyptian Burial Rites[1] a somewhat full description was furnished of the early prehistoric interments of Egypt, from which we find that the skeleton was completely broken up and the bones were arranged in a symmetrical order in a cavity in the sand, which in those primitive times served as a sepulchre. It was considered that these kind of burials were those of a race different from that of the so-called "ancient Egyptians" and that all historical traces of the burial practices of what may be termed these proto-Egyptians had been lost, though some very obscure texts in the oldest magic funerary literature of the Egyptians were thought to refer to the matter. M. Moret, however, in a recent work upon the "Daily Divine Worship in the Egyptian Temples" in referring to several chapters, some of them accompanied by illustrative vignettes, inscribed upon tombs, edifices, or papyri, proves that a whole series of ritualistic incantations allude to, and indeed derive their origin from, these ancient funerary practices. The proof of the first fact occurs very convincingly in Chapters 20 and 21 of the "Ritual of Ammon," preserved upon a papyrus now at Berlin, and also upon the walls of some temples, a work that has only recently been translated. It speaks of the presentation, as an act of worship to the god, of perfume and oil on purpose to produce the orderly rearrangement of his bones and members, actually asserting that his skeleton will be put in order. At the same time other passages of the ritual speak of the deity as a mummy, thus indicating that in the diurnal temple worship, for this papyrus is the rubric for this official cult, not only was the god assimilated to a mummified hero, but that he also had to be adored by acts or incantations necessitated by recollections of the archaic methods of Egyptian burials previously to mummification being invented or introduced by some other people. These ancient rituals therefore afford a mingling of the practices of the alien races or of the earlier and the later ones of the same people.

The skeletons discovered by Professor Petrie and M. Amelineau and M. de Morgan upon sites of the earliest Egyptian places of sepulture had been effectually disarticulated and carefully rearranged; and the fact that the ritual for the worship of the gods, in many cases deified ancestors and chiefs, contains texts speaking of the replacing, or rather the readjustment, of the bones of the skeleton to their original serial order distinctly declares a recollection of an epoch in which the skeleton was broken [illegible] and arranged quite otherwise than in life. The idea that the reconstruction of the dismembered body was a necessity in order that the spirit might again have a tenement to occupy runs through the rubrics required to [illegible] recited at religious fêtes through almost all Egyptian history; though to what extent the many generations of [illegible] who recited, and of people who read and heard them, [illegible] prehended their origin and significance we do not know, [illegible] so far as we are aware, for thousands of years mummifying had been considered the only proper method for disposal of the cadaver. The early dynasty "Pyramid Texts" [illegible] "Maut gives thee thy head, she makes thee present of [illegible] bones, she assembles thy flesh, and brings to you your [illegible] placing it in thy breast." It was Osiris who first had [illegible] broken up according to the myths. Inscriptions state [illegible] two goddesses took care of his head and nape. However, [illegible] Osirian myths, such as "The Book of the Rites of [illegible] published by M. Paul Pierret, refer more to the [illegible] ing and uniting in their natural order of his limbs [illegible] with the flesh. But some depict first the re- [illegible] ge of his bones like so many phrases in the [illegible] of Ammon and Maut" and the "Pyramid Texts," [illegible] these: "For one to offer to the God his skull and his [illegible] e establishes his head upon his bones "before Seb," [illegible] offer to thee thy bones, thou hast taken thy head [illegible]."

[illegible] has been said to show convincingly, as suggested [illegible] vious account of the subject, that many sacred [illegible] allusions to the archaic practice of removing the [illegible] articulating the bones, and packing them together as found [illegible] logists [illegible] the [illegible] and M. [illegible] both the [illegible] to disar [illegible] when [illegible] motest [illegible] valley. [illegible] others [illegible] necessity [illegible] flesh (or [illegible] destructibl [illegible] the viscera [illegible] ing process [illegible] cantations [illegible] deity in [illegible] replacing th [illegible]

That orig [illegible] skeleton was [illegible] and the fad [illegible] only his body [illegible] evident by the [illegible] Chapter 44 of [illegible] of Maut": "H [illegible] his father Osi [illegible] of the Gazelle [illegible] bones, he reun [illegible] flesh." The rit [illegible] the offerings of [illegible] libations of pur [illegible] thy bones also a [illegible] These are intern [illegible] religious works, s [illegible] by Signor Schiap [illegible] edited by Professo [illegible] them seems to be [illegible] the deity, changed [illegible] god symbolical of [illegible] there any trace of [illegible] incineration is not a [illegible] practice are visible i [illegible]

It would seem as if [illegible] mummified their dea [illegible] probably earlier, trib [illegible] their dead, was slain, [illegible] practices of his foes, [illegible] followers after some s [illegible] Later the story of [illegible] attenuated into one of [illegible] the various provinces of portions of his body. The earliest funerary rituals contemporary with the dismemberment practices were incorporated with the later ones composed by the race who invented mummification, and as this later practice endured for thousands of years and the literature was frequently augmented during that period the passages agreeing with, or referring to, the later process are much the more numerous and, indeed, the meaning of those relating to the primitive practice was forgotten.

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[1] THE LANCET, April 6th, 1901, p. 1025.

INDIAN MEDICAL SERVICE.

PRESENTATION OF PRIZES AT NETLEY.

THE following list shows the aggregate marks obtained by the lieutenants recently admitted into the Indian Medical Service at the Royal Army Medical College, London, and at Netley, and the prizes gained:—

	Marks.		Marks.
A. F. Hamilton	*3894	M. R. C. MacWatters	3413
A. D. White	†3641	W. H. Boalth	3399
M. F. Reany	‡3504	G. A. Soltau	3387
R. K. White	3481	W. H. Hamilton	3326
H. C. Buckley	3451	J. Cunningham	3311
N. M. Wilson	3420	H. Falk	3295
J. S. O'Neill	‖3414	C. J. Coppinger	3280

* Marshall Webb medal and prize in hospital administration; second Montefiore prize in military surgery.
† Ranald Martin gold medal in military medicine.
‡ First Montefiore prize in military surgery.
‖ Maclean prize in clinical medicine.

A presentation of prizes took place on May 31st in the lecture theatre of the Royal Victoria Hospital, Netley. President Surgeon-General A. M. Branfoot, C.I.E., I.M.S., [illegible] of the Medical Board at the India Office, presided and was supported by Surgeon General R H Quill, R A M C, principal medical officer, and the staff of the hospital The occasion derived a special interest from the circumstance that it marked the final closure of the Army Medical School at Netley

Colonel K MACLEOD, I M S (retired), read a report of the work done during the session and referred to the extinction of the school in these words "It is understood that this is the last occasion on which officers entering the Indian Medical Service will be sent to Netley for instruction In these circumstances, and as the final closing of the Army Medical School at Netley coincides with the termination of my tenure of the office of professor of military medicine, I venture to offer a few remarks arising from the situation On July 29th, 1902, His Excellency Field-Marshal Earl Roberts presided at the distribution of prizes at the end of the summer session which preceded the transfer of the school to London On that occasion, which signalised the closure of the Army Medical School as originally constituted, I read a short report setting forth the history, objects, and work of the school As that report was published at the time I need not now repeat what I then wrote The school had been in existence for 42 years and had completed 84 sessions 1687 officers of the British Medical Service, 1191 of the Indian Medical Service, and 213 of the Naval Medical Service had passed through Netley, giving a total of 3097 In addition over 300 senior officers had come to Netley for instruction Since the year 1902 127 officers entering the Indian Medical Service have been sent to this hospital, after studying the subjects of hygiene, pathology, military surgery, and hospital administration in the Royal Army Medical College, London, for the purpose of undergoing instruction in tropical diseases, lunacy, and ambulance drill and obtaining a practical knowledge of the administration and management of military hospitals and an initiation into the ways of military life and service This has raised the total of Indian medical officers trained at Netley to 1318 Since the Indian Medical Service was reopened in 1865 all officers joining have passed through the army medical school in close association with officers of the sister service The name Netley, with all that it represents in the way of instruction, initiation, and social enjoyment, must abide lovingly in the minds and memories of officers of both services, just as the name Haileybury claimed the fond remembrance of Indian civilians and the name Addiscombe of Indian gunners and sappers in the old time, and as it is to be hoped the name Millbank, despite its ancient association with a penitentiary, will dwell kindly in the recollections of officers of the medical services in the future During the six sessions that have elapsed since the transfer of the school to London and its reconstitution as the Royal Army Medical College the position of what remains of the old Army Medical School at Netley has been somewhat anomalous, but with the willing and generous cooperation of the principal medical officer and the staff of the hospital no friction or difficulty has been encountered, a circumstance of which I desire now to make thankful acknowledgment

Surgeon General BRANFOOT presented the prizes to the successful competitors and remarked that it gave him great pleasure to preside on so interesting an occasion and to be [illegible] Quill who had been at Netley [illegible] om he had not had the pleasure [illegible] sociated himself heartily with what Colonel MacLeod had said regarding the valuable assistance which the principal medical officer and the hospital staff so efficiently rendered in carrying on the work of instruction and training at Netley The Army Medical School had served a great purpose in the past for the prevention of disease and the preservation of health in the navy and the army as well as in civil life, both in this and other countries, and the final closure of the institution could not fail to excite feelings of interest and regret among those who had passed through it The removal of the school to the centre of life and progress and its reconstitution on a broader basis and with higher aims would no doubt conduce to the benefit of the services, of medical science, and of humanity What precise arrangements were to be made in the future for perpetuating and developing the work commenced and carried on for nearly half a century at Netley he was unable to announce, but he was in a position to say that the Indian Medical Service would share fully in the advantages to be gained from the college, the erection of which had been commenced at Millbank. Surgeon General Branfoot referred to the early retirement of two of the professors of the Army Medical School, Surgeon General W. F. Stevenson, C B, and Colonel McLeod The former had been asked to preside on this occasion but unfortunately had found himself unable to come He alluded to the good work done in the service and school by these officers He congratulated those who had entered the Indian Medical Service and especially the prize takers He counselled them to maintain the habit of work in spite of climatic hindrances, for once lost it was very difficult to regain it They must uphold a high standard of professional ethics in a country where the medical profession was in a stage of adolescence and development and the force of example and guidance was peculiarly needful and effective Notwithstanding the recent brilliant advances which had been made in their knowledge of the etiology of tropical diseases they would find abundance of work awaiting them in India, more especially as regards the adaptation of increased knowledge to the circumstances and peculiarities of its inhabitants The climate was no doubt trying to health, but more blame was perhaps laid on it than was justly due They must, as prudent and sensible men, hold a proper balance between work and recreation and practise moderation and a wise adaptation to their new environment He finally wished them God speed in full confidence that one and all would do their utmost to maintain the fine traditions and honour of the service to which they were now admitted "traditions which we who have retired from it very jealously cherish "

MEDICINE AND THE LAW.

Aged One Minute

OCCASIONALLY this entry is seen on a certificate of death It indicates the speedy exit of a newly born child Such a case came before Dr W Wynn Westcott last week He held an inquest upon a male child who was born living although the face was covered with "a caul " Owing to the incredible inattention of a woman assisting at the confinement the child, whose heart was visibly pulsating and whose limbs moved after birth, was allowed to "expire" without ever having had an opportunity to breathe When tardily summoned medical aid arrived the child was too asphyxiated to be revived This case enforces the fact that before a child can be positively asserted to have been live born the direct evidence of eye witnesses is often essential if doubt arises, and further, to be able to deny live birth it is not enough to prove by anatomical examination that the child s lungs have never been inflated by breathing The child in question was undoubtedly alive when expelled from the mother and the coroner was correct in directing the parents to choose forthwith a name for their deceased son and to proceed to the registrar's office and register his birth The coroner's certificate of death allowed them to have the body duly buried but of course not as inexpensively as if it had been *stillborn* The definition of "a stillborn child" is still a matter for dispute and probably should not be identical with that of "a dead born child " In fact, it would appear that the phrase "stillborn" originally signified "silent born", the "still" days of Lent convey a similar idea It is noteworthy that in France a child must live for three days before the birth is registrable

A Child ‘ En Ventre sa Mere ”

The legal position of a child *en ventre sa mere* has been much canvassed in courts of justice In the Chancery Division the question whether such a child is "living" at [illegible]

of murder in a criminal court That the Chancery judges will regard a child *en ventre sa mere* as a living child was acknowledged in a case which was heard in 1895 It appeared that property was devised to the testator's wife for her life and after her death to the testator s daughter "for her absolute use and benefit in case she has issue living at the death of my [the testator's] wife, but in case she has no issue then living" then the property was to go elsewhere When the testator s wife died his daughter was *enceinte* It was held that she had issue living at her mother's death and was therefore entitled to take the property absolutely The law upon the subject was thus stated in Blackstone's "Commentaries" "An infant *en ventre sa mère*, or in the mother's womb, is supposed in law to be born for many purposes. It is capable of having a legacy or a surrender of copyhold estate made to it. It may have a guardian assigned to it and it is enabled to have an estate limited to its use and to take afterwards by such limitation as if it were then actually born." In a case which was heard last week by Mr. Justice Swinfen Eady an attempt was made to extend this doctrine. It appears that a testator referred to "sons of his brother born in the testator's lifetime" and it was contended that this expression must be held in law to include a child *en ventre sa mère* at the date of the testator's death. The learned judge refused to accept this argument which, he said, would have the effect of adding to the will the words "or in due time after his death." It follows, therefore, that the word "born" when it occurs in this connotation must be strictly interpreted.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

THE EXCURSION TO VICHY.

(BY ONE OF OUR SPECIAL COMMISSIONERS.)

ON Sunday, May 14th, the British visitors set forth for various excursions. Some of these had been planned at the eleventh hour. The principal excursion, denominated the official excursion because it was from the first mentioned on all the official programmes, consisted of a visit to Vichy and Evian. This expedition was admirably organised. Each person who had notified his intention to attend received on the day before starting his railway pass and a small book of instructions. In this were stated the hour of the departure from Paris, the name of the hotel, and the number of the room retained for him at Vichy; then the hour of the banquet and the number of the stall for the theatrical performance after the banquet, and thus throughout all the necessary indications were given. A special first-class corridor train had been secured and by 1 o'clock the guests began to assemble on the platform of the Lyons railway station. A restaurant car was attached to the train and a cold collation was available for those who had not been able to take their second breakfast or lunch before starting. Here, also, later in the afternoon tea was served. The corridor train greatly facilitated social amenities. Visits were interchanged from compartment to compartment just as occurs between the occupants of the boxes at the opera in the intervals of the performance. As there were more than 100 travellers in the train, of whom 41 were British visitors, there was neither lack of society nor flagging of conversation. Thus was the journey of five and a half hours' duration pleasantly accomplished. At the station of Vichy the visitors were shown into the reception room reserved for state occasions but they were not detained there any length of time by speeches. Dr. Nivière, President of the Medical Society of Vichy, in three or four sentences offered to all a hearty welcome and then led the way to the omnibuses and carriages waiting outside. Here, profiting by the Sunday holiday, a vast crowd had assembled to enjoy a good stare at *les médecins anglais et leurs dames*, the latter undoubtedly exciting the greatest curiosity. Some of the crowd cheered, others even attempted to push the carriages along, and it was quite evident that the advent of the British visitors was favourably considered by the general population of Vichy. An hour was allowed for dressing and then all the visitors assembled in the gaming room of the Casino, which, in consequence of its vast dimensions, had been selected for the banquet. The brilliancy of the scene was enhanced by the uniforms of the military surgeons of the garrison who made a point of being present to welcome their British colleagues.

After an elaborate and sumptuous repast the director of the Vichy Company, M. FÈRE, rose to propose the health of His Majesty King Edward VII. and Sir WILLIAM BROADBENT responded by proposing the health of the President of the French Republic, M. Loubet. Of course, the band accompanied these loyal toasts with the national airs of the two nations. Then M. FÈRE rose again to address himself especially to the visitors. He regretted that their sojourn would be so brief but hoped to be able to show them that which was most interesting. For the present evening they could only see the pleasure side but on the morrow they would visit the vast bathing establishment which had recently been transformed. They would also go to the various springs and have a glimpse of the smiling and open country around them, as this was such an important sanitary advantage and was a precious instrument in the hands of medical science. He was glad to say that every year several thousands of English visitors and invalids came to Vichy and their presence had helped to engender *l'entente cordiale* they were celebrating that day.

Dr. NIVIERE, President of the Medical Society of Vichy, having added some further words of welcome, Dr. HUCHARD responded on behalf of the French visitors to Vichy. Then he alluded to the great benefit for the cause of science and of peace which was likely to accrue from the visit of the British medical men. In this respect he wished to propose a toast; he wanted to drink to the absent, to the modest medical practitioners of France who had sent numerous letters of greeting and fraternal salutations to their colleagues of Great Britain. They were all highly honourable men but they were too poor and too busy to be present in person. Then he would also thank the Government of the French Republic for strengthening the friendship between the two countries by conferring the Commandership of the Legion of Honour on Sir William Broadbent. This distinction given to the chief of the British visitors was an honour conferred on them all. Finally, he saluted the ladies present, alluded to Her Majesty Queen Alexandra, and spoke of the triple alliance of learning, goodness, and beauty.

Professor CORNIL of the Paris Academy of Medicine also referred to triple attributes and forces and was most eloquent when he spoke of science, humanity, and woman. But at the same time he gave a historical sketch of the development of the thermal station. He related how Louis XIV. appreciated the waters and how *les Dames de France*, sisters of Louis XVI., came in the reign of Louis XV. and gave endowments so that the springs of Vichy should be well cared for. In the time of Charles X. the Duchess du Berry greatly benefited from the waters. Nevertheless, Vichy as it was known to-day was essentially the creation of Napoleon III. It was in 1863 that the late Emperor planned the whole modern town, traced the boulevard, had the embankment of the Allier built, and the bridge thrown over the river. Five years ago the contract between the State, which owns the springs, and the company which is responsible for the entire enterprise was renewed but only on the condition that very great improvements should be effected and that a much higher rent should be paid to the State. Thus the nation at large had secured a better share in the profits that accrue.

M. LASTEYRAS, the Mayor of Vichy, was the next speaker, and he distinguished himself by the brevity of his speech and the clearness with which he made himself heard. It was a double pleasure, he said, for him to receive the British visitors, first, because the British were old friends, and, secondly, because of the new honour that had been conferred upon them in the person of Sir William Broadbent. He drank to the British nation, the friend of France since the events that had been dear to them all.

Dr. CHARLES CORMACK, a British physician practising at Vichy, addressed himself principally to his French medical colleagues but he also described the advantages to be found at Vichy for the treatment of various diseases.

Sir WILLIAM BROADBENT then rose to reply and to offer his best thanks. So many happy thoughts, he said, and good words had been expressed that it was extremely difficult to follow them and to vie with such eloquence. He gave a lengthy account of his knowledge of the leading French medical teachers and the revolution which Laennec and others had effected in the science of healing. Any honour coming from a country that had rendered such services to humanity was greatly to be appreciated. The Commandership of the Legion of Honour which had been conferred upon him was so exalted a distinction that he was confused and overwhelmed. If he failed to express all that he felt his feelings were none the less deep and sincere.

All these speeches were not over till after 10 o'clock and then the guests were invited across the great central hall of the Casino to the theatre. This is a very fine building, easy of access, spacious, and airy. There are 1400 stalls, from all of which an equally good view of the stage can be obtained. Here the best singers and actors not only of France but of other countries may be heard during the season. Thus if Coquelin or Sarah Bernhardt comes to Vichy occasionally so also may be seen, and on the same stage, the incomparable Italian actress La Duse On the present occasion there was only time for a short play, and Edmond Rostand s comedy, *Les Romanesques*, was very effectively rendered

At 9 o'clock on Monday morning carriages were ready at the hotel doors to take the visitors round The first place inspected was the manufactory where are made the Vichy pastilles Here are great cylinders where 5000 litres of water can be evaporated in an hour The salts that result if dissolved in the proportion of five grammes in a litre of pure spring water reconstitute the mineralisation of the, Vichy water Not that this is a perfect imitation, but it is a good substitute when the water itself cannot be obtained The same salt is pulverised, mixed with sugar and mint or other flavouring extract, and forms the well known Vichy pastilles Last year no less than 85,283 kilogrammes of salts were extracted from the water and thus employed These salts are placed on trays, put into air-tight compartments, and exposed to carbonic acid gas so that they may reabsorb the carbonic acid that has been lost during the process of evaporation In pulverising the sugar great care is taken to make it pass through very fine sieves so as to remove all foreign particles of dirt On the first floor of the building some 70 women are busy all day long packing the pastilles into boxes and affixing labels

The best known springs belonging to the State were visited There are in all eight but the most frequented and celebrated are those of La Grande Grille, l'Hôpital, and Celestins, the last being the most suitable for a table water The rock on which the old convent of the Célestins stood and the surrounding park provide the object of an attractive walk and are a pleasant place for the patients to congregate, to drink the waters, and to enjoy each other s society The Hôpital spring is behind the Casino and is especially frequented by dyspeptic patients The Grande Grille is considered the most perfect example of what in the ordinary acceptation of the term, Vichy waters are supposed to be The water is hot, 41° C , and it is in temperature that these springs vary most The mineral contents of the waters are very similar In various directions round and through the parks and gardens there are covered ways where the open air can be enjoyed while sheltered from the rain or the sun Here people walk up and down, glass in hand, sipping occasionally the water which has been prescribed for them

Finally and near the railway station there are vast premises where, in the course of a year, between 15,000 000 and 16,000 000 bottles are sterilised, filled with Vichy water, corked, adorned with capsules and labels, packed, and sent off to all parts of the world This in itself is a vast business and involves a very elaborate technique to insure its being done in a cleanly, expeditious, and economical manner For instance, it is no easy matter to insure the purity of a cork It may be washed on the surface but inside organic growth can survive So at Vichy these growths are first encouraged , then, when it is thought that they are fully developed they are destroyed by exposing the corks to great heat and then to mechanical pressure

What, however, proved of the most absorbing interest to the majority of the visitors was the magnificent and newly constructed first class bathing establishment This vast edifice covers 10,000 square metres out of 32,000 square metres of land The parts of this estate not built upon serve as gardens, lawns, and roadways embellished with trees and floral ornamentation The principal façade is 170 metres in length and the establishment is 165 metres wide In the centre there is the main entrance surmounted by a monumental dome Artistic decorations and paintings abound inside and from this centre broad corridors lead in all directions What is practically necessary and useful has been provided in a manner that is artistic and pleasing to the eye Here there are 136 bathrooms and six of them being larger and more artistically decorated than the rest they are called *bains de luxe* and are reserved for those who like to spend more than is necessary so as to purchase some special privilege There are 13 different places for douches and 24 for douches with massage Here copper covered doors have to be provided to prevent the destructive effect of the mineral water Numerous dressing rooms are attached to the douche and other departments Then there are hot air baths, vapour baths, Dowsing baths, large and small and hot and cold swimming baths On the first floor provision is made for more special treatment, rectal and vaginal douches, the washing out of the stomach or the bladder, nasal and aural douches, inhalations, pulverisations, electric treatment, x rays, and so on Each bath has three taps, for hot, cold, and mineral water As a rule, the baths consist half of ordinary and half of mineral water

With the bathing there is every facility for physical exercise An excellent fencing and boxing room is provided and there are also facilities for gymnastics But for those who will not, or who cannot, take exercise there is a Zander institute where the patient is forced by machinery to make the necessary movements This 'mechano therapy ' is most ingenious and each muscle of the body can be separately exercised Thus some appliances keep the wrist or the hands in movement, others the arms, the legs, the back, or expand the chest Then there is a sort of mechanical massage by vibration or rapidly delivered slight taps, the little padded striking hammers being moved up and down the part it is desired to treat Many of these machines were evidently a source of interest to a large section of the visitors and the majority experimented with them upon themselves This in many cases led to a good deal of amusement Indeed, when once the visitors reached this part of the establishment it was a matter of some difficulty to persuade them to leave and to continue the inspection of the rest of the building At last and after visiting the library, where, by the way, it may be pointed out that any appropriate English medical works would be gratefully received, the visitors gradually found their way back to the beautiful cream-coloured hall under the great dome There they admired once more the paintings of the beautiful nymphs bathing in the Vich
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substantiated by a big array of statistics Thus it appears that whereas the number of bathers was set down at 16 044 in 1861 they amounted to 40,050 in 1881 and to 71,734 in 1902

By about noon, after some three hours' unceasing investigation, the visitors were able to return to their hotels, having spent an instructive and interesting morning Breakfast, or lunch as we should say in England, was then the principal consideration Dr R Durand Fardel, consulting physician at Vichy, entertained Sir William and Lady Broadbent and several other British and French guests to *déjeuner*, which was admirably served in a private room at the Hôtel du Parc There were no speeches but much cordiality prevailed What with the lengthy menu and the animated conversation there remained only just time enough to pack and to reach the station where the special train was waiting and ready to start for Evian at 3 16 P M

Excursions to Biarritz Pau, Cauterets, Argeles, Salies de Bearn, and Arcachon

(By Frederick J McCann, M D Edin , F R C S Eng)

On Sunday, May 14th a party numbering 40, composed of British physicians and surgeons accompanied by several ladies, left Paris in a special saloon carriage for Biarritz The weather being all that could be desired an excellent view of the surrounding country was obtained and *la belle patrie* in all its springtide freshness seemed to breathe forth a joyous welcome The comfort of the travellers was enhanced by the provision of an excellent *déjeuner* and dinner served during the journey

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to the casino being lined by enthusiastic crowds The town itself was illuminated and a salvo of cannon was fired on the arrival of the visitors The guests on alighting at the casino were received by the Maire (M Faisans) who cordially bade them welcome in a felicitous speech, to which Director General A H Klogh responded Refreshments were partaken of at the casino and *l'entente cordiale* was toasted

On the following morning the assembled guests, accompanied by the Maire and the municipal councillors, drove in special carriages to the Thermes Salins de Biarritz The arrangement of the baths was explained and the excellence of the organisation was much admired A visit was then paid to the golf club, where refreshments were offered and where a photograph was taken The visitors re entered their carriages and were driven along the Plage, whence an excellent view of the wide expanse of the sea front was obtained. A visit was paid to the English club, where refreshments were again provided, and then the guests returned to the Palace Hotel (the former palace of the Empress Eugénie). A sumptuous *déjeuner*, to which a large company had been invited, awaited the visitors on their return. A military band, sent specially from the garrison at Bayonne, discoursed sweet music during the repast. The MAIRE presided over the assembled company and in a graceful speech welcomed the British visitors. Director-General KEOGH and Mr. J. A. BLOXAM responded.

After the *déjeuner* the visitors left for Pau, which was reached at about 6 P.M. A banquet was given at the Winter Palace under the presidency of the Maire of Pau who welcomed the visitors. Amongst the guests were the Préfet of the Basses-Pyrénées and H.B.M. Vice-Consul. A concert of vocal and instrumental music followed the dinner and the excellent choral singing was a feature of this entertainment.

On Tuesday morning motor-cars were placed at the disposal of the party and a visit was paid to the château of Henri IV., which contains some fine old tapestries. The guests were then driven into the country to visit the kennels and the golf course. *Déjeuner* was provided at the Hôtel Gassion and the Hôtel de France.

Leaving Pau by train at 2 P.M. the party journeyed to Cauterets, which was reached at 3.30 P.M. A beautiful view was obtained of the snow-clad peaks of the Pyrénées and the wonderful vegetation extending upwards almost to the snow line. The reception at Cauterets was picturesque and in keeping with the magnificence of the surroundings. On the platform the Corps of Guides was drawn up in line, accompanied by their band which played the British National Anthem as the train drew up. The Guides, in their pale blue uniform with white leggings, presented a striking appearance. They were medium-sized, thick-set, bronzed mountaineers who, from their physique and bearing, were evidently accustomed to feats of endurance. The Maire of Cauterets received the visitors who then drove in procession, headed by the Guides, to the hotel where tea was served. They then embarked on the electric railway and afterwards journeyed in carriages to the Pont d'Espagne.

Cauterets, from its situation and climatic advantages, deserves to be more widely known in this country. It is situated at an altitude of 935 metres and is surrounded by lofty mountains, the snow-clad summits and luxurious vegetation of which add to the grandeur of the scene. Indeed, a trip up the mountains on the electric railway discloses a scene of magnificence and grandeur which leaves a lasting impression on the traveller. At the Pont d'Espagne a fine view was obtained of the rushing torrent which takes its source in the Lac de Gaube. The approach of a mist prevented the party from extending their excursion to the Lac but all returned to the hotel delighted with the wonderful panorama.

The best efforts of Mr. Meillon had been directed to giving the guests an excellent banquet on their return. The Maire of Cauterets again welcomed the visitors and suitable replies were made. After dinner some capital photographs were shown on the lantern by Dr. MEILLON. These illustrated the experiences of mountaineers in this region and the lucid explanations given by Dr. Meillon in English added greatly to the value of the photographic exhibition. Dancing was also enjoyed and formed a fitting conclusion to one of the most enjoyable days of the tour.

On Wednesday morning an early visit was paid to the thermal establishment and an opportunity was afforded to try the sulphur waters. These waters are specially suited for catarrhal states of the nose, the throat, and the air passages, and have already obtained considerable renown. But, time pressing, a start had to be made to catch an early train to Argelès, after an affectionate *au revoir* to Dr. Meillon and his father and to the Maire of Cauterets.

Every member of the party felt the warmth of their welcome to this picturesque spot, the pure clear air of which had, even in the short time, produced its invigorating effect and where everything had been done to add to their comfort and enjoyment. A word must be said of the great kindness of Dr. Meillon who, alike as travelling companion, guide, lecturer, and last but not least, pianist, showed his remarkable versatility and was indeed a "host in himself." He will be sure to have an enthusiastic welcome when he comes to London.

After arriving at Argelès the party visited the Medical Institute where the apparatus for the treatment of orthopædic cases was exhibited and they were later entertained to *déjeuner* at the Hôtel du Parc, which is prettily situated in a wooded garden. Speeches were made by the Maire and others. The intelligence that the Préfet of the Hautes Pyrénées was prevented from attending by an accident to his child was received with regret. The Sous-Préfet, by his cordiality and *bonhomie*, endeared himself to all the members of the party and proved an excellent substitute. His health was proposed and drunk with enthusiasm.

A drive of five miles through a beautiful bit of country took the party to Lourdes. Here a hurried visit was paid to the grotto, the sacred pool, and the church. The party then left by train for Salies-de-Béarn where they were met at the station by the Maire, Dr. Matton, and other medical men. They were conducted over the salt works and the thermal establishment. Dinner was served at the different hotels and afterwards a reception was given at the thermal establishment, followed by a concert. Speeches were made by the Maire and others and a most enjoyable evening was spent. Some of the party left for Paris, while others remained for the night at Salies-de-Béarn.

The town is situated in a Pyrenean valley and is much used as a health resort by the French and the Spanish but is not sufficiently well known in the British Isles. The climate is mild and sedative, being well suited for convalescents and nervous patients. The bromo-iodine salt springs have already obtained considerable reputation in the treatment of tubercle, anæmia, and other disorders.

Mr. Rose, the proprietor of the Grand Hôtel du Château, rendered great service to the visitors during their sojourn at Salies. Dr. Matton of Salies, to whom the idea of having this tour to the South of France was mainly due, did everything in his power to promote the comfort and enjoyment of the guests.

Some of the party journeyed on the following day to Arcachon where a delightful afternoon was spent viewing this charming health resort. A cordial invitation was extended to them to remain another day and enjoy the hospitality offered by M. de Galne (Président du Syndicat d'Initiative), Dr. Festal and M. Ferras (members of the administrative council). In the evening the party returned by train to Paris, arriving next morning at the Quai d'Orsay.

Thus terminated one of the most enjoyable tours which has ever been organised. To say that the journey through France was a triumphal progress is no exaggeration, as the kindness and hospitality of the towns visited were beyond all praise. Many graceful compliments were paid to the visitors by their French hosts and many new friendships were made. The ladies of the party were specially favoured with presents of choice flowers during the journey.

Amongst the large number of those who aided in making the visit such a pronounced success special mention must be made of the Préfet of the Hautes Pyrénées, the Sous-Préfet at Argelès, the Président of the Vallée, the Director of the Funicular Railway (who had travelled specially from Paris), the Maire of Cauterets, Dr. Meillon and his father, and last, but not least, Dr. Matton. The aid given by the British authorities was also much appreciated. The party was under the charge of Dr. Leonard P. Mark of London, an accomplished French scholar, whose uniform courtesy and tact made him popular with all the members of the party. Acting as spokesman and interpreter his services were invaluable. *Vive la France! Vive l'Entente Cordiale!*

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE annual meeting of the Fellows was held on June 3rd, Mr. Arthur Chance, the President, being in the chair. The annual report was read, which showed a prosperous year. Considerable improvements were made during the year, notably a new examination hall was opened and a perfect system of electric lighting was laid on for the entire buildings from the corporation supply. The honorary Fellowship of the College was conferred on Dr. A. Traill, Provost of Trinity College. The Carmichael prize essay was awarded to Dr. M. F. Reaney, the Barker anatomical prize to Mr. C. Cooper, the Mayne scholarship to Mr. A. N. Crawford, the Carmichael scholarship and the Stoney memorial gold medal in anatomy to Mr. J. Prendiville, and the gold medal in operative surgery to Mr. J. S. Dunne. The Stanhope gold medal, awarded by the Royal Humane Society to the person considered to have performed the bravest act of the year, was conferred on Captain Thomas Campbell Mackenzie, R.A.M.C., D.S.O., a Licentiate of the College. Six years ago he was nominated by the College for a commission in the Royal Army Medical Corps and in this short time he has won seven decorations—viz., the Stanhope gold medal, the Royal Humane Society's silver medal, the Arnott gold medal, the silver medal of the French Society for Salvage of Shipwrecks, the Distinguished Service Order, and the two medals of the South African War, with four clasps. Since the last report 16 candidates passed the examination and were admitted to the Fellowship, 67 passed the conjoint examination with the Royal College of Physicians and received the diploma in Surgery and Midwifery, 13 passed the conjoint examination with the Royal College of Physicians and received the conjoint diploma in Public Health, nine passed the examinations and received the licence in Dental Surgery, and 60 passed the conjoint preliminary examination with the Royal College of Physicians and received certificates. Eight Fellows, 42 Licentiates, and eight Licentiates in Dental Surgery died during the year. There are at present living 11 honorary Fellows, 443 ordinary Fellows, 2857 Licentiates, six honorary Diplomates in Public Health, 193 ordinary Diplomates in Public Health, and 516 Licentiates in Dental Surgery.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8133 births and 4390 deaths were registered during the week ending June 3rd. The annual rate of mortality in these towns, which had been 14·4 and 14·6 per 1000 in the two preceding weeks, further rose last week to 14·7 per 1000. In London the death-rate was 14·7 per 1000 and it also averaged 14·7 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 4·3 in Hornsey, 5·5 in Leyton, 7·3 in Hanley, 8·2 in King's Norton, 9·2 in West Ham, 9·4 in Tottenham, and 9·5 in Devonport; the highest rates were 19·3 in Newcastle-on-Tyne, 19·4 in Preston, 19·5 in Sunderland, 20·5 in Rochdale, 20·9 in Stockton-on-Tees, 22·7 in Swansea, 25·3 in Tynemouth, and 26·0 in Middlesbrough. The 4390 deaths in these towns last week included 411 which were referred to the principal infectious diseases, against 401, 442, and 414 in the three preceding weeks; of these 411 deaths, 152 resulted from measles, 118 from whooping-cough, 60 from diarrhœa, 30 from scarlet fever, 28 from diphtheria, 22 from "fever" (principally enteric), and one from small-pox. In Hornsey, Leyton, Brighton, Southampton, Wolverhampton, Walsall, Preston, York, Swansea, and in nine other smaller towns no death from any of the principal infectious diseases was registered; while the highest death-rates from these diseases were recorded in West Bromwich, Smethwick, Coventry, Warrington, Salford, Sheffield, Rotherham, Sunderland, and Tynemouth. The greatest proportional mortality from measles occurred in Willesden, Walthamstow, West Bromwich, Smethwick, Coventry, Derby, Birkenhead, Warrington, Salford, Sheffield, Sunderland, and Merthyr Tydfil; and from whooping-cough in East Ham, Hastings, Ipswich, and Tynemouth. The mortality from scarlet fever, from diphtheria, from "fever," and from diarrhœa showed no marked excess in any of the large towns. One death from small-pox was registered in Bradford, but none in any other of the large towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been 17, 15, and 10 on the three preceding Saturdays, had further fallen to nine on Saturday last, June 3rd; one new case was admitted during the week, against two, three, and none in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of last week was 2267; against 2177, 2211, and 2200 at the end of the three preceding weeks; 351 new cases were admitted during the week, against 319, 319, and 312 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 251, 226, and 218 in the three preceding weeks, rose again to 235 last week, and were 54 above the number in the corresponding period of last year. The causes of 34, or 0·8 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Nottingham, Salford, Bradford, Leeds, Hull, Newcastle-on-Tyne, and in 51 other smaller towns; the highest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·5, 16·7, and 18·1 per 1000 in the three preceding weeks, declined again to 16·9 per 1000 during the week ending June 3rd, but was 2·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·2 in Leith and 13·7 in Aberdeen and in Perth, to 17·8 in Greenock and 18·3 in Glasgow. The 567 deaths in the towns included 33 which were referred to measles, 24 to whooping-cough, 16 to diarrhœa, three to scarlet fever, three to "fever," and one to diphtheria. In all 80 deaths resulted from these principal infectious diseases last week, against 76 in each of the two preceding weeks. These 80 deaths were equal to an annual rate of 2·4 per 1000, which was 1·0 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 32, 26, and 30 in

again last week to 33, of

eight in Edinburgh. The

h had been 30, 25, and 24 in

again 24 last week, and included 14 in Glasgow, four in Paisley, and three in Edinburgh. The fatal cases of diarrhœa, which had been 19 and seven in the two preceding weeks, rose again last week to 16, of which seven were registered in Glasgow, four in Edinburgh, two in Dundee, and two in Aberdeen. The deaths from scarlet fever, which had been two, one, and three in the three preceding weeks, were again three last week, and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 108, 83, and 107 in the three preceding weeks, declined again last week to 88, but were slightly above the number in the corresponding period of last year. The causes of 19, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·7, 19·5, and 19·0 per 1000 in the three preceding weeks, rose again to 19·4 per 1000 during the week ending June 3rd. During the past four weeks the death-rate has averaged 20·4 per 1000, the rates during the same period being 14·5 in London and 16·6 in Edinburgh. The 141 deaths of persons belonging to Dublin registered during the week under notice were three in excess of the number in the preceding week and included eight which were referred to the principal infectious diseases, against eight, six, and four in the three preceding weeks; of these, three resulted from measles, three from whooping-cough, one from scarlet fever, and one from diarrhœa, but not any from small-pox, from diphtheria, or from "fever." These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·6 in London and 2·5 in Edinburgh. The fatal cases of measles, which had been four, two, and one in the three preceding weeks, rose again to three last week. The deaths from whooping-cough, which had been one in each of the two preceding weeks, increased last week to three. The 141 deaths in Dublin last week included 25 of children under one year of age and 34 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons were slightly below the respective numbers recorded in the preceding week. Five inquest cases and seven deaths from violence were registered; and 58, or more than two-fifths, of the deaths occurred in public institutions. The causes of three, or more than 2 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: H. W. Macnamara to the *Royal Arthur* on commissioning; T. J. Crowley to the *Impr* T

Austen to the *Albemarle*. Staff Surgeons: H. B. Marriott to the *King Alfred* on recommissioning; N. L. Richards to the *Antrim* on commissioning; E. T. Meagher to the *Ramillies*; R. S. Bernard to the *President* for three months' hospital course; E. A. Penfold to the *Terrible*; A. Gaskell to the *Highflyer*; and F. J. A. Dalton to Chatham Hospital. Surgeons: F. E. Auley to the *Antrim* on commissioning; A. C. Renwick to the *Indus*; B. S. Robson to the *Skipjack*; and A. I. Sheldon to the *Pembroke* for disposal.

ROYAL ARMY MEDICAL CORPS.

Captain C. G. Thomson is appointed Medical Officer in charge of Ballykinlar Camp during the training of the Militia battalions. Major C. L. Josling, Acting Principal Medical Officer to the troops, Hong-Kong, is appointed a member of the Sanitary Board of that port.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Devonshire: Surgeon-Lieutenant M. B. Hay resigns his commission (dated June 7th, 1905). 2nd Middlesex: Surgeon-Captain (Honorary Captain in the Army) A. Thorne is granted the honorary rank of Surgeon-Major (dated May 15th, 1905).

Rifle: 1st Middlesex (Victoria and St. George's): Surgeon-Lieutenant-Colonel Pearse is granted the honorary rank of Surgeon-Colonel (dated May 8th, 1905).

Consequent upon the reorganisation of the 2nd and 3rd Volunteer Battalions of the Welsh Regiment, and the 3rd Glamorgan Volunteer Rifle Corps, His Majesty has been graciously pleased to approve of the following transfer with effect as from April 1st, 1905:—To be Medical Officer: Surgeon-Major D. Hepburn, from the 3rd Volunteer Battalion the Welsh Regiment.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Harwich Bearer Company: Lieutenant W. A. Gibb to be Captain (dated June 3rd, 1905).

ARMY MEDICAL RESERVE OF OFFICERS.

The undermentioned Surgeon-Majors to be Surgeon-Lieutenant-Colonels: H. W. Roberts (dated Feb. 28th, 1905), W. H. Packer (dated May 26th, 1905), and J. J. de Z. Marshall (dated May 27th, 1905). Captain W. R. Matthews, Manchester Companies, Royal Army Medical Corps (Volunteers), to be Surgeon-Captain (dated June 7th, 1905). Surgeon-Captain T. F. Devane, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated June 7th, 1905).

THE WAR IN THE FAR EAST.

There is no news of a medical nature to be recorded from the seat of war nor is there likely to be any for some time to come relative to the great naval victory of Admiral Togo at Tsushima, to be henceforth known as "the battle of the Japan Sea." The most remarkable circumstance connected with that battle is the wholesale destruction, amounting to the practical annihilation, of the Russian fleet which was wrought by the Japanese at such a relatively insignificant loss to themselves. It is a platitude to say that the application of scientific discoveries to modern methods of war has revolutionised the whole system and notably so in naval warfare. When we read of the number of Russian battleships sunk and of the consequently sudden and appalling sacrifice of life entailed thereby we are naturally at a loss to see where any sort of medical service aid could by any possibility come in. The only thing that could be done with any chance of success in such circumstances would be to make an attempt at rescuing as many men as possible from drowning—an obviously difficult and hazardous undertaking under the conditions of a naval battle.

It is gratifying to learn that the wounded Admiral Rojdestvensky is making satisfactory progress and gradually regaining strength. It is estimated that it will take about two months for his recovery. The Admiral is receiving, it is needless to say, every attention on the part of the Japanese medical officers and the hospital authorities. Admiral Togo has visited his late adversary and shown all the considerate sympathy which brave men always feel for one another in such circumstances.

FOREIGN UNIVERSITY INTELLIGENCE.—*Strasburg:* Dr. Hugo Fuchs has been recognised as *privat-docent* of Anatomy.—*Tübingen:* A Professorship of Hygiene is about to be established.—*Vienna:* Dr. Karl von Stejskal has been recognised as *privat-docent* of Internal Medicine.

Correspondence.

"Audi alteram partem."

"CANCER BODIES" AND THE NORMAL REPRODUCTIVE CELL CYCLE.

To the Editors of THE LANCET.

SIRS,—I have read Dr. C. Powell White's Erasmus Wilson lecture in which, as he states in his letter in THE LANCET of June 3rd, p. 1542, he has drawn attention to the resemblances between cancer bodies and the "paranuclei" of spermatocytes. There is, of course, nothing new in this. My colleagues and I had already alluded to Borrel's work in our paper recently read before the Royal Society. The whole point of the matter lies in this: that these earlier comparisons were largely founded on the erroneous interpretation of an altogether inadequate range of facts. Consequently they at once gave way before the first breath of adverse criticism. Similarly, the passage in Dr. White's lecture in which he refers to these bodies would certainly fail at the present time to receive the assent of a cytologist conversant with the details of spermatogenesis.

As was pointed out in our paper the archoplasmic vesicles neither originate from, nor do they contain, centrosomes, but they are definite bodies formed at certain fixed periods in the normal reproductive cell cycle. In their mode of origin and development they correspond stage for stage with the so-called cancer bodies. These brief remarks are necessary to render our own position with regard to the investigation clear. We are, of course, far from wishing to detract from the value of the observations or theories of other workers in this difficult field of research.

I am, Sirs, yours faithfully,

June 6th, 1905. J. B. FARMER.

THE NATURE OF DIABETES MELLITUS.

To the Editors of THE LANCET.

SIRS,—May I be allowed space to reply to the letters of Dr. Arnold Lorand and Dr. W. Langdon Brown who have done me the honour of criticising my recent Goulstonian lectures on Diabetes Mellitus? With regard to Dr. Lorand's views, I would point out that, in accordance with the well-known logical rule that a universal proposition is upset by a single contradictory instance, the occurrence of even one authentic case of combined diabetes and myxœdema is sufficient to disprove the suggestion that an excess of thyroid secretion is the invariable basis of the former disease. Dr. Lorand appears to admit that such cases have occurred, though very rarely. Both diabetes and myxœdema being rather uncommon conditions, we could not in any case expect to find the combination with any frequency. Nevertheless, it is not impossible that diabetes may be produced by several different causes and excess of thyroid secretion may be one of them.

In reply to Dr. Langdon Brown I would say that the gist of my argument was an insistence upon an internal formation of sugar as the basis of diabetes. The admission that digestive irregularities may cause excess of sugar to be poured into the blood was merely a conc [illegible] of those who hold what I have called th [illegible] of the disease and I willingly admit the [illegible] this concession if, as Dr. Langdon Brown implies, it has been definitely proved that all carbohydrate material is invariably converted into sugar in the alimentary canal and absorbed in this form. I had thought that at least one physiologist of eminence, Dr. F. W. Pavy, maintained that some of the carbohydrates were absorbed in the form of fat and that so far absolute proof was not available in either direction. With regard to the elimination of fat in lipæmia I had not meant to imply that a direct combustion took place in the pulmonary capillaries, but that the lung tissue might be the seat of [illegible] that the fat was brought there for the [illegible] issue. I can as [illegible] with the inter [illegible] pancreatic sec [illegible] relate to the [illegible] factor at fault [illegible] quite distinct from the pancreatic juice. It might even be argued that as the pancreas is supplied with nerves the fact that the digestive juice is secreted independently of their control is in itself an argument in favour of their influence upon the internal secretion, as otherwise the nerves would be almost functionless. I admit that the action of suprarenal extract in the production of glycosuria is obscure, but for reasons given in my lectures I still think that, notwithstanding the experiments on birds quoted by Dr. Langdon Brown, a direct action on the pancreas is the simplest explanation. It is possible, however, that the action is similar to that of phloridzin. With regard to the criticism that if the fat is converted into sugar it cannot appear in the blood unchanged (lipæmia), I pointed out that in normal conditions fat appears to leave the cells in which it is contained by a process of resolution and re-formation, but that in certain circumstances (? rapid excretion by the cell) droplets of fats are extruded unchanged. I therefore suggested, or intended to suggest, that the formation of sugar in diabetes was analogous to, or identical with, the former process, while the appearance of fat in the blood—a rare condition—was an instance of the latter. Both could occur simultaneously either in the case of individual fat-cells or in different cells. As to the source of sugar in starving animals treated with phloridzin, is it proved that in a starving animal every particle of fat can be removed from the body? My recollection of the classical experiments of Voit on this subject is that in an animal which had been starved to death it was found that 97 per cent. of the fat had disappeared. In a starving (living) animal there should therefore be over 3 per cent. of fat still present. Consequently I do not think that the experiment with phloridzin upon such an animal proves the origin of sugar in proteid. The possibility of such an origin I explicitly admitted in my lectures and I must adhere to the conclusion there expressed that time and further observations are needed to settle the matter.

May I take the opportunity of adding that it has been pointed out to me recently, in answer to a question of mine, by Dr. Walter G. Smith of Dublin, that it is possible by a series of chemical substitutions to obtain sugar from glycerine, and according to Thomson and Bloxam's text-book such sugar is identical with glucose. Apologising for the length of this letter, which I have condensed as far as possible, I am, Sirs, yours faithfully,

Harley street, W., June 5th, 1905. W. CECIL BOSANQUET.

THE ALTERED TREATMENT OF PNEUMONIA DURING THE LAST QUARTER OF A CENTURY.

To the Editors of THE LANCET.

SIRS,—When I was a student of medicine I studied under, amongst other celebrated teachers, Dr. R. Dwyer Lyons, who was a Doctor of Medicine, Fellow of the College of Physicians, ex-president and Fellow of the King and Queen's College of Physicians, and M.P. for the city of Dublin. He was amongst the first rank in his profession as a sound practical physician and was connected with the medical and fever divisions of the Richmond, Whitworth, and Hardwick Hospitals, where I had every opportunity of witnessing his successful treatment of pneumonia. Dr. Lyons usually prescribed quinine internally (which he regarded more or less as a specific), coupled with suitable expectorants, and later iodide of potassium, but above all and everything [illegible] and invariably ordered, [illegible] tion of the lung or lungs [illegible] so encouraging and satisfactory that I can only remember of a single instance of death (if that can be called one due to pneumonia), in an alcoholic subject, a man, aged 56 years, in whom the post-mortem examination revealed disease of the brain, liver, and kidneys, as well as grey hepatisation of the lungs. My experience, extending over a quarter of a century in a large practice in Suffolk, is this: that during the first 15 years of that time, when I prescribed as above described, recovery invariably took place and that during the remaining ten years when I practically discarded "blistering" the results were not so uniformly satisfactory. I reluctantly discontinued counter-irritation by means of large blisters for two reasons—viz., that I found that most text-books and books of references on medicine disapproved of that mode of treatment and, secondly, ? should a consultant be called in as a second opinion he would in all probability also join in disapproval, holding to the opinion that an open surface caused by a blister was contra-indicated in a disease believed by many to be but a local manifestation of a general blood poisoning, which theory I am inclined to believe is only true in the minority and not in the majority of cases.

To sum up, blood-letting in general has gone out of fashion and has been boycotted or discarded by the medical profession; now comes the turn of blistering, so that we have jumped in half the life-time of many practitioners from one extreme to the other.

I am, Sirs, yours faithfully,

June 4th, 1905. H. IVERS KIRKPATRICK.

SOME CONSIDERATIONS CONNECTED WITH THE RELATIVE IMMUNITY OF THE JAPANESE ARMIES FROM TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—Referring to the leading article with this title in THE LANCET of May 20th, p. 1365, I think we may go further than merely to "surmise that the diet of the Japanese, no less than their admirable tactics of precaution, has saved them from the scourge of typhoid fever." I think there is now sufficient evidence to show that all infections, and especially those of the alimentary tract, are much less liable to attack vegetable feeders and abstemious individuals in general, such as are the Japanese, than those of the same class, whatever their nationality, who indulge in animal food and alcohol. Japanese soldiers, by reason of their simple diet, splendid physical training, and excellent education in hygiene, are better able to resist the devitalising conditions inseparable from a lengthy campaign than are their fellows of Western nations. In addition to the hereditary advantages conferred on the Japanese through the simple and physiological lives of generations of their ancestors, due import must be accorded to the manner in which they individually avail themselves of the modern benefits discovered by preventive medicine. In this connexion it is reported that each [illegible] and takes [illegible] rhœa. H[illegible] of typhoid fever and dysentery and what is known of their prevention, and he promptly and rationally receives and acts upon this knowledge.

I am, Sirs, yours faithfully,

London, May 31st, 1905. D. SOMMERVILLE, M.D.

THE PETITION OF THE LICENTIATES OF THE SOCIETY OF APOTHECARIES TO THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—Most of the signatories to this petition will have learned by this time that the General Medical Council considers that it has no power to alter the designation of the Licentiates as desired. I am sure that I am voicing the feelings of the majority when I say that we thank the Council for the sympathetic way in which it received the petition and for the careful consideration which was given to it. There is one member, however (Dr. Norman Moore), who, if he is correctly reported, hardly treated us fairly when he hinted that we desired to claim titles which had not been earned. Surely it cannot justly be said that a person who has passed the examination in medicine, surgery, and midwifery at the Society of Apothecaries desires to assume an unearned title when he wishes to be registered as Licentiate in Medicine, Surgery, and Midwifery of that society. I do not know to what he referred when he said "they constantly heard that people who had passed a certain examination were quite as good as those who had studied at the University and who had the degree of doctor." The remark does not appear to be relevant to the subject of our petition. I am, Sirs, your faithfully,

A. RIVERS-WILLSON,

Oxford, May 30th, 1905. Chairman of the Petition Committee.

CHILDREN'S COUNTRY HOLIDAYS FUND.

To the Editors of THE LANCET.

SIRS,—May we call the attention of your readers to the needs of the Children's Country Holidays Fund, which sends poor children into the country for a fortnight during their summer holidays? In most of our London schools the fund has now become an institution. Parents and teachers recognise from different points of view the beneficial effects upon the children of a fortnight's residence in the country at a time when even to older persons the heat of London is oppressive. It is hardly too much to say that the Children's Country Holidays Fund has indicated one of the methods by which there is best hope of preventing that deterioration in the physique of our town population, of which the public has lately heard so much. In 1903 the fund sent away 34,000 children and in 1904 over 39,000. The increase in numbers shows that a real demand exists for its services and that it possesses the organisation by which that demand can be met. Only the money is lacking. We hope that when the public realise the work that is being done by the Children's Country Holidays Fund sufficient help will be forthcoming to allow of its maintaining and extending its operations. The address of the fund is 18, Buckingham-street, Strand, and the honorary treasurer is the Earl of Arran.

We are, Sirs, yours faithfully,

ALFRED LYTTELTON, } Trustees of the Children's
W. F. D. SMITH, } Country Holidays Fund.

Buckingham-street, Strand, W.C., June 3rd, 1905.

A PLEA FOR THE MORE GENERAL USE OF TUBERCULIN.

To the Editors of THE LANCET.

SIRS,—In reference to your annotation in THE LANCET of June 3rd, p. 1526, I feel convinced that many medical men who have used tuberculin will agree that a plea for its more extensive use in tuberculous affections will be a step in the right direction. There is no doubt, as you suggest, that a careful consideration and a thorough re-investigation would be the means of placing tuberculin in a position that it so much deserves. In the minds of those who have constantly used tuberculin there can be but little hesitation in giving a verdict as to its efficacy in lupus vulgaris, tuberculosis cutis, lung, and other forms of tuberculous mischief. I have used this remedy since its first discovery and have not had reason to lose faith in it or be disappointed with the good results achieved by means of its aid.

I could quote various cases of tuberculous ulcers having been permanently healed by this remedy when apparently everything else had failed and such a remedy should not be allowed to become obsolete without a thorough and impartial trial. Trusting your annotation will be the means of again bringing this remedy into prominence,

I am, Sirs, yours faithfully,

C. STANSER BOWKER.

Pontnewydd, Newport, Mon., June 6th, 1905.

RED RUBBER: ITS POSSIBLE CONNEXION WITH APPENDICITIS AND OTHER INTESTINAL DISORDERS.

To the Editors of THE LANCET.

SIRS,—A few notes I have made on this subject may be of interest to your readers. Not long since, at 10 P.M., I called in a shop kept by one of my patients to make a small purchase. Behind the counter was a young girl whom I knew well as a patient and I was surprised to see her looking so ill. She presented a picture of perfect depression. I mentioned the fact to her and she confirmed my observation, saying that she had felt very relaxed and depressed for the last two days and that she was getting worse. Her pulse was scarcely to be felt, she was pale, heavy-eyed, with cold and clammy hands. At 1 A.M., three hours after I was talking to her, I was summoned to her house to see her. I went and found her suffering from a very acute appendicitis. There was no pain felt prior to 1 A.M. She was removed to hospital next day and soon operated on for the removal of the appendix. This case gave me the idea that the cause of appendicitis was probably a something which produced first of all a general depression, that either the depression or that something causing the depression was the cause of appendicitis. On asking myself the question as to what the something could be my mind became riveted on antimony after dismissing other agents for the want of collateral symptoms. Then another question presented itself as to the source of the antimony. I learned from the girl's aunt, with whom she lived, that she was accustomed to drink daily about half a dozen bottles of non-intoxicating drinks which she bought from a shop next door. I also found that she was the only one out of a family of nine who drank these drinks; she was the only one in the household ever attacked by appendicitis. This occurrence led me to retrace my steps to many of my patients who had been victims of this dire complaint and I learnt from those I revisited—nine in all—that they also had been drinkers of non-intoxicating drinks from bottles fitted with red rubber rings. That this red rubber contains antimony there is no doubt. I have tested several pieces myself. It is insoluble in all solvents of raw rubber and gutta-percha. To confirm my test I took a dozen of these red rubber bottle rings to Mr. R. C. Cowley, Ph.C., analytical chemist, Principal of the Liverpool School of Pharmacy, and in a week I received the following letter:—

> DEAR MR. POND,—I have by means of an alkali extracted sulphide of antimony from the rubber rings you left with me last week. I have very little doubt but that alkaline waters and those containing organic acids would have a solvent action on the antimony in the rubber, particularly after the rubber has been worn and its surface roughened. I think it is sufficiently demonstrated that rubber vulcanised by sulphide of antimony (red rubber) should never be used as fittings for aerated waters on account of the strong solvent action of alkalies and organic acids on sulphide of antimony.
>
> I am, yours very truly,
>
> May 7th. R. C. COWLEY.

After receiving this letter I sent an expert in the rubber trade samples of these red rubber rings, asking him if he would kindly let me know their composition. His reply is somewhat astounding:—

> May 11th.
>
> These samples probably contain the following ingredients in this proportion: 20 pounds of rubber, 12 pounds of antimony (sulphide), five pounds of red zinc oxide, one-eighth of a pound of sulphur, and a quarter of a pound of lime.

The composition, you will note, of these red rubber rings contains not much less than one-third its weight of antimony. These red rubber rings are gradually worn down in the process of use from one-eighth of an inch in thickness to the thinness of paper, with jagged edges, and by age present innumerable cracks and become brittle. The small particles of red rubber fall into the bottles and are swallowed with the drink. I have found several particles at the bottom of beer bottles. Beer bottles and non-intoxicating drink bottles are not the only places where these red rubber rings are found. They are in syphons, sparklets, certain pickle bottles, jelly and preserved fruit bottles, &c. I have just taken from the stoppers of two beer bottles the red rubber rings. One is comparatively new, with only a slightly compressed edge but already chipped; the other is much worn as described above. These two rings are the same size in depth, thickness at unworn or upper edge, and circumference. The new one weighs 28 grains, the old one only 19 grains, due to the thinning or wearing away of its lower edge. The difference represents nine grains or its equivalent—namely, nearly three grains of sulphide of antimony.

Now a few words about the probable action. The pieces of rubber are swallowed as a rule at meal time, when the stomach is full of food, and in the process of digestion I take it the antimony is slowly separated from the rubber, is slowly absorbed, and when absorbed produces its secondary action—namely, that of depression and especially as a powerful depressant of the muscle fibre of the stomach and intestines. Now, we have two factors which together are capable of producing appendicitis: (1) a relaxed muscle fibre of bowel with partial or complete paralysis of the circular muscle fibres at the orifice of the appendix; and (2) a loaded bowel (cæcum).

Now under such conditions a slight movement of the body, such as stooping or straining, or a flow of fæces through the ileo-cæcal valve into an already overloaded cæcum deprived of its muscular contractility, is sufficient to press anything in the neighbourhood of the appendix, on account of its relaxed muscular coat, into its blind canal. Again, we know that ingested antimony is excreted by the skin, kidneys, and all mucous surfaces and that this tends to inflammation of these surfaces; therefore if antimony is being excreted by the mucous membrane in or in the neighbourhood of the appendix the mucous membrane would be in such a condition as to inflame readily on the slightest excitation. I have also noticed that the majority of my patients who have suffered from appendicitis have been seized by the initial pain when in the recumbent position. I do not imagine that one ordinary bottle would produce any noticeable evil results even to the keenest observers, but to produce the results about which I am writing these small doses must be frequently repeated over a length of time and the properties of the antimony must be accumulative. Nor do I believe that every case of appendicitis is produced in this way, but my idea is that antimony is directly or indirectly the cause of a very large number of them.

Another set of cases in which, in my opinion, antimony plays a very important part is the dilated stomachs. These cases are by far more numerous than they were in former years. During the last few years I have met several with the lower border two or more inches below the umbilicus in strong athletic young men and in otherwise healthy girls. In all cases they have been drinkers out of bottles with red rubber fittings. I take it that the frequently repeated small doses of antimony depress and weaken the muscular coat of the stomach, and by filling a stomach in such a condition two or three times a day with food the weight of the food will gradually stretch its walls in their weakened state beyond the limit of active recontraction.

Again, I have formed the idea from observations made in my practice that antimony from the same source is responsible for a class of cases now known as "gastric ulcers devoid of the classical symptom of vomiting." I have had many of these cases pass through my practice during the last few years and I am sorry to say their numbers are increasing. I find these patients also are imbibers of non-intoxicating drinks from bottles fitted with red rubber rings. The muscle fibre of the stomach, I take it, is depressed by frequent small doses of antimony, the depression of the muscle fibre would account for the absence of vomiting, and if the mucous membrane was excreting any of the ingested antimony an inflamed area due to this excretion might form the commencement of an ulcer.

Another case of interest and on account of its connexion with antimony deserves to be mentioned—a case of chronic constipation. This case points rather markedly to the action of antimony relaxing and depressing the muscle fibres of the bowels. A lady sent for me one morning with the message to bring my bag as her maid was about to be confined. I went; the mistress met me at the door and told me that she had noticed her maid increasing in size for some time past and that now she was unable to get up and the pains had come on. I was shown to the girl's room. At first sight I had not the slightest doubt but that the girl was carrying a nine months fœtus. On examination I found there was no pregnancy but the swelling was entirely due to an enormous collection of fæces. She was taken to hospital. I heard from her mistress that she was there more than three weeks before she got rid of the original collection. Her mistress had some time since forbidden her to take beer and had in its place supplied her with non-intoxicants in screw-stoppered bottles.

In conclusion, I have endeavoured to show that the result of this ingestion of antimony may lead to: (*a*) a weakening of the muscular coats of the cæcum and vermiform appendix and the resulting appendicitis; (*b*) weakening of the muscular coats of the stomach and dilation of the stomach; (*c*) irritation of the mucous membrane of the stomach and intestines and thereby some cases of gastric and intestinal ulcers; and (*d*) weakening of the muscular coat of the intestines and some cases of chronic constipation.

I am well aware that the views here stated are open to ready criticism and that much investigation has yet to be made, but I put them forward as being a new and a quite possible cause of some of these alimentary disorders, the etiology of which has puzzled and is still puzzling the medical world. Moreover, it is very important that the dangers which may accrue from red rubber should at once become fully recognised.—I am, Sirs, yours faithfully,

F. A. POND, M.R.C.S. Eng., L.R.C.P. Lond.

Upper Parliament-street, Liverpool, June 5th, 1905.

THE GROWTH OF CANCER.

To the Editors of THE LANCET.

SIRS,—The proposition to be discussed is that a somatic cell may undergo functional involution or the converse of physiological evolution and in so doing may resume the characters of the primitive cell or unicellular organism and that a colony of such cells forms what is termed a tumour. The growth of cancer is not merely limitless but, as many observers have noted, the tumour has no nerves, while the cells seem to be relatively independent of their host. The limit to cell reproduction appears to be only conditioned by the nutrient medium. If nature be her own interpreter, in strictness the problem should be looked at from the inductive aspect and the growth of cancer should be compared with cells having limitless growth and an independent existence, with no nervous system. The protozoa fulfil these conditions and Weismann, impressed by the vast reproduction of the lower kinds, credited them with immortality. Clinically, the evidence is strong in favour of tumour cells having lost their normal function. A malignant tumour may flourish while all the other tissues are wasting; a fatty tumour may grow while the body-fat steadily decreases; in old people a cancer may arise while the organs are undergoing involution. Chemically, Blumenthal finds that the substance of cancer cells differs from that of somatic cells and that substances are present in cancer cells not found hitherto in the healthy body, while there is an intracellular ferment able to digest the albumin of its own cells and also the cells of the body. This is evidence that cancer cells have not the same function as somatic cells but is no proof that therefore they must be germ cells. The effect of erysipelas on malignant growths when cancer cells have been seen to undergo destruction by cocci suggests a comparison with infection in the protozoa and the struggle between the parasite and the host portrayed by Metchnikoff.[1] In this struggle the intracellular digestion of the protozoon plays a leading part. Further, the coccidium found by Pfeiffer and other observers in cancer when the parasite grows at the expense of the cell is capable of a similar explanation.

From the aspect of reproduction the analogy between tumour cells and the cell communities or colonies still found in the infusoria and rhizopods would seem to be even closer. Most of the forms of cell division found in tumours have been noted in protozoa and the cancer cell might be termed the analogue of the protozoon. Heterotype mitosis might be compared with the following.[2] "The unicellular animals or protozoa, having obviously no body, are directly comparable to the sex cells of the higher animals. The body is the addition which makes the difference. In a few protozoa, however, the results of the division of a unit remain associated togetl [illegible] protozoon is [illegible] of the higher [illegible] and may soon resolve itself into its component parts exactly as the primitive male cell, which has divided into a clump of spermatozoa, breaks up and sets these active units free. But the colony may be more stable and retain its continuity (like a segmented ovum), thus bridging the gulf between unicellular and multicellular organisms. In such cases certain cells are set apart as reproductive and eventually set adrift to form a fresh colony. This is the beginning of the [illegible] 'e cells." Wilson says:[3] [illegible] bserved in many of the [illegible] l unicellular plants. In [illegible] the process is of nearly [illegible] ɪzoa."

Amitosis is very rare in the higher plants and animals and cytologists think it is a for [illegible] it is fairly common botl [illegible] unicellular organisms. A [illegible] lost its normal function involves to a more primitive type is seen when a fat cell undergoes atrophy: the fat slowly vanishes and the cell becomes connective tissue and this in turn may organise into fibrous tissue. Involution is a phase of life, a lessened functional activity termed by Canstatt senile involution.[4] The highly specialised cells gradually lose their function, their place is taken by connective tissue, and sclerosis, especially arterio-sclerosis, initiates a vicious and involuting spiral. In man involution is not always physiological—diseases such as alcoholism, syphilis, gout, and chronic tuberculosis or aberrations of function, such as chronic constipation or overfeeding, all tend to hasten arterio-sclerosis. Involution is a frequent herald of cancer because the cell has lost its function; it is no longer a specialist, it is, in fact, though not always in form, less differentiated and hence tends to resume the exuberant growth of the blastoderm, asexual trophoblast, unorganised cell, or primitive protoplasm. Irritation and inflammation as a harbinger of cancer have been noted in many animals, while comparisons have been made from the over-functioning due to an effort at repair and from the similar method of cell division as seen in chronic superficial glossitis; but the essential difference would seem to be that in the one case the proliferating cells have retained their function, while in the other case their function has been lost.

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[1] Metchnikoff: Comparative Pathology of Inflammation.

[2] Article on Embryology, Chambers's Encyclopædia, 1895 edition.

[3] Wilson: The Cell in Development and Inheritance, 1904 edition.

[4] Boy-Teissier: Old Age, Twentieth Century Practice of Medicine, 1897 edition.

There is, however, another aspect of the problem. May we think that the presence of nerves in metazoa acts like a brake or check on cell production? or, to put it another way, Does the energy used for the nerve tissue withdraw the stimulus from the lower tissues? As the nervous system gets more specialised in the animal kingdom, so reproduction of species which, as we have seen, is comparable to cell division in unicellular organisms, gets less active and in advanced civilisation may result in sterility; conversely in poor or impaired nutrition, as seen in tuberculosis, fruitfulness has long been remarked. Clinically a neuroma composed of true nerve tissue is very rare, whereas many tumours have been recorded as a sequel to disease or injury of the nervous system. Campana has found changes in nerve trunks adjacent to certain sarcomata. Mr. G. L. Cheatle[5] emphasises the apparent relations between carcinoma and nerve and trophic areas. If we think of nerve and epithelium, which both arise in metazoa from the ectoderm or epiblast, as two diverging lines it is conceivable as the nervous system gets more highly specialised it would be more liable to get out of order and so lose control over the epithelial cell. Owing to lessened function the nerve cell has probably neither the time nor the ability to keep pace with the epithelial cell which from irritation proliferates rapidly and finally frees itself from nerve influence. The presence of nerves in cases of certain slow-growing fibro-myomata lends support to this view. To recapitulate, the hypothesis put forward might aptly be described as involution. From the limitless growth and absence of nerves a malignant tumour should be classed as a cœnobium of protozoa. Just as an old man may become childish or an organ undergo involution, so may the cell undergo functional involution and resume the character of the primitive cell. It is like a palimpsest when the rubbed out writing reappears. A somatic cell has evolved from the general to the special; a tumour cell has involved from the special to the general. Cancer is rare in youth because the organs are not undergoing involution; on the other hand, sarcoma is common because the step down to the primitive cell is easy, while the embryonic connective tissue, like its host, is not educated to orderly conduct. Benign tumours would not grow so fast because the more organised the tissue the greater the step down to the primitive cell. Tumour cells are atypical because they have lost their function and the greater the loss of function the greater the loss of form. Irregular cancer cells accord with the law of parasitism when with a lessened necessity for earning a living and with difficulties in the way of reproduction, the organs of multiplication increase in size and complexity. Cartilage which has no nerves would not form tumours until the cells had lost their function; though the absence of arteries would doubtless have some influence. The rate of growth of a tumour is proportional to the growth-rate of the tissue from which it arises, and other things being equal the more highly organised the tissue the slower the rate of growth. A sudden loss of function may cause atrophy of the growth as seen in mammary cancer when the breast atrophies after oöphorectomy; and over- [illegible] cause a temporary shrinkage as seen [illegible] administration. The absence of nuclei in some cancer cells suggests the most primitive protoplasm and they would seem to be a lower type than embryonal tissue, which has the potential to construct or to organise. Gemmation or budding occurs in primitive cells and this may explain metastases in tumours. Spores are found in primitive cells and this may account for the cell rests of cancer. The inability of transplanted cancers to grow in the tissues of another species and not always in those of the same species implies a nutritional factor in tumour formation. The record of many cases of spontaneous cure of cancer holds out the hope that a remedy will be found if the line of research includes pre-cancerous and post-cancerous conditions.

I am, Sirs, yours faithfully,

ARTHUR C. WILSON, M.B., Ch.B. Vict.

Formby, June 6th, 1905.

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[5] Brit. Med. Jour., April, 1903, and 1905.

CHOLERA, PLAGUE, AND OTHER DISEASES IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE OTTOMAN BOARD OF HEALTH.)

THE cholera epidemic which had prevailed for nearly a twelvemonth in Persia appears to have come to an end. A telegram received in Constantinople at the end of April states that no case had been known to occur in any part of the country since Feb. 25th. A final report on the epidemic has recently been received by the Constantinople Board of Health from its representative on the Tehran Board of Health. Most of the facts contained in this report have already been made known to readers of THE LANCET in my previous letters but the report in question throws fresh light upon some points of interest. The epidemic is described as spreading by two main routes from the Shiah city of Kerbela, one route passing northwards and eastwards through Bagdad and Kermanshah to Tehran and Eastern Persia, and the other southwards to Basra and the shores of the Persian Gulf. The spread of the disease by the first [illegible] traced to certain caravans of pilgrims [illegible] burying grounds of Kerbela. One larg[illegible]cular, composed of several thousand pe[illegible] infection to Kermanshah, which was, however, already infected by other caravans as early as March, thence to Kengaver (about April 22nd), where it forced the sanitary cordon and took the disease to Feraspai (April 24th), to Devlet-a-bad (April 26th), to Kum (about May 15th), and finally to Tehran. Another group of pilgrims from Ghilan escaped the sanitary cordons, and passing by unguarded mountain roads brought the disease to Sanger, whence it passed to Keboutraheng and so to Hamadan and many villages near. Sultanabad was infected from Devlet-a-bad; the last-named town acted as a centre from which the following places obtained the infection: Mahallah (June 1st), Kashan (June 20th), Ispahan (July 9th), Shiraz (June 18th), and Yezd (Sept. 12th). From Tehran the disease spread in all directions and it is impossible to follow its course in detail. Kazvin was attacked about the end of July, Resht and Enzeli on August 1st or 2nd, Amol, Meshed-i-sar, and the Mazanderan province about July 15th. Khorassan was slowly invaded by the disease; it appeared in Shahroud on June 24th, in Sabzevar July 15th, and Meshed July 25th. In a northerly direction the march of the epidemic was also slow; Zendjan was not infected until August 28th; thence the disease was carried to Maragha by a body of artillery men; and from Maragha it spread to Tabriz, where as already related, it caused a most intense outbreak. The southern branch of the epidemic passed from Basra to Mohamera in June. Some time later it appeared in villages on the lower reaches of the Roud-Hillai. On June 28th it reached Kazerun and on June 18th was in Shiraz. Early in July it was present in the suburbs of Bushire. Following the course of the river Karun cholera appeared in Dizful and Shuster on July 13th. Finally some of the islands of the Persian Gulf were invaded by the disease and ultimately the whole of the Persian coast is said to have been infected as far as the frontiers of Beluchistan. Kerman obtained the infection by means of pilgrims coming from Meshed about Oct. 23rd.

It will be observed that in this epidemic, as on so many previous occasions, pilgrims have been the principal means of diffusing the disease. The measures taken to check its spread seem to have been of little use. On the appearance of cholera in Kermanshah at the end of March nine days' quarantine was established at Kasré-Shirin on the frontier and an observation post on either side of Kermanshah itself. There were no trained staff and no means of disinfection at any of these points, and, as shown above, the sanitary cordons were easily broken through. When the disease had reached Kum the Persian Government ordered quarantine to be established at points between Kum and Tehran, between Hamadan and Tehran, and to the north of Keboutraheng. Many other important roads were left entirely unguarded or were only guarded when the disease had already spread by them. When the cholera broke out in Tehran some attempt was made to protect the road to Meshed by establishing quarantine at Shahroud, but it was already too late, and the whole of the Khorassan province was sooner or later invaded. It was from this province that the infection passed over the Russian frontier by the much-frequented road between Meshed and Askhabad, and this in spite of the measures imposed at Sarakhs on the frontier. To protect Ghilan (in the direction of Southern Russia and Europe) the Customs Administration—by which most of the protective measures were executed—established two quarantine posts, one at Mendjil and the other at Enzeli. Both are said to have been undermanned and insufficiently equipped. Similar measures were adopted in Southern Persia. The road from Bushire to Shiraz was cordoned and other precautions were taken, but here, as elsewhere, they came mostly too late and were imperfect both in conception and execution. In the towns themselves it is the same story. There were no trained men already existing and no sanitary organisation of any kind and the attempt to improvise them when cholera had already broken out was found to be impossible. At some places, as at Kermanshah, where funds were adequate and where foreign assistance from the consular medical officers was available, there was opposition on the part of the people who accused the foreigners of spreading the disease by poisoning the waters "with a white powder" and even popular risings took place which made all measures impossible.

One means by which the infection was spread was the objectionable custom which appears to obtain in Persia of washing the bodies of the dead in the public baths!

One result of the epidemic in Tehran was the revival of the board of health in that city. It has since held regular meetings, the minutes of which are now printed. On the initiative of the Customs Administration a public subscription was opened and ambulances were established. The "Nasseri" ambulance and that of the Sisters of Charity of Vincent de Paul did particularly good work. A system of burial of the dead and of removing the sick was organised and numbers of bodies were removed from the streets and public places where they had been abandoned. An immense plot of land was bought to serve as a cemetery and efforts (not altogether successful) were made to insure burial of the bodies at a proper depth from the surface.

The epidemic appears to have added little or nothing to our knowledge of the pathology or treatment of cholera. Owing to popular prejudice necropsies were impossible. Most of the cases were of a severe form; relapses occurred in a few instances and were nearly always followed by death. Nothing is said as to the case mortality of the epidemic and no doubt the means of ascertaining it were unobtainable. The total mortality in Tehran was rather less than in the great epidemic of 1892. In that year the population of the city was put at 200,000, of whom about 20,000 died from the disease; in the present epidemic the population was reckoned at about 260,000, of whom some 17,000 are thought to have died. These figures are in any case only approximate; some estimated the cholera mortality at the enormous figure of 75,000, others at only 5000. But these were mere guesses; the mortality of 17,000 is based on a control of the numbers of the dead buried at the cemeteries and of the bodies washed in the public mortuaries, and also on the fact that a mason engaged by the governor of the city to cover in the graves with clay and lime sent in a bill for covering rather more than 16,000 graves. To this must be added some hundreds already covered in by the relatives, others carried to distant burying grounds, about 100 Jews, about 50 Armenians, and about 30 Fire-Worshipers. The total of 17,000 may consequently be accepted as fairly correct. The cholera mortality in the whole of Persia is reckoned at between 250,000 and 300,000, distributed as follows:—

Kermanshah...	13,000	Khorassan	13,000
Hamadan	15,000	Ispahan...	16,000
Arak...	10,000	Shiraz	30,000
Malayer-Tousserkan ...	7,000	Arabistan	22,000
Kum	10,000	Azerbaijan	30,000
Tehran	26,000	Kerman	16,000
Kasvin	8,000	Other provinces	30,000
Ghilan	14,000		
Mazanderan	12,000	Total	272,000

It will be observed that the figures for Tehran given in this table (which is quoted from the report as it stands) differ from those just given (from the same report) above. There are some other discrepancies, to which it is unnecessary to refer, in an otherwise excellent report.

A few words are added as to the lack of all sanitary arrangements in Persia. The conditions described are but too familiar elsewhere. The drinking water is brought in open channels in which people also wash their linen, bathe, and even water their cattle. A dead beast may occasionally be thrown into them. Excreta are received in deep wells, which slowly fill, and are then covered in. The soil is polluted with fæcal matter for a wide distance around. It is unnecessary to dwell on the other conditions described.

The cholera epidemic in Russia came to an end in February last. The rumours of its presence in some parts of the country in April, which appeared in the English and other papers, have been contradicted by the Russian Government in an official statement issued last month. In this statement it is declared that no case of cholera had occurred in any part of Russia since Feb. 11th (24th New Style). A suspected case occurred in the village of Bataisk, in the Don territory, on March 12th (25th), but bacteriologically it proved not to be a case of cholera. The Russian Government also states that at the end of last year it declared the following regions "threatened" with cholera: the shores of the Caspian, the [illegible] Saratof, Simbirsk, Kazan, and [illegible] ces of Transcaspia, Samarkand, [illegible] Russian settlements in the suzerainties of Bokhara and Khiva, the Uralsk province, the Don territory, and the governments of Perm, Ufa, Stavropol, Orenburg, Viatka, Tiflis, Elisavetpol, and Baku. On March 13th (26th) the governments of Yaroslavl, Kostroma, Vladimir, and Tver, all on the upper Volga, were added to the list, and those of Moscow, Tambof, and Riazan, although not declared to be "threatened," were ordered to prepare for a possible epidemic by opening "observation points" along the river.

The outbreak of plague in Aden has rapidly subsided, as shown by the following figures:—

Week ending	March	25th	41 cases	32 deaths.
"	April	1st	32 "	30 "
"	"	8th	13 "	12 "
"	"	15th	5 "	3 "
"	"	22nd	4 "	4 "
"	"	29th	14 "	8 "
"	May	6th	6 "	4 "

Two cases of epidemic cerebro-spinal meningitis have recently occurred in this city. Neither of the patients had been anywhere outside Constantinople for a considerable period. In both the diplococcus of Weichselbaum has been found in the cerebro-spinal fluid. One case has proved fatal, the other is recovering.

Both plague and typhus fever have appeared in the Assyr province of Arabia. A telegram dated March 20th reported that the outbreak of typhus fever had already led to over 80 deaths in the Beni-Sheir district of Assyr. It was added that there was no doubt as to the diagnosis and that the disease was not the plague—which had long been endemic in this region. On March 29th a second telegram reported the occurrence in the same region of three cases of endemic plague, of which one had proved fatal.

The outbreak of typhus fever in the Vladimir government of Russia, mentioned in my last letter, spread to Moscow. On March 12th (25th) there were already 30 cases of the disease in the Moscow hospitals.

Constantinople, May 18th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Dr. J. Dreschfeld's Retirement.

ON May 29th the board of management of the Manchester Royal Infirmary received a letter from Dr. Dreschfeld in which he stated that having reached the prescribed age at which he had to retire from the honorary staff of the infirmary his services as physician would cease on Sept. 30th. The board, while accepting the resignation, recorded its high appreciation of Dr. Dreschfeld's distinguished ability and the value of the services which he had so long rendered to the institution and its deep regret that the term of his services approached its close. Dr. A. T. Wilkinson, the senior assistant physician, will now become full physician. It often seems a misfortune that a brilliant and useful career in the service of a great hospital has to close when the judgment is at its ripest and the mental powers are vigorous and acute.

Infirmary Appointments.

At the same meeting the following appointments were also approved:—House physicians: Dr. E. M. Wilkins, Dr. W. H. Hey, Mr. P. R. Wrigley, Mr. C. Roberts, Dr. G. D. Dawson, and Dr. J. Smalley. House surgeons: Dr. H. Mackenzie and Mr. T. M. Hughes. Medical officer for home patients: Dr. George Ashton. The board also approved of the recommendation of the clinical laboratory committee to appoint an electrician to deal with radiography at a salary of £35 a year and that the medical director of the laboratory should have a salary of £200 a year. The chairman, Mr. W. Cobbett, stated that the change was necessary, as the clinical laboratory was said to be in an unsatisfactory condition. Medical assistance was required and also the help of a good electrician.

The Infirmary and the Ear Hospital.

At the same meeting also the chairman reminded the board that he and Mr. Charles Hopkinson had been instructed to see Dr. W. Milligan with respect to the new Ear Hospital, the erection of which has for some time been under consideration. The question was whether there should be special facilities in the new infirmary for dealing with aural cases. After communicating with Dr. Milligan they had come prepared to submit the following motion, which Mr. Hopkinson accordingly moved:—

> That, provided a new hospital for aural cases be built on the site approved by this board in close proximity to the new infirmary and opened on or before Dec. 31st, 1908, this board will not allocate any special wards or beds in the new infirmary to aural cases so long as adequate facilities for aural cases and for instruction thereon be maintained in the new Ear Hospital.

This was carried unanimously.

Infirmary and University.

As the result of an interview between a subcommittee of the infirmary board and representatives of the university, held on May 16th, it was recommended that a professor of pathology at the university be appointed on the honorary staff of the infirmary and that towards the expenses incurred by the university in maintaining the pathological department the infirmary should pay a contribution of £125, the arrangement to be terminable either by the university or the infirmary by giving six months' notice. These various changes tried to bring about more intimate relations between the infirmary and the university, to the advantage, no doubt, of both. In days gone by a state of more or less friction was not an unusual condition between the infirmary and the Owens College, perhaps arising from undue sensitiveness on the part of the older institution of what seemed to be the somewhat youthful, and perhaps the slightly imperious, self-assertion of a junior. In these latter days there is no doubt a greater display of sweet reasonableness on both sides.

Progress of the New Infirmary.

The board was informed by the clerk of the works that 260 workmen were now engaged on the foundations at the Stanley Grove site. There have been no serious difficulties experienced with the ground so far, nor have any interesting geological finds been made, as, e.g., that of the huge boulder now occupying a prominent position in the quadrangle of the College. The only discovery hitherto has been the skeleton of a horse in a spot which evidently marked the position of an old pond.

Manchester and Salford Sanitary Association: Lamp Explosions.

It may perhaps be remembered that for several years past Mr. William Thomson, F.C.S., has conducted an inve[illegible]tion into the causes of lamp explosions in [illegible] Salford. The police have ob[illegible] used and, when [illegible] such particul[illegible] chief constabl[illegible] last meeting o[illegible] J. D[illegible] presiding, Mr. [illegible] years, in which [illegible] of the police, [illegible] last eight mo[illegible] and eight mon[illegible] may be conside[illegible] of the lamp a[illegible] sometimes been [illegible] the exclusion of [illegible] causing the explos[illegible] in Manchester in [illegible] type of burner w[illegible] of the wick-tube a[illegible] reservoir of the lam[illegible] The manufacturer [illegible] Mr. Thomson's suggestion, ceased to [illegible] them several years ago and it is possible that the disuse of this dangerous burner has lessened the number of explosions." As regards the oils used, recent investigations confirm former ones as to the fact "that Russian oil was more liable to cause explosions than American 'low-flash' oil. No record of Scottish oil or 'high-flash' American oil having flash points of 100° F. or over had as yet been found among the oils which were alleged to have caused explosions."

Treatment of Pauper Children.

At a conference of the Women Guardians and Local Government Association for the Northern Counties, held in the Manchester town hall on June 1st, Miss Dendy presiding in the unavoidable absence of th[illegible] Countess of Carlisle, some [illegible] cussed. One was the Boarding[illegible] C[illegible] paper was read on this subje[illegible] inspector of the Local Govern[illegible] private capacity she admitted th[illegible]out system had grievously failed, th[illegible] when well carried out it was one difficult to improve on. She gave some hints on the best methods of visiting and inspecting the homes and seeing to the general treatment of the children.

June 6th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Physical Development of Jewish and non-Jewish Children.

THE work, which has now for some two years been carried on by Mr. William Hall, of feeding poor children at St. Peter's-square council school deserves attention, whether it is viewed from the philanthropic or from the experimental standpoint. In making an investigation some years ago into the physical conditions of children living in the slums of Leeds Mr. Hall became increasin[illegible] inequality in physical [illegible] children, comparison [illegible] *of the latter, even* w[illegible] comparison should be [illegible] age, degree of povert[illegible] systematic examination [illegible] and was conducted w[illegible] greatest care, with the result that Mr. Hall stated that the poor Jew was three pounds heavier and two inches taller than his non-Jewish brother at the age of eight years; these figures were six and a quarter pounds and two and a half inches at the age of ten, and at the age of 12 he was seven pounds heavier and one and a quarter inches taller. Bone formation was much more satisfactory in the case of the Jew, the teeth were very much better, and there was a striking absence of rickets; the nasal chamber was larger the palate was, as a rule, large and flat, and the children were remarkably free from adenoids and were nose breathers. In all these particulars the non-Jewish child of the same age was decidedly a sufferer by the comparison. This great variation Mr. Hall attributes chiefly to the difference in feeding.

in the two cases. He maintains that the Jewess during her pregnancy is fed with greater care and does not have to take so large a share in working for the maintenance of the home. It is, indeed, a matter of conscience and religion to the Jew that his wife should be tenderly cared for during this period. The Jewess is consequently able to supply natural nourishment to her offspring in a larger percentage of instances than the non-Jewish. After the time for breast feeding has passed Mr. Hall finds that the feeding carried on by the Jews is more sensible, for the food is better and more abundant and is better cooked. The non-Jewish child of the slums he finds living in imminent risk of scorbutus, if not actually scorbutic, with spongy gums, and existing, it may be, on white bread, tea, badly cooked fish, or possibly on tinned meat and pickles. The Jewish women always secure good fish, clubbing together, it may be, to get it cheap; they use vegetables freely with this in preparing an admirable, attractive, nourishing, and antiscorbutic diet. Eggs, says Mr. Hall, they *will* secure for their children even if it should be necessary to keep on their humble premises a hen which, as he amusingly says, is *expected* to produce its daily egg. As evidence of the keen desire that their children should be well fed Mr. Hall notes that groups of Jewish mothers may be seen at the gates of the schools with food for their children to take during the intervals for play. Without in any way suggesting that hereditary predisposition, overcrowding, damp and cold, and impure atmospheric conditions may not be very important factors in relation to physical development, Mr. Hall was encouraged by the above noted considerations to try the effect of an improved dietary in the case of some of the half-starved and ill-developed scholars of one of the schools in the poorest parts of Leeds, selecting for this purpose the St. Peter's-square school. With the aid of some philanthropic friends he has made arrangements for 100 of the poorest of the children attending this school to get one good meal a day. Some initial expense was involved in the purchase of cooking utensils, plates, and basins. The coal cellar was utilised as a kitchen and provided with two large gas-stoves, a boiler for milk, and a chopper for bread. The food varies; on two days there is "pie meat," haricot beans, and potatoes; on another day there may be fish and rice pudding; on Fridays there are fried tripe and onions. The quality of everything is excellent and the supply abundant. The cooking is done by two women cooks who are assisted by four girls and two boys, who wash up and act as monitors, and it is pleasant to note that every encouragement is given by the head-master. The dinners cost about 2*d*. each and towards this about half of the children pay 3*d*. a week each. The effects have been very striking, for writing on Jan. 13th Mr. Hall was able to report as follows: "I weighed 55 children aged seven to eight years—28 boys and 27 girls—on Dec. 29th. I weighed them again, some to-day and some yesterday. They had gained altogether 63 pounds, or at the rate of about two stones each per annum." In accounting for this great and immediate increase Mr. Hall points out that the tissues of these half-starved children are, like those of convalescents from acute illnesses, ready to pick up nourishment with avidity. Together with the increase in weight the children have improved in general appearance and have lost their semi-scorbutic aspect, while, as might be expected, the kindness shown to them has resulted in an improvement in their manners and in their self-respect.

Leeds Public Dispensary.

The board of management of the Leeds Public Dispensary has resolved to carry out an increase in that special part of the work of the institution which is concerned in the visiting of the patients at their own homes. Last year the number of visits made by the resident staff, who are mainly responsible for this part of the work, was 15,950. The area dealt with is divided into three districts and one resident officer visits in each district. For many years the large manufacturing districts of Hunslet and Holbeck have, with the exception of a small part of the former, been outside the area which was dealt with. It is now intended to add a large district south of the river Aire which will include the [illegible] is peculiar among the Leeds medical charities to the dispensary. There is, of course, in connexion with the dispensary a large out-patient department to which patients come from all over Leeds and from beyond its boundaries. Last year there were 71,813 attendances in the out-patient rooms and many of these patients come from south of the river. Those who are unable to attend will now be included within the visiting area and a great boon will be conferred on the district which has been added.

June 5th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Midwives Act in Denbighshire.

THE Midwives Act is being administered in the county of Denbigh by the public health committee of the county council and when the question of appointing an administrative officer was recently being discussed by the committee, Mr. Richard Evans, a medical practitioner who is a member of the committee, was asked to draw up a list of the duties which would fall upon this official. The committee was compelled to call in the assistance of Mr. Evans owing to the county council not yet having thought fit to appoint a county medical officer of health. The list of duties submitted to the committee at its last meeting includes a quarterly visit to each midwife, inspection of her case-books and bag of appliances, reporting upon cases of malpraxis or breaches of the rules of the central board, keeping a register, reporting the death of a midwife, recording stillbirths, reporting upon cases of puerperal fever, and when desired by the committee giving elementary instruction to midwives. The county council has endorsed the recommendation of the committee to ask the medical officers of health in the county to administer the Act and to pay them for the inspection and supervision required a fee of 10*s*. 6*d*. per annum for each midwife living in the district concerned. The duties are to be those drawn up by Mr. Evans. The medical officers of health have not yet decided whether they will accept this fee which does not err on the side of generosity. Compared with the fees paid for similar duties in other counties it is distinctly mean. In Cheshire a fee of one and a half guineas and in Surrey a fee of one guinea is paid for similar duties to the district medical officers of health.

Typhoid Fever at Bridgend.

In the town of Bridgend, which has a population of about 7000 persons, there have in recent years been several serious epidemics of typhoid fever. In 1899 there were 78 cases with 11 deaths and in the five subsequent years the cases have averaged 22 and the deaths three. During the first quarter of the present year there were 12 cases and two deaths and between the third week in May, when the present outbreak began, and June 1st, 29 cases were notified. Mr. Wyndham Randall, the medical officer of health, does not appear to think that there are any of the characteristic features which attend either a milk-borne or a water-borne epidemic and inclines to the opinion that the recent increase in the number of cases of the disease is due to the excessive dryness of the atmosphere, with the consequent blowing about of infected particles in dust. He has recommended the thorough watering not only of the main streets but of the back streets and bye-passages. In his report for 1904 he advised the council to provide covered iron receptacles for the removal of infected excreta, together with an incinerator for their destruction. It is possible that if his recommendation had been adopted the present epidemic would not have occurred and it is difficult to understand the refusal of the council even now to take this very proper and practical safeguard against the spread of the disease.

Schools and Infection.

A short circular bearing the signature of Dr. J. Middleton Martin, the medical officer to the Gloucestershire education [illegible] suspect that a child is suffering [illegible] send him home at once with a written note to the parent requesting that the child should be seen by a medical practitioner and a report of the opinion so obtained sent to the teacher. For this opinion it appears that the education committee is prepared to pay a fee of 1s. In connexion with school closure Dr. Martin points out that such a step taken in panic may do more harm than good because a valuable source of information as to suspected mild unrecognised cases is thus thrown away. Accompanying the circular is a leaflet giving some details with regard to the principal symptoms of infectious diseases and of contagious conditions which are liable to affect children. Included in the latter are scabies, ringworm, ophthalmia, impetigo contagiosa, and pediculosis. At a meeting of the Gloucestershire education committee held on May 27th it was resolved to request the Board of Education to amend Article 46 of the Elementary School Code of 1904 so as to provide that when an infant class and the lower standard were excluded from school attendance on account of infectious disease the "average attendance" of the children so excluded might be calculated separately from that of the older children. It was explained that that could be done by only considering the number of times the school had been open on their account, and not, as at present, the total number of times open, whether for infants or older children.

Health Report of Gloucester.

In his annual report for 1904 the former medical officer of health of the city of Gloucester (Dr. John Campbell) estimated the population of the city as 50,510 and recorded a death-rate of 14·8 per 1000 and an infantile mortality rate of 134 per 1000 births. The death-rate for pulmonary tuberculosis in 1904 was 0·9 per 1000. Dr. Campbell advocates the voluntary notification of cases of this disease and although he suggests the erection of wooden huts on the isolation hospital estate for the treatment of suitable cases he expresses the very distinct opinion that the prevention and cure of consumption are to be found in the creation of healthy homes and healthy surroundings for the people.

The Medical Officer of Health of the Chipping Sodbury Rural District.

At the meeting of the Chipping Sodbury rural district council held on May 31st a letter was read from the Local Government Board stating that it was not at present prepared to sanction the appointment of the gentleman nominated by the council as its medical officer of health in place of Dr. F. T. Bond. It was reported that the Gloucester rural district council, on the suggestion of the Local Government Board, had called a conference for June 19th of the district councils which form a combination for the appointment of a medical officer of health and had requested the Chipping Sodbury council to appoint a delegate. After a considerable discussion the latter council decided not to send a representative to the meeting.

une 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Victoria Hospital for Consumption, Craigleith, Edinburgh.

The annual meeting of the friends and supporters of this institution was held on May 31st, when it was stated that from the date of opening of the hospital 988 patients had been under treatment in the hospital. In addition to these 133 "visitant" patients had been allowed to spend the whole day at the hospital, enjoying the *régime* and treatment and going home at night. The committee had arranged for a few contributing patients and the contribution had been fixed at a guinea per week and had also proposed to individual benefactors, heads of firms, and to smaller towns and communities a method of endowment by which a bed could be maintained within the hospital for a sum of £80 per annum, the contributor having the right of nomination to that bed throughout the year. It was also desired to establish an after-care colony and a first step had been taken in this direction. Since the date of opening 14,329 individual patients had received advice and treatment in the dispensary and out-patient department and a large number had been supervised at their own homes. The expenditure for the year had been £5774 and the income £4021. The three pavilions provided form but a small portion of the plan of the architects and
with a view to extensions on the lines of the plan a gr
international fair will be held in the Waverley Mark
Edinburgh, in November next, of which Her Majesty t
Queen has consented to become patron and when it is hop
that a sum of £12,000 may be obtained. Especial gratifi
tion was shown at the extension of the King's patron
and for the grant of the title "Royal" to the hospital.

Reconstruction of the Gla[illegible] R[illegible] Infirmary.

A scheme for [illegible] [illegible]rmary has b
more or less [illegible] [illegible] for some yea
The present [illegible] hopelessly inadequate a
antiquated and although it is with regret that one co
templates the demolition of the building in which Lis
inaugurated his work in antiseptic surgery, yet all are agr
that the time has come when it is necessary to replace it
a building which will meet the requirements of prese
day surgery and medicine. Some time ago the manag
of the infirmary invited plans for the new building from
architects and appointed Sir Rowand Anderson asse
The designs were submitted in due course and a sh
leet of four was made up by the assessor, from which
final selection was made by him and recommended
adoption. The committee not only rejected it but went o
side the entire short leet of four and chose a design wh
has not met with unanimous support from hospital expe
The Institute of Architects protested against the conduct
the competition and severely criticised the plan chosen. T
main objections urged were (1) the distribution of the bui
ings on the site in such manner as to shut out the sun a
air to almost the greatest extent possible so that ma
of the wards would be practically sunless during
great part of the year; (2) the height of the bui
ings, where, in the face of all the modern the
and practice of hospital design in limiting ward blo
to two, or at most three, storeys, those in the new bui
ings would be six storeys in height, the result either
inefficient planning or of a site inadequate for the accom
dation required; and (3) the central halls and staircases fr
top to bottom of the ward blocks permitting free interco
munication of the air between the wards. The pres
building stands in Cathedral-square, in close proximity
the Cathedral, and it is proposed to erect the new buildi
on the same site. In order to preserve the amenity of t
Cathedral, which would be completely blanketed by the h
block of buildings proposed in the new plans, a committ
has been formed, and its report, as it appeared in t
Glasgow Herald of June 3rd, runs as follows:

> The infirmary board have recently intimated that they propose
> proceed shortly with the re-erection of the buildings according to
> plans prepared and including ultimately the "Jubilee Block"
> Cathedral-square. For some years past and pending this decis
> apprehensions have been generally felt, and at various times publ
> expressed, regarding the injurious effect on the external appearanc
> the Cathedral which would be caused by the removal of the beaut
> building by Robert Adam which at present groups so admir
> with it and the substitution therefor of the [illegible]
> very much loftier and heavier in [illegible]
> against such injury and [illegible]
> possible result, a [illegible]
> Archæological So[illegible] Architects, and
> Art Club. The c[illegible] the first essential was to h
> accurate data on [illegible] to base an opinion. By the courtesy of
> board they have had access to the plans of the buildings intended a
> from these and measured drawings of the Cathedral, with measu
> ments and levels between and about the existing and the propo
> buildings, they have had drawings prepared. These drawings s
> respectively (1) the two buildings in elevation and side by s
> at the distance apart laterally at which they would actu
> be placed; and (2) an exact view in perspective from a point towa
> the north-west of Cathedral-square of the buildings as they wo
> appear in relation to each other at that point. The drawings speak
> themselves and show how the Cathedral is overpowered and injured
> the huge pile proposed, six storeys and basement in height and w
> turret roofs and central spire overtopping the whole. The Cathedra
> Glasgow's greatest adornment in architecture and is in many respe
> unique among buildings of its kind. That the citizens and all outs
> their number interested in this noble work of art should unite in sav
> it from the irretrievable injury proposed is the hope of the commit
> in publishing the drawings and issuing this appeal.

Another grievance has been raised in connexion with t
reconstruction scheme and that is the proposal to use ter
cotta blocks instead of stone so far as the outer walls a
concerned. The Master Masons' Association of Glasgow
a largely attended meeting protested against this propo
and sent a copy of the resolution to the managers of t
infirmary. There is no doubt that the managers have a ve
difficult task before them, but it is felt that matters mig
have gone more smoothly had they taken the public m
into their confidence.

June 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

AT a meeting of the Fellows held on June 5th the following were elected:—President: Mr. Arthur Chance. Vice-President: Mr. Henry R. Swanzy. Honorary secretary: Sir Charles A. Cameron. Council: Mr. Edward H. Bennett, Mr. William Stoker, Sir Charles Cameron, Mr. John B. Story, Sir William Thomson, Sir Charles B. Ball, Sir Thomas Myles, Mr. John Lentaigne, Mr. Richard D. Purefoy, Sir Lambert H. Ormsby, Mr. Henry G. Sherlock, Mr. R. Bolton McCausland, Mr. John S. McArdle, Mr. Robert H. Woods, Mr. Thomas Donnelly, Mr. William Taylor, Mr. Edward H. Taylor, Mr. G. Jameson Johnston, and Mr. R. Charles B. Maunsell.

The Irish Medical Association.

Notice has been received by the members of the Irish Medical Association of various motions which will be considered at the meeting to be held at Killarney on June 7th. The council recommends that Poor-law unions whose scales of salaries to their medical officers were accepted by the latter and approved by the Association shall be exempted from the rule passed at Enniskillen in June, 1903, fixing the minimum salary for dispensary officers at £200. That rigid regulation has proved a failure and it is time that it should be withdrawn. Dr. Donnelly is to make arrangements as to the next issue of the Irish Medical Directory. If this is done in a satisfactory way it will cause much expense which the Association cannot apparently well afford. The accounts show a credit balance of £90 7*s.* 5*d.*, but against this and the income for 1905 law costs estimated at £695 must be charged. As regards the famous report of Surgeon-General G. J. H. Evatt—the "fons malorum"—Mr. Arthur Chance, the President, made a statement at the annual meeting of the Fellows of the Royal College of Surgeons in Ireland held on June 3rd. He said that, referring to Surgeon-General Evatt's report, though portions of it had been published in the press the College was still unable to reply to the criticisms which had been made upon it, inasmuch as the report was still a confidential document. He appealed to the Irish Medical Association and other medical men throughout the country at once to make an effort to forget the differences which the publication of the report had caused and to work together in the cause of the profession.

The Holywood Foreshore Nuisance.

A provisional order has been made by the Local Government Board appointing a joint board consisting of three representatives from Castlereagh rural council, three from Holywood urban council, six from Belfast council, and one nominated by the Local Government Board, who will have a casting vote and be practically chairman. The costs ordered to be contributed are, by Belfast corporation 85 per cent., and by the two other councils each 7½ per cent. Belfast corporation objects on two grounds—namely, (1) that it has not sufficient representation on the board, and (2) that it has to pay too much of the expenses. On fair consideration there is nothing in either of these pleas, for suppose the members of the two other councils united to squander public money for every £1000 raised Castlereagh council would have to pay ¾*d.* in the £, Holywood 1½*d.*, and Belfast only one-sixth of a penny. The real object is to compel Belfast to make good the injury that it is inflicting, and has been inflicting for years, by discharging its unpurified sewage into Belfast Lough, the shores of which are in the districts of the Castlereagh and Holywood councils. Nearly seven years ago an influential deputation of residents in the affected areas waited on the city corporation complaining of the horrible nuisance and in 1899 by their opposition to a Bill being pushed forward by the Belfast corporation they compelled that body as a compromise to insert a clause binding themselves to purify the city sewage within three years. For two of these years the corporation did nothing and only in the third year did it carry out some preliminary works, while all the time owing to the erection of new houses the volume of additional sewage discharged into Belfast Lough was being increased. Until the new purification works for the bacterial treatment of the sewage are completed there will be no permanent relief for the affected area.

Queen's College, Belfast.

At a meeting of subscribers to the Better Equipment Fund of Queen's College, Belfast, held on June 2nd, it was reported that the sum of £29,633 had been up to the present subscribed to the fund, which, with interest received, made the amount altogether £30,040 11*s.* A sum of £2093 remains subscribed but not yet received. By the help of this fund the following additions to the equipment of the College have been made: a chair of pathology, a studentship in mathematics, a demonstratorship in pathology, a playing field for students, an organ, a lectureship in music, a library of music, a supply of radium, an assistant in botany, a lecturer in history, an assistant in modern languages, a biological laboratory, as well as minor grants in different departments. A motion was carried bringing under the notice of the Government the strong and increasing claims of Queen's College, Belfast, to more generous treatment by the State.

The Irish Medical Directory.

The new Irish Medical Directory has occasioned so much discussion that it may interest readers to know some facts as to its origin and reception. It would appear that last year's President, Mr. R. F. Tobin, at the annual general meeting on June 7th, 1904, suggested the issuing of an Irish Medical Directory and the committee of council at its first meeting, June 22nd, 1904, proceeded to put this proposal into effect, according to the following minute: "The President brought under the notice of members the advisability of publishing, in the form of an annual directory, the names of all medical practitioners in Ireland, distinguishing members of the association in heavier type, and moved: 'That a grant of £15 be made towards the preliminary expenses of the directory.'" The motion was seconded and carried. The secretary being unable (owing to his onerous duties) to undertake the bringing out of the directory the editor consented to see it through. The work was well advanced when it was discovered that Messrs. Churchill would object to their work being used for purposes of compiling another directory. As a result, a complete change in the mode of procedure was necessitated. Circulars were sent to branch secretaries and to every member of the Irish Medical Association with the object of obtaining information of their qualifications, &c., and when forms were not filled information was taken from the Medical Register. It was not possible the first year to go to the same trouble and expense in the case of non-members. Advertisements were secured to lessen the cost. The original grant for preliminary expenses was £15, while the cost of printing and binding the original edition of 3000 copies was £118 14*s.* 6*d.* The postage was £22 5*s.* 10*d.*, while the advertisements secured £107 3*s.* 9*d.* Copies were sent to every member of the association. So much for the origin of this medical directory, but when it came to the hands of the profession it aroused a great deal of bitter criticism, because: (1) as might be expected, its get-up and appearance suggested want of oversight and care; (2) the printing of members of the Irish Medical Association in black type made an invidious distinction between them and other medical men not members of the association; (3) of these black-typed members a disproportionate amount of space was given to some in comparison with others; and (4) those who are not members of the association are printed without any notice except their name and address, and not the least reference is made to their appointments, qualifications, or publications. I am glad to know that at a meeting of the council of the Irish Medical Association, held on May 3rd, a motion was carried "that no further edition of the Irish Medical Directory be issued until it has in every detail received the approval of the council." I really think if the Irish Medical Association would simply publish in its journal the list of its members nothing more is needed—a medical directory limited to Ireland is of little or no use to anyone.

At a recent meeting of the governors of the City Hospital [illegible] Cancer, Dublin, Mr. Tobin, [illegible]'s Hospital, was unanimously [illegible] the hospital in room of the [illegible]

June 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Subcutaneous Injection of "Sea Water Serum" in the Treatment of Tuberculosis.

AT the meeting of the Academy of Medicine held on May 23rd M. Troisier read for M. L. Fournol a note upon the use of subcutaneous injections of sea water in cases of tuberculosis. Together with M. Barlerin M. Fournol had prepared a sea-water "serum" which raised the blood pressure (*serum marin hypertonique*) and he had tried this on 24 patients under the care of M. Landrieux at the Lariboisière Hospital. Some of them had pulmonary tuberculosis in an early stage and others had old-standing tuberculosis of the bones. A marked improvement, both general and local, was observed in all the twenty-four. M. Fournol's results were so encouraging that the Academy decided to send a note of them to the Tuberculosis Commission.

The Galactagogue Properties of Lactagol.

At the meeting of the Obstetrical Society held on May 18th M. Legrand drew attention to the galactagogue properties of lactagol. This substance is a powdery extract of cotton seed which contains the galactagogue active principle of this plant. It is insoluble in water but may be given in milk in doses of three or four teaspoonfuls per diem. Given thus it increases the secretion of milk in a marked degree. M. Legrand has observed cases in which the leaving off or resumption of the drug coincided with a diminution or increase in both the quantity and quality of the milk.

Costal Pneumococcic Abscess bursting into the Bronchus.

At a recent meeting of the Hospitals Medical Society M. Boidin showed a patient who had been under the care of M. Widal. While apparently in perfect health and without any history of injury he was suddenly attacked with acute pain over the anterior extremity of the second rib on the left side. Twelve hours later there was marked œdema of the supra- and sub-clavicular regions on the affected side. The œdema increased until at the end of ten days an abscess began to point in the axilla. The temperature ran up and the patient suddenly coughed up a large quantity of pus which contained virulent pneumococci in an almost pure culture. After this the swelling and the expectoration rapidly ceased. There was no other sign of pneumonia and the patient quickly recovered. The case was evidently one of pneumococcic costal abscess bursting into the bronchus. M. Boidin considered that the costal abscess was the primary lesion and not secondary to a purulent encysted pleurisy of the apex.

Methods of Masking the Taste of Quinine.

In Algeria, where large quantities of quinine are dispensed, [illegible] drug is not given in cachets or made up into pills on the [illegible]re of economy. It is simply dispensed as a powder and [illegible] patient takes it in lemon juice. In the case of children, [illegible]ever, this method of dispensing it is impossible and at [illegible] meeting of the Therapeutical Society, which was held [illegible] May 24th, M. Yvon read some notes in which he said [illegible] he had endeavoured to mask the taste of quinine [illegible]eeping it away from the tongue. To do this he [illegible]oped it in a fatty body. A small quantity of [illegible]onate of sodium was added to neutralise the acids [illegible] might be present on the surface of the tongue [illegible] dissolve a small quantity of the quinine. He takes [illegible]ammes of precipitated quinine and ten grammes [illegible] of sweet almonds dissolved in ether, and makes this [illegible]aste to which are added a small quantity of alkali and [illegible]vouring agent, such as lemon or mint. Quinine pre[illegible]us can be swallowed quickly without any disagree[illegible]e and rhubarb can be made up in the same way.

Useful Hygienic Measures.

[illegible] Normandy Public Health Society has struggled for [illegible]rs to make the Rouen Tramways Companies forbid [illegible]ployés to separate the tickets distributed to [illegible] by moistening them with saliva. In Paris the [illegible]onductors on their own behalf have invented an [illegible] plan which consists of using a pencil with a piece [illegible]ber at one end to separate the tickets. They thus [illegible]ng on their fingers, a custom which they consider [illegible]

A Memorial to M. Tarnier.

A [illegible]orial to M. Tarnier was unveiled on June 1st. M. Bienvenu-Martin, Minister of Public Instruction, presided at the ceremony and the memorial, which has been erected by publi[illegible] of Paris [illegible] committee [illegible] some portio[illegible] it with the [illegible] form a part [illegible] Scellier of G[illegible] In the memo[illegible] M. Tarnier is [illegible] standing at [illegible] holding the i[illegible] *[illegible]euse* for the reception of [illegible] infants is shown at the side. The features of [illegible] master, seen in side-face, are admirably rendered, his meditative attitude being true to the life, and the sculptor has caught the expression of confidence and smiling good nature which was so characteristic of the original. The principal inscription gives his name with the dates of his birth and death: 1828–1897. On the base there is another inscription to the effect that the memorial is the tribute of colleagues, pupils, friends, and admirers to the merits of a great man who devoted his life to the preservation of mothers and infants. All Tarnier's great qualities of goodness and sympathy, his victories over puerperal fever, and his early work for the adoption of asepsis and antisepsis in obstetrics were mentioned in moving and grateful terms in the various addresses which were delivered, the successive speakers being Professor Brouardel, M. Reboillard, the Vice-President of the Municipal Council of Paris, the Prefect of the Seine, M. Pinard and M. Budin on behalf of the Faculty of Medicine and the Academy of Medicine, M. Mesureur on behalf of the Assistance Publique, and finally the Minister of Public Instruction on behalf of the Government.

Prophylactic Measures in Algeria.

The Minister of War has just decided that systematic endeavours to prevent malaria shall be made this year in the unhealthiest garrisons in Algeria. The larvæ of mosquitoes will be destroyed by the regular application of petroleum to stagnant water or by the drainage of such collections of water whenever possible. Patients suffering from malaria will be isolated in the infirmaries or hospitals in special apartments, the outlets of which will be protected by wire gauze so as to prevent the infection of mosquitoes which might subsequently propagate the disease. Persevering attempts will be made to destroy the malarial germ in the blood of patients and the men in good health will take quinine regularly as a prophylactic against inoculation by mosquitoes.

June 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Micro-biology of Syphilis.

Dr. Fritz Schaudinn, zoologist to the Imperial Health Office, and Dr. Erich Hoffmann, assistant in the University of Berlin clinic for venereal diseases, have announced in the *Deutsche Medicinische Wochenschrift* and at a meeting of the Berlin Medical Society that they have discovered a specific protozoon in primary chancre, in syphilitic papules, and in the enlarged lymphatic glands of syphilitic patients. They propose to name the newly discovered microbe spirochæte pallida. It is a delicate filiform organism varying in length from 4μ to 14μ and twisted spirally like a corkscrew, the number of turns being from six to 14. Spirochæte pallida is distinguished from all other species of that genus by the difficulty experienced in staining it and up to the present time it has been stained only with Giemsa's eosin blue solution. In eight cases of syphilis, of which a detailed account is given in the *Deutsche Medicinische Wochenschrift*, the organism was found in two patients in the inguinal glands which had been excised and in six patients in the juice obtained from the glands by puncture and aspiration. Of these cases six had a duration of only from four and a half to eight weeks and therefore had not yet developed secondary symptoms in the skin and the mucous membrane; the remaining two cases had a duration of from three to four months. Dr. Buschke ha[illegible] organism in the spleen of an i[illegible] syphilis and Professor [illegible] apes which had been [illegible] When the subject was d[illegible] Medical Society Dr. Ho[illegible] that he had found it in every case of primary chancre and ulcerated papules; he had also in 12 cases found it in the juice removed from specifically affected lymph glands, but it was absent in soft chancre. In the discussion Dr. Thesing said that it was very remarkable that the alleged spirochæte could be stained only by Giemsa's eosin solution and not by Romanowsky's method; he was of opinion that these organisms were in reality derived from the staining fluid which was a good culture medium for protozoa on account of the large proportion of dextrin present in it. The general tendency of the other speakers was to refrain from expressing a definite opinion.

Cerebro-spinal Meningitis.

At the last meeting of the Berlin Medical Society Dr. Westenhöfer read a paper on Cerebro-spinal Meningitis from a Pathological Point of View. He was a member of the commission sent by the Prussian Government to Upper Silesia for the purpose of studying the disease which has already been mentioned in these columns[1] as prevalent in that part of the empire. Dr. Westenhöfer had ample opportunity of carrying out researches on the nature of cerebro-spinal meningitis as no less than 29 post-mortem examinations were performed by him. He stated that the point of entrance of the virus was probably the nose and the naso-palatal cavity which were usually in an inflamed condition. It was remarkable that the entire lymphatic system was affected by the disease. As in childhood the lymphatic system was less resistant children were more liable to contract the disease than adults. In children suffering from affections of the lymphatic glands the disease was especially dangerous and it has been observed that if one of several children in a family had affected lymphatic glands he might contract the disease whilst the others remained in good health. In patients who had died within a few hours after the first appearance of the symptoms no affection of the meninges might be discoverable, the disease presenting only the phenomena of toxæmia. Dr. Kirschner of the Government Medical Department and president of the commission, said that the disease was less contagious than cholera and enteric fever and was not spread by contaminated milk or water but from patient to patient. The cause of the relatively small degree of contagiousness was that the meningococcus intracellularis, discovered by Professor Weichselbaum and considered to be the specific organism of the disease, was exceptionally liable to perish. On bacteriological examination of the cerebro-spinal fluid of 243 patients the meningococcus was found in 138, or 56·8 per cent.; agglutination tests were made with the blood in 420 cases and a positive reaction was obtained in 55·2 per cent. The meningococcus was found in the mucus of the nose in 23 per cent. of patients and in 9 per cent. of healthy persons in immediate contact with patients. It was very probable that the virus was spread by minute droplets of fluid as in tuberculosis, so that healthy persons should be on their guard when patients are coughing and should use prophylactic gargles.

June 6th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Death-rate among Negroes from Consumption in New York City.

A CONFERENCE called by the committee for the prevention of tuberculosis of the New York Charity Organisation Society to discuss the high death-rate from tuberculosis among negroes, the causes and effects of the disease, and the best means of combating and preventing it, was recently held in the assembly hall of the United Charities building, New York city. Dr. Andrew H. Smith was in the chair. A well-known lady, Miss Lilian Brandt, read the following statistics, showing the death-rate from consumption between the ages of 15 and 44 years for every 100,000 in 1900: Ireland, 428 per 100,000; Bohemia, 235 per 100,000; Scandinavia, 234 per 100,000; France, 221 per 100,000; Germany, 206 per 100,000; Scotland, 201 per 100,000; Canada, 200 per 100,000; United States (native born whites), 163 per 100,000; England, 151 per 100,000; Italy, 150 per 100,000; Russia, 131 per 100,000; Hungary, 113 per 100,000; and Poland 67 per 100,000. But the figures for negroes in the United States come out at 584 per 100,000. Dr. S. A. Knopf in the course of an interesting address made the following remarks: "Alcoholic intemperance will often lead to consumption. The dark rooms of the tenements are the breeding grounds of tuberculosis. Good food and proper living are excellent preventives. It can be cured, not by patent medicines, 'quacks,' faith curists, or Christian Scientists, but only by judicious use of fresh air, good food, and water baths inside and out." Dr. W. A. Brooks, a negro physician, asserted that the manner in which the negroes of New York herded together under the most insanitary conditions was mainly responsible for the prevalence of consumption among them. Motions were passed recommending that active steps should be taken to educate the negroes of New York city with regard to tuberculosis and that a committee should be appointed to coöperate with the committee on the prevention of tuberculosis of the New York Charity Organisation Society to bring about the desired results.

Sanitation in the Panama Canal Zone.

The *New York Sun* points out the surpassing importance of proper sanitation in the Isthmian Canal Zone. The article draws attention to the fact that the work of the canal sanitary department has been greatly hampered by red tape and officialism and states that no more competent man could have been placed at the head of the health department than Colonel Gorgas. The article ends by making an urgent plea that he may be given a free hand so that he may have the opportunity of as thoroughly cleansing the isthmus of Panama as he and his coadjutors succeeded in cleansing Havana. A New York engineer, Mr. Lindon Bates, has recently submitted to the president and Secretary Taft a new project for the building of the Panama Canal. Two of the essential features of this plan are that Lake Chagres and Lake Panama should submerge the deadly swamps around the terminal cities. According to Mr. Bates the carrying out of such a scheme must have most beneficial effects upon the health of the engineering and construction forces, and upon the residents of the cities for all time. There would be no stifling jungles, there would be the mosquito as a pest could be

The Harvey Society.

A new society, called the Harvey Society, consisting of laboratory workers in New York city, has recently been established under the patronage of the New York Academy of Medicine. Its purpose is the diffusion of scientific knowledge in selected chapters of anatomy, physiology, bacteriology, pathology, pharmacology, and physiological and pathological chemistry by the means of public lectures by men who are workers in the subjects presented. Each lecture is intended to represent the state of modern knowledge concerning the topic treated. It is hoped that through these lectures the common interests of research workers and the medical profession may be profitably cultivated. The fulfilment of the purposes of the society has been intrusted to the hands of the following committee: Graham Lusk (president), Simon Flexner (vice-president), George B. Wallace (secretary), Frederic S. Lee (treasurer), Christian A. Herter, S. J. Meltzer, and E. K. Dunham. The members of the society consist of two classes, active and associate members. Active members are laboratory workers in the medical sciences residing in New York. Associate members are such persons as may be in sympathy with the objects of the society and who reside in New York. The first course of lectures will be given on Saturday evenings during the winter of the years 1905–06 at the Academy of Medicine.

Defective Eyesight among the School Children of New York City.

At a recent meeting of the Society of Medical Inspectors of the New York city health department the result of the new system of physical examination of school children was discussed. Dr. John H. Cronin, chief of the division of school inspection of the department of health, read a paper in which he especially emphasised the bad sight of the school children of New York. According to Dr. Cronin the inspectors have found within the past few months that about 3 per cent. of all children in the schools have defects of vision interfering with the proper pursuit of their studies. Of these a large number have procured glasses. "This has already," says Dr. Cronin, "resulted in an improvement of the school work, as borne out by the teacher's reports. The reason so many children are found backward in their studies is because there are so many with physical defects, such as defective sight and hearing, who are unable to keep up with other children of their age and who retard the progress of the class."

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[1] THE LANCET, May 20th, 1905, p. 1386.

Annual Statistics of the Roosevelt Hospital, New York.

The thirty-third annual report of the Roosevelt Hospital, New York city, has recently been issued. The report is for the year ending December 31st, 1904. The number of patients under treatment for the year was 4,326, larger by 380 than in the previous year. The daily average of patients was 182. The average length of stay of each ward patient was 15½ days and of each private ward patient rather more than 19 days. The daily average of patients was 455. 10,015 cases were treated in the emergency department, while the total number of visits to this department was about 20,000. 1897 operations were performed during the year. In the ambulance service the electric motors were given up and horses were used as formerly. There were 6719 calls upon the ambulance. 67,313 visits were made to out-patients. $179,573 (£35,934) were expended for the current expenses of the hospital, a smaller sum than that expended in 1903. The contributions for the year amounted to $42,000 (£8400). The permanent fund of the hospital has been increased by $30,000 (£6000) by the endowment of six beds costing $5000 (£1000) each.

Decrease of Cerebro-Spinal Meningitis in New York City.

The New York city death-rate for the week ended May 13th was 19·01, as against 21·57, the rate for the previous week. With regard to deaths from cerebro-spinal meningitis there were 88 compared with 110 of the week before. The cases of pneumonia resulting in death numbered 215.

Death of Dr. A. W. Rogers.

Dr. Alexander W. Rogers, the oldest member of the College of Physicians and Surgeons of New York, died on May 14th at Paterson, New Jersey. Dr. Rogers was born in Armagh, Ireland, in 1814 and came when young to the United States with his father. He graduated from the College of Physicians and Surgeons in 1836.

May 30th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Milk-supply of Indian Cities.

THE dangers of impure milk are very prevalent in the large cities of India. The retail sellers admit watering the milk and the native population look upon it as a recognised custom. The water added is not necessarily the filtered or otherwise pure water of the city. The byres where the cows are kept are for the most part very limited in space, the animals are crowded together, the floors are horribly filthy, and the udders and flanks of the cows are seldom or never cleaned. The milkers are dirty in their habits, as they do not wash their hands, frequently dip their hands into the milk, and are indifferent about dirt on the udders. Add to all this the use of dirty pails and the custom of floating straw on the surface of the milk and an idea can be formed of the stuff which is distributed as milk to the great mass of the people. There are a few wholesale dealers who take precautions to insure as far as possible a wholesome-supply but the above conditions are the prevalent ones. The question of the milk-supply is being discussed in Calcutta and the evils in that city are about as bad as they can be, but the proposals of the health officer afford neither an immediate nor a drastic remedy. The offer of a certificate on fulfilling certain conditions is absolutely useless, as prosecutions already fail to effect any appreciable improvement and no further proposal is suggested. The authorities seem to fear the prospect of the milch cattle being taken out of the town and are equally timid about undertaking the milk business themselves. Nothing, however, could be possibly worse than the present state of things and it is only the almost universal custom of boiling the milk which probably saves the situation.

The late Outbreak of Small-pox in Bombay.

A severe outbreak of small-pox in Bombay during the first quarter of the year necessitated the prosecution of numerous persons for wilfully doing things tending to the spread of the contagion. The custom of taking patients in all stages of the disease in public conveyances to the temples for special religious rites is particularly dangerous but active measures have temporarily stopped this pernicious practice. No attempt was made forcibly to remove patients to the hospital, but more than 1100 cases were admitted and it is estimated that about 2000 other cases occurred. As the mortality of the hospital cases was only 25·6 per cent., whereas the mortality of those not removed to hospital is returned at 62·8 per cent., the inference is obvious that a very large number of cases failed to come under observation because the benefit of hospital treatment can hardly be credited with such a large reduction in case mortality. The health officer asks for more hospital accommodation. In Calcutta there is no municipal hospital at all. In Bombay there are 12 horse ambulances for infectious cases, whereas I hear that there is not a single one in Calcutta. In Bombay they prosecute the owners of public conveyances for carrying infectious cases. In Calcutta infectious cases are freely moved about in the public vehicles which are more or less disinfected at those hospitals which receive infectious cases. This contrast between the methods adopted in the two cities might be extended. The provisions in Calcutta for dealing with an outbreak of infectious disease such as small-pox are of the scantiest. Even cases of plague have to be taken to the general hospitals where they are put in isolated wards, but in one hospital cholera cases and plague cases are mixed up together and in another hospital cholera cases are put in the general ward.

The Plague Epidemic.

The plague mortality throughout India for the week ending May 6th is returned at 52,253, a decline of 4478 from that of the previous seven days. In the Punjab, however, the mortality rose from 15,710 to 30,909. Elsewhere the decline was general. The United Provinces returned 12,909 deaths, against 28,728 in the previous week; Bengal, 2436, against 4733; Rajputana, 3358, against 2298; Bombay Districts, 1952, against 2378; Burma, 90, against 147; Central Provinces, 77, against 116; Hyderabad State, 68, against 95; Central India, 24, against 59; Mysore State, 26, against 51; and Madras Presidency, 22, against 49. The rapid decline in Rangoon is very satisfactory and it is to be noted that the authorities have been remarkably active and successful in destroying rats—some 50,000 having been secured.

May 20th.

Obituary.

JAMES MURPHY, M.A., M.D., M.CH. DUB., M.D. DURH.

WE regret to announce the death of Dr. James Murphy, who, although he lived in Sunderland, had associations, professional and social, over an area very much wider than that of Wearside. It is not too much to say of Dr. Murphy that he was one of the ablest surgeons of his generation, as he was one of the most genial and kindly of men. The news of his untimely death will be received by very many members of the profession with profound sorrow. The sad event occurred at Dr. Murphy's residence, 6, Thornhill-crescent, Sunderland, on Tuesday night, May 30th. The deceased gentleman was in his fifty-second year. He had been following his professional duties at the end of the previous week and as late as Friday, May 26th, he gave evidence in a compensation case at the Sunderland county court. Dr. Murphy was out driving on May 27th when he caught a cold; pneumonia supervened and death ensued with extreme rapidity.

Dr. Murphy as a surgeon particularly skilled in obstetrics and gynæcology had won a reputation that was not confined to the North of England but extended throughout the land. He was born in the year 1853, and was the son of the late William Chapman Murphy, M.D., and a nephew of the Right Hon. Justice Murphy of the Supreme Court of Ireland. He was a native of Ballinahow in the county of Tipperary, and preserved all the amiable characteristics of an Irishman throughout his life. He was educated at Trinity College, Dublin, where he was in his year honourman and prizeman in science. Subsequently he studied in Edinburgh, London, Leyden, and Paris, and entered upon his profession thoroughly equipped. He became M.B., I.Ch. of the University of Dublin in 1874 and was house urgeon to the late Sir William Stokes of Dublin. In 1874 e was appointed house surgeon to the Sunderland Inrmary but resigned in 1876 and settled in private practice ı Sunderland. He became M.D. at Dublin in 1877, L.R.C.S., .M. of Edinburgh in 1878, and M.D. of Durham (*ad undem*) in the same year. In 1878, also, Dr. Murphy was ppointed lecturer in botany in the College of Medicine, lewcastle-upon-Tyne. He was afterwards appointed ecturer on biology and was subsequently transferred to he chair of medical jurisprudence, which he held till his eath, as well as the office of assessor in materia medica and herapeutics.

In 1890 Dr. Murphy was vice-president of the Section of)bstetrics and Gynæcology at the annual meeting of the 3ritish Medical Association in Birmingham, and in the ollowing year, when the Association met in Bournemouth, ıo delivered the opening address in the discussion on)iseases of Women. In 1893, during the meeting of the ıssociation in Newcastle he was president of the Section of)bstetrics and Gynæcology. Dr. Murphy had been for over 0 years a frequent contributor in the Sections of Surgery and)iseases of Women of the British Medical Association and ıad read many papers before the local medical societies. He was president of the Northumberland and Durham Medical Society for some two years, and was president also of the North of England branch of the British Medical Association and a member of the central council of the Association of which he was a most frequent attender. He vas an honorary member of the Société de Médecine Pratique de Paris and also of the Deutsche Gesellschaft fur Gynäkologie, Berlin. Dr. Murphy delivered the inaugural ıddress at the Durham University College of Medicine, 1881-82.

Dr. Murphy, after he resigned the office of house surgeon ıt the Sunderland Infirmary, was made honorary surgeon ınd held the position till his death. He was an ex-vice-president of the British Gynæcological Society. He wrote a good deal and always concisely and ably, his publications ıncluding the following: "Case of Divided Uterus"; "Pilocarpine in the Treatment of Puerperal Eclampsia"; "Treatment of Placenta Prævia, with Notes of 47 Cases"; "Notes on a Case of Porro's Operation"; and various other articles on surgery and gynæcology. Dr. Murphy was a broad-minded man and physically very robust. He was devoted to yachting and was a warm and discriminating patron of the drama. He was twice married and is survived by his widow and daughter.

HERBERT WILLIAM BROWN, M.B. LOND.

THE death of Dr. H. W. Brown from typhoid fever at Cairo on May 12th has removed one of the younger members of the profession who could ill be spared. Several resident appointments at Guy's Hospital and a year's good work at the London School of Tropical Medicine were a fitting preparation for the post of resident medical officer at Kasr-el-Aini Hospital which Dr. Brown held at the time of his death. His sound judgment, devotion to his duty, and kindliness of manner made him greatly respected and esteemed by his colleagues and his early death at the age of 27 years is regarded by them not only as a direct personal loss but also as a loss to the profession, in which he gave promise of a most brilliant career.

Medical News.

TRINITY COLLEGE, DUBLIN.—At the examination held in Trinity Term the following candidates passed in the subjects indicated:—

Final Examination in Surgery.—Henry H. A. Emerson, Cecil A. Boyd, Charles R Morris, Howard English, William F. Samuels, John Murdoch, William G. Harnett, Charles C. Williams, Thomas T. H. Robinson, Wilfred L. Myles, Henry H. White, William C. MacFetridge, Francis J. Usher, and John Chambré.

M Ch. degree.—Paul Carton, M.D., and Samuel Synge (clk.), M.D.

MEDICAL MAGISTRATES.—The name of Mr. Alfred James Lowe of Home Lea, Boothstown, was on June 1st placed on the commission of the peace for the county of Lancaster.—Mr. J. Morgan Evans, L.R.C.P. Lond., M.R.C.S. Eng., of Llandrindod Wells, has been placed on the commission of the peace for the county of Radnor.

PREVENTION OF INFANTILE MORTALITY.—On June 5th a conference was held at the town hall, Pancras-road, London, N.W., under the presidency of Dr. R. M. Beaton, L.C.C., when the question of the prevention of infantile mortality by the improvement of the health of mothers and of the feeding of sucklings was discussed. A letter was read from Sir Lauder Brunton advocating pure fresh milk rather than sterilised milk as infants' food. Sir William Broadbent dwelt on the important bearing which infantile mortality had upon the physical deterioration of the race and said that the whole future of thousands of children depended upon the first few weeks of life. Dr. Herbert R. Spencer, Mrs. Scharlieb, Professor A. Macfadyen, Dr. H. R. Kenwood, and Dr. Dudfield took part in the discussion and several important resolutions were adopted affirming the desirability of the instruction and care of mothers, the early registration of births, the appointment of women inspectors, the importance of breast feeding, and the danger of premature weaning.

OPENING OF A NEW CONVALESCENT HOME AT LITTLE COMMON, BEXHILL.—On May 25th the board of management and a number of friends and supporters of the institution visited the new men's home of the Metropolitan Convalescent Institution at Little Common, about three miles from Bexhill. The buildings when complete will accommodate 118 patients but owing to lack of funds the central portion only of the building has been completed, with 71 beds for patients. When sufficient money is forthcoming an east and a west wing will be added. The buildings are fitted with the most modern sanitary and electrical appliances. The Metropolitan Convalescent Institution was founded in 1840 and now maintains four homes, containing 555 beds, to which every year nearly 7000 patients are admitted free upon discharge from hospitals or after illness at home. The address of the London office is 32, Sackville-street, Piccadilly, W.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, MAY 31ST.

Human Deaths from Glanders.

[illegible] whether, having regard to these circumstances, he would take the necessary steps to have the mallein test compulsorily applied to all in-contact animals in case of outbreaks of glanders and to provide a full veterinary inspection and the application of the mallein test in the case of horses imported from Australia or any country in which glanders was prevalent or suspected.—Mr. FELLOWES answered: I have received from the London County Council full inform[illegible] as to the result of its inquiries into the regrettable circum[illegible] it is a [illegible] of Aus[illegible] affecte[illegible] more [illegible] London [illegible] Order in the direction indicated is a subject which is receiving my careful consideration, but there are difficulties, both administrative and financial, in the way of the compulsory adoption of the mallein test in connexion with outbreaks of [illegible] am [illegible] any [illegible] inı- [illegible] o in- [illegible] ıs of [illegible] good [illegible] man [illegible] hich [illegible] deaths from glanders [illegible] a connexion was traced to outbreaks of that disease in horses.

MONDAY, JUNE 5TH.

Names Struck off the Medical and the Dental Registers.

Mr. WEIR asked the Home Secretary whether in view of the fact that during recent years 20 names had been struck off the Medical Register for infamous conduct in a professional respect and 12 res[illegible] n the Dental Reg[illegible] would state the na[illegible] those whose nam[illegible] could [illegible] cated; hardly specify the offences [illegible] and, as they have been restored to the register, this would merely give unnecessary pain to individuals without serving any useful public service.

Lunacy Return.

Mr. CHARLES HOBHOUSE asked the Home Secretary whether the return granted in 1904 relative to the expense of lunacy was yet ready and when it would be published.—Mr. AKERS-DOUGLAS said: This return, the preparation of which has been exceptionally difficult, is now in the printer's hands and will, I hope, be published shortly.

Physical Deterioration.

Mr. WEIR asked the Lord Advocate whether the Secretary for Scotland had yet considered the expediency of issuing to parochial medical officers, sanitary inspectors, and inspectors of poor, leaflets containing the opinions of the Committee on Physical Deterioration relative to ventilation and the bringing up of young children with a view to the dissemination of information on these subjects.—The LORD ADVOCATE answered: The Local Government Board is taking steps to ascertain how far it is practicable to issue leaflets on the lines suggested by the honourable Member.

TUESDAY, JUNE 6TH.

Direct Representatives on the General Medical Council.

Mr. WEIR asked the Home Secretary whether in view of the fact that under Section 7 of the Medical Act of 1886 the representation of medical practitioners on the General Medical Council was confined to three representatives for England, one for Scotland, and one for Ireland, and that during the interval of 19 years medical practitioners had increased in number in England alone by 7000, the General Medical Council had considered the expediency of representing to the Privy Council the desirability of increasing the number of representatives of medical practitioners on the General Medical Council as provided for under Section 10, Subsection (*c*), of the Medical Act.—Mr. AKERS-DOUGLAS replied: I am informed that this question was considered by the General Medical Council last month and on no less than six other occasions during the previous 15 years, but that each time the decision of the Council has been that it is inexpedient to make any representation to the Privy Council.

SELECT COMMITTEE ON REGISTRATION OF NURSES.

The Select Committee of the House of Commons which is consider- g the question of the registration of nurses heard further evidence Tuesday, June 6th

ady HELEN MUNRO-FERGUSON, replying to the Chairman, Mr. J. TENNANT, said she was a vice-president of the Association Promoting the State Registration of Nurses. She did not think the ent condition of things was satisfactory to the employing public. certificates issued by the various hospitals varied in value and the ic were unable to distinguish between their merits. Not the training but the examinations varied and it would be dvantage to have coördination. A certificate of the Central l would indicate to the public that that board had satisfied itself he holder was duly trained and had received a good character the matron of the training school. Many hospitals kept no s and many of the nurses who wished to go to the South African itration Camps with the Scottish contingent could not be d in the absence of such records, although they were qualified. ation would level up the country hospitals She did not think l be at all impossible for the poor in rural districts to secure the of fully trained nurses In Scotland they had many Queen's fully qualified, in the rural districts. She would be against wo classes of nurses. Cottage nurses, she pointed out, were certified midwives and had the status of their own register. led to the proposal of a Local Government Board committee in that the poor-house nurses in the absence of a standard should yllabus of training and an examination at Edinburgh or nd proceeded to state the various classes of the community h nurses were drawn. Of 143 nurses in one Scottish hospital he daughters of clergymen, 35 of professional men, 50 of six of clerks, 32 of farmers, and two had been in service.

C. HOBHOUSE. She did not want cottage nurses to be n the belief that they were fully trained and qualified igh she personally had no objection to them practising as

STIRLING-MAXWELL · There was an unlimited supply of for vacancies in the large Scottish hospitals.

BURDETT, re-examined, produced figures to show that the ourse was practically general throughout the hospitals in ingdom. Referring to the proposals which he had sup- d already laid before the Committee, he said that in order t the certificate issued to nurses should represent a age of efficiency it was essential that the Nursing Council e the examination of all nurses throughout the country. eat importance to the uniform curriculum of training. pressed with the breakdown of the General Medical y had to avoid that rock in regard to the nurses. The Council had power to send visitors and inspectors to d it did so, but in practice he understood it had not he examinations everywhere to its satisfaction. The any examining body to the Privy Council had not the Medical Acts existed. He was told the reason e General Medical Council was not quite sure what

KE remarked that this evidence was quite irrelevant witness admitted that the average standard of exa edical profession was of an extremely high order and there were still blots. He wished a drawing together had to do with the training of nurses so that they asis which would secure that from the very outset and speedily making towards a uniform standard ned by the registration of training schools and the h as existed in the colonies.

ourned till after the Whitsuntide recess.

BOOKS, ETC., RECEIVED.

[illegible] AND COX, 8, Henrietta street, Covent Garden.

wifery. For Students and Practitioners By B.A., M.D. Dub. Univ., F.R.C.P.I., L.M., Obstetric Physician to Dr Steevens' Hospital, Examiner in Midwifery, Royal University of Ireland; Examiner in Midwifery, Royal College of Physicians, Ireland; with the assistance in Special Subjects of W. R. Dawson, M.D., F.R.C.P.I.; H. C. Drury, M.D., F.R.C.P.I.; F. G. Moorhead, M.D., and R. J. Rowlette, M.D. University Series. Price 21s. net.

COLLINGRIDGE, W. H. AND L., 148 and 149, Aldersgate-street, E.C.
Chrysanthemums for Garden and Greenhouse. By D. B. Crane, F.R.H.S., F.N.A.G.A., Chairman of the Floral Committee of the National Chrysanthemum Society, and Deputy President of the National Amateur Gardeners' Association. Edited by T. W. Sanders, F.L.S., F.R.H.S., Editor of *Amateur Gardening*. Price not stated.

GREEN, WILLIAM, AND SONS, Edinburgh and London.
Methods in Morbid Histology and Clinical Pathology. By I. Walker Hall, M.D., Lecturer and Demonstrator in Pathology, Victoria University of Manchester, and G. Herxheimer, M.D., Prosector to the Stadt. Krankenhaus, Wiesbaden. Price not stated.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-91, Great Titchfield-street, Oxford-street, W.
The Maintenance of Health in the Tropics. By W. J. Simpson, M.D., F.R.C.P., Professor of Hygiene, King's College, London, and Lecturer on Tropical Hygiene at the London School of Tropical Medicine. Price 2s. 6d. net.

KARGER, S., Karlstrasse, 15, Berlin.
Ueber Störungen des Handelns bei Gehirnkranken. Von Prof. Dr. H. Liepmann, Privatdozent an der Universität zu Berlin, Assistenzarzt an der stadt. Irrenanstalt zu Dalldorf. Price not stated.

LANE, JOHN, The Bodley Head, London and New York.
The Practioner's Handbooks—I. Edited by Harry Roberts. The Rheumatic Diseases. By J. Odery Symes, M.D. Lond., D.P.H., M.R.C.S., L.R.C.P., Assistant Physician and Bacteriologist, Bristol General Hospital. Price 5s. net.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, E.C.
Pictures in Umbria. By Katharine S. Macquoid. With 50 original Illustrations by Thomas R. Macquoid, R.I. Price 6s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London. (For the Royal Medical and Chirurgical Society of London.)
An Inquiry into the Phenomena Attending Death by Drowning and the Means of Promoting Resuscitation in the Apparently Drowned. Report of a Committee appointed by the Royal Medical and Chirurgical Society. Price [illegible] net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.
Strength and Diet. A Practical Treatise with Special Regard to the Life of Nations. By the Hon. R. Russell. Price 12s. [illegible]

MACMILLAN AND CO., LIMITED, London.
Archives of the Middlesex Hospital. Vol. V. Fourth Report from the Cancer Research Laboratories. Edited for the Cancer Investigation Committee by W. S. Lazarus-Barlow, M.D., F.R.C.P., Director of the Cancer Research Laboratories, Foreign Member of the German Committee for the Investigation of Cancer, formerly Pathologist and Lecturer on Pathology at the Westminster Hospital. Price not stated.

PEARSON, C. ARTHUR, LIMITED, Henrietta-street, W.C.
The Preparation and Mounting of Microscopic Objects. By Thomas Davies. Edited by John Matthews, M.D., F.R.M.S., Vice-President, Quekett Microscopical Club. New edition. Price 2s.

RUDEVAL, F. R. DE, 4, Rue Antoine Dubois, Paris.
Les Moustiques. Histoire Naturelle et Médicale. Par Raphaël Blanchard, Professeur à la Faculté de Médecine de Paris, Membre de l'Académie de Médecine. Price fr.25.

STEINHEIL, GEORGES, 2, Rue Casimir-Delavigne, Paris.
Les Cardiopathies Artérielles et la Cure d'E P. Bergouignan, Ancien Interne en Médec Paris, Membre Correspondant de la Societ Medecin Consultant à Évian. Price not stat

STUBER, A. (C. KABITZSCH), Würzburg.
Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer, a.o. Professor an der Universität Ma Direktor der Medizinischen Poliklinik (Schluss des III. Bandes)

WILLIAMS AND NORGATE, 14, H (Published for THE UNIVERSI
How to Live A Short Acc Health, with Brief Refere for the Older Pupils in P M.D., F.R.C.P., J.P., Cons firmary, Emeritus Profess of Liver- pool, Member of Liverpool Committee. Price 3d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BIRMINGHAM, W. P., M.D. Dubl., has been appointed Official Visitor to the Fremantle Lunatic Asylum and Claremont Hospital for the Insane West Australia.

[illegible] pinted Physician to the Western

[illegible] R.C.S., has been appointed [illegible] of Apothecaries.

[illegible] C.M. Glasg., has been appointed [illegible] Lanca-

[illegible] strict

[illegible] Cantab., has been appointed

[illegible] re-appointed Surgeon to the [illegible] firmary, Glasgow.

Mc[illegible]

Ma[illegible]

[illegible] Physician to [illegible] seases of the Chest, Margaret-street, Cavendish square, W.

NEWMAN, HERBERT ROBERT CAMBRIDGE, M.B. Durh., L.R.C.P. Lond., [illegible] the Bristol [illegible] Certifying [illegible] New Ross

[illegible] has been [illegible] Workshop

PATTERSON, D. WELLS, M.B., Durh., has been appointed Honorary [illegible] Diseases of the Skin in the Royal

[illegible] P., has been appointed Assistant [illegible] thern Hospital, Liverpool.

PREBBLE, PHILIP, M.B., M.Ch. Aberd., has been appointed Honorary Assistant Physician to the Blackburn and East Lancashire Infirmary.

ROBB, A. GARDNER, M.B. R.U.I., D.P.H., has been [illegible] Visiting [illegible] t. [illegible] Honorary [illegible] Home, [illegible] for Con-

[illegible] ppointed [illegible] Home at [illegible] Hospital

[illegible] as been

[illegible] ppointed

[illegible] rgeon to [illegible] Surgeon

[illegible] as been [illegible] Bristol

[illegible] onorary [illegible] on and [illegible] W. [illegible] etist to

[illegible] has been appointed Accident House Surgeon at the Manchester Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] Resident Medical Officer. [illegible] al and gas, and fees [illegible] istant Resident Medical [illegible] 25 guineas.

[illegible] DISEASES HOSPITAL.— [illegible] Salary £100 per annum, [illegible] ndance

[illegible] INFIRMARY.—Assistant [illegible] rate of £60 per annum,

[illegible] LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, board, washing, &c.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Physician.

[illegible] rgeon.

[illegible] Y.—Physician.

[illegible] OF THE CHEST, Brompton [illegible] six months. Honorarium of £2[illegible]

[illegible] at Ormond street, London, W.C.— [illegible] naesthetist, with honorarium [illegible]

[illegible] House Surgeon. Salary £50 pe[illegible]

INDIAN MEDICAL SERVICE, India Office, S.W.—Exam[illegible] tion for not les[illegible]

[illegible] sident Medica[illegible] with boar[illegible]

[illegible] Officer. Salar[illegible]

[illegible] r six months [illegible] and washing

[illegible] Honorary Assistant Physician.

[illegible] Salar[illegible]

[illegible] CHILDREN [illegible] —House Surgeon. Salary £80 pe[illegible]

[illegible] ctor of the Clinical Laboratory

[illegible] UNIVERSITY.—Junior Demonstrator i[illegible]

[illegible] Water Examinations

[illegible] 50 per annum, with

PLYMOUTH, SOUTH DEVON, AND EAST CORNWALL HOSPITAL.— [illegible] board, residence, and washing.

[illegible] o, W.—Clinical Assistants.

[illegible] road, W.C.—Senior Resident [illegible] annum, with board, residence [illegible] ric Assistant (female). Salary [illegible], and washing. Also Assistant [illegible] (females) for six months.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon. [illegible]

VENTNOR, ROY[illegible] Resident Medical Officer, unmarried.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Shotts, in the county of Lanark.

Births, Marriages, and Deaths.

BIRTHS.

[illegible] Lloyd, M.B. Lond., M.R.C.S., L.R.C.P. Lond., of a daughter (stillborn).

MARSHALL.—On June 3rd, at West House, Southminster, Essex, the wife of Thomas Bingham Marshall, M.R.C.S., L.R.C.P., of a son.

WADE.—On May 31st, at Harleston, Norfolk, the wife of Ernest W. Wade, M.D. T.C.D., of a daughter.

MARRIAGES.

[illegible] own, Victor [illegible] ghter of the

[illegible] armouth, by [illegible] of the late [illegible] daughter of

[illegible] Kensington, [illegible] isted by the [illegible] Saints, East Finchley, Hugh [illegible] of Samuel Clarke Noble, [illegible] dal, Westmorland, to Dora [illegible] Frederick Thomas Hulke, [illegible] and of Mrs. F. T. Hulke of

DEATHS.

[illegible] Emanuel May, M.D.,

[illegible] Sunderland, James

[illegible] George S. Rhodes,

[illegible] ina, Rev. J. Hudson [illegible] Mission), in his 74th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

THE two letters which follow require little comment:—

122, Clapham-road, London, S.W., May 4th, 1905.

The Clerk to the London County Council.

DEAR SIR,—I shall be obliged if you will inform me at your earliest convenience the information I want to the following queries:—1. Mr. Troutbeck (after Dr. Freyberger has been sworn), addressing Dr. Freyberger, says: "You are the pathologist appointed by the London County Council?" Reply: "Yes." Is that a correct statement of fact? 2. How many inquests have been held by Mr. Troutbeck for the 12 months ending the financial year, and of these how many post-mortem examinations have been given to Dr. Freyberger? And as a corollary how many inquests have there been which entailed a £3 3*s.* expense—i.e., to pay for the attendance of Dr. Freyberger and the medical man called to the case? 3. Was it agreed between the London County Council and Dr. Freyberger that the fee per case for this special pathologist should be £2 2*s.*? I am, yours obediently,

(Dr.) W. PIERCY FOX.

LONDON COUNTY COUNCIL.
County Hall, Spring-gardens, S.W.,
May 31st, 1905.

SIR,—The Public Control Committee of the Council have considered your letter of May 17th, 1905, on the subject of the employment by Mr. Troutbeck, coroner, of Dr. Freyberger, one of the 18 pathologists nominated by the Council to make post-mortem examinations and to give evidence in special inquest cases.

With reference thereto I have to state that the Council is not in a position to insist that a coroner shall, when examining a witness at an inquest, conduct such examination in any particular manner, and that any complaint as to the conduct of a coroner should be addressed to the Lord Chancellor.

In reply to your request for particulars as to the inquests held by Mr. Troutbeck, I have to inform you that during the year 1904 Mr. Troutbeck held 926 inquests and engaged the services of a special pathologist (Dr. Freyberger) in 450 cases, in 168 of which additional medical witnesses were called.

With regard to the fees payable, I have to inform you that the special pathologists nominated by the Council to make post-mortem examinations and to give evidence in special inquest cases were so nominated on the understanding that the fee would be £2 2*s.* per case. I am, Sir, your obedient servant,

G. L. GOMME, Clerk of the Council.

Dr. W. Piercy Fox, 122, Clapham-road, S.W.

From the letter of the Clerk of the Council it would appear that Dr. Freyberger received, through Mr. Troutbeck, from the public £945 in fees during the year 1904. Frankly, we do not think his services are worth the money. We have chronicled inquests where Dr. Freyberger has been engaged when no special pathologist could, it appeared to us, be required, while we are a little at a loss to understand on what grounds Dr. Freyberger is regarded as a special pathologist, able to give the coroner assistance that could not be given to him by any practitioner. We learn from the Medical Directory that he has been "selected for London inquests," but after what ordeal and following upon what competition?

THE COUVADE.

To the Editors of THE LANCET.

SIRS,—With reference to the request of your correspondent for any local traditions as to illness of the husband during the pregnancy of the wife, I met with a case of tuberculous enteritis about a year ago in Bristol which was at first neglected by the patient and his friends because, as they said, they thought he was "suffering for the missus," who was advanced in pregnancy. I have met with no other instance of the belief in Bristol. In Dahomey it is, or was, the custom for a chief to retire to bed for some weeks during the confinement and puerperium of his wife. I am, Sirs, yours faithfully,

June 6th, 1905. X.

⁂ The superstition is widespread.—ED. L.

DANGEROUS HAT-PINS.

IN an annotation which appeared in THE LANCET of April 22nd last p. 1080) we stated that "it ought to be possible for an ingenious milliner to devise some less dangerous method of fixing on the hat." Our remarks having been seen by the *Alexandra Agency of Argyll-place, London, W.*, they have sent us a specimen of their patent double-headed safety hat-pin. This pin consists of an ordinary hat-pin, except that it is somewhat longer and more flexible than some of those in use, especially by many women of the poorer class. On the blunt end of this pin is fixed a knob of about the size of a Barcelona nut and on the pointed end is a knob made to match the other knob as nearly as possible, but the knob on this end of the pin is removeable. The removeable knob has a small tube running almost through the centre and this little tube or sheath apparently contains some hardened viscous substance of the nature of gutta-percha. The pointed end of the hat-pin after adjustment through the hat is sheathed in the knob. There seems to be no difficulty—to ladies, at all events—in the sheathing process whilst the pin is in the hat on the head and the adjustable knob certainly affords protection from the dangerous point. If the removeable knob were studded with real diamonds and other stones there would be some fear felt of losing the knob in gusty weather, although we must say that we had to agitate the pin violently to shake off the knob. We think, however, that if the knob were screwed on to the pin or if some other device were employed giving a mechanical grip, it would be an improvement. We have also noticed that the great flexibility of the shaft of the pin prevents it from penetrating several folds of cloth as readily as do some of the stiffer-stemmed and cheaper pins, such as the common pins with black knobs.

AN OLD LANCET CASE.

To the Editors of THE LANCET.

SIRS,—Will you permit me to thank Mr. Edward A. Piggott for his information *re* "Savigny & Co." and "Pratt," from which it is quite clear that the lancets, though not absolutely modern, were not the original occupants of the case. I am, Sirs, yours faithfully,

June 7th, 1905. PROVENANCE.

TO DEADEN SOUND.

To the Editors of THE LANCET.

SIRS,—I have a patient who suffers at times from insomnia. He believes that if he could hear of some comfortable apparatus to wear at night to keep out the noise of trains, &c., it would be of great benefit to him. I should be much obliged if any of your readers could tell me of any satisfactory instrument for this purpose.

I am, Sirs, yours faithfully,

June 7th, 1905. J. S. R.

THE ADMINISTRATION OF ETHYL CHLORIDE.

To the Editors of THE LANCET.

SIRS,—I should be very much obliged if any of your readers would send me notes of any cases in which the administration of ethyl chloride has proved fatal. The advantages of the anæsthetic are obviously very great. Unsatisfactory results are not always recorded in medicine. I am, Sirs, yours faithfully,

Ullswater, near Penrith. ARTHUR G. WILKINS, M.B. Vict.

NOTES ON THE SORBONNE.

To the Editors of THE LANCET.

SIRS,—In your review of the pamphlet under this heading in THE LANCET of June 3rd, p. 1503, there is a slip as to the date of the founding of the College. *The Founder was born* in 1201 and *the College was founded* in 1252. Since the publication of the pamphlet Mr. Dennis Lane has joined the majority and the pamphlet, with plan of the dome, can be had (price 4*d.* post free) from

Yours faithfully,

Wimbledon, S.W. J. A. RANDOLPH.

◆

L.R.C.P. & S. Ed.—If the rules of the hospital do not forbid the procedure we cannot see how the medical man's conduct is to be called in question. A medical officer to a hospital, as a rule, consults with other members of the staff of the hospital, and our correspondent does not state whether this proceeding has been neglected. The circumstances are given in his letter so briefly that we are unable to make a more definite reply, but it must be remembered that customs at home and customs in the colonies are not always similar.

Jim.—1. The degrees of the University of Sydney are registrable in the Colonial List after compliance with certain regulations. The registered practitioner enjoys all the usual privileges. 2. The practice varies greatly at different colonial universities and in different curricula towards partly qualified students of the home universities. The registrar of the university should be asked. 3. It would be unadvisable to go to the colony in such circumstances unless a definite arrangement is made with an employer.

R. H.—It is not usual in this country to claim the position of a specialist on the door-plate in the way which our correspondent suggests. A man should not appear before the public as a specialist unless he has proper reasons for claiming the position, in which case his patients will be sent to him by medical men who will appreciate the value of his claim and will not want to be reminded of it by a door-plate.

M.B.—It is difficult in these days for a medical man in a prominent position to escape such unfortunate publicity. We do not like to make adverse comments upon such paragraphs as our correspondent has sent us unless we know that the subject of the paragraphs has inspired the information.

X. Y. Z.—Ozonising tubes may be obtained from almost all dealers in electrical apparatus. The best for our correspondent's purpose would probably be Andreoli's, sold by Messrs. Allen and Hanbury, 48, Wigmore-street, London, W.

Surgeon has opened a large question. The work done by cottage hospitals varies much in different parts of the kingdom. The question is too large a one for a brief answer and we will return to the subject.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

St. Bartholomew's (1.30 P.M.), St
(2 P.M.), St. Mary's (2.30 P.M.),
ster (2 P.M.), Chelsea (2 P.M.),
Physicians, 2 P.M.), Soho-square
Gt. Northern Central (2.30 P.M.),
Throat (9.30 A.M.), Royal Free

—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), West
P.M.), University College
ary's (1 P.M.), St. Mark's
(2.30 P.M.), London Throat
an (9.30 A.M. and 2.30 P.M.),
o-square (2 P.M.), Chelsea
(2 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College

London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic

Thomas's

.), Charing
St. Mary's
2 P.M.), Gt.
.), London
.), Throat,
oho-square
(2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex
ege (9.15 A.M.),
lary's (10 P.M.).

At
ion Ophthalmic
(10
P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

SOCIETY OF LONDON (11,
—5.15 P.M. Meeting.
TY (Bolingbroke Hospital,
r R. D. Powell, Bart.: Some Clinical Lessons from the History of Medicine in the Last Half Century. (Bolingbroke Lecture.)

SATURDAY (17th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Children's Hospital, Western Bank, Sheffield).—2.30 P.M. Provincial Meeting. Clinical Cases, Pathological Specimens, and Papers.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC
son: Clinique.
Treatment of

Hammersmith-

EPTIC (Queen-
zard: Cerebro-

ottenham Hos-
. H. M. Leslie:

W
IE AND POLY-
T. P. Legg:
Clinique. (Surgical.) 5.15 P.M. Dr. S. Stephenson: Ocular Therapeutics.

POST-GR
road,
HOSPITA
ton).—

THURSD

he Laryngoscopic Dia-

ospital, Hammersmith-
es of the Hip.
l-street, W.C.).—4 P.M.

Gibbs: Demonstration

rylebone-road, N.W.).—
erculosis.
AND DISEASES OF THE
Lecture:—Dr. T. N. Kelynack: Demonstration of Cases of Arrested and Advancing Pulmonary Tuberculosis. (Post-Graduate Course.)

ROYAL INSTITUTE OF PUBLIC HEALTH.—5 P.M. Mr. W. J. Dibdin: The Bacterial Treatment of Sewage.

ottenham Hos-
. W. Edmunds:

F
ND POLYCLINIC
ack: Clinique.
(Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. R. Lloyd: On Anæsthetics.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. A. Turner: Selected Cases.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information,
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Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 8th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
June 2	30·02	S.W.	...	113	72	54	56	61	Cloudy
" 3	30·06	S.W.	...	113	74	58	57	63	Cloudy
" 4	29 99	W.		95	68	60	62	65	Cloudy
" 5	29 94	E.	0·04	65	57	55	56	57	Raining
" 6	29 77	N.E.	0·93	61	53	56	56	57	Raining
" 7	29 76	N.E.	0·53	71	56	48	50	51	Overcast
" 8	29 90	N.E.	0·30	107	65	50	55	56	Cloudy

During the week marked copies of the following newspapers have been received:—*Lincolnshire Echo, Devon and Exeter Gazette, Observer, Westminster Gazette, Globe, Nottingham Guardian, Bethnal Green News, Edinburgh Evening News, Stafford Sentinel, Broad Arrow, Surrey Comet, Reading Mercury, Daily News, Liverpool Post and Mercury, Standard, Herefordshire Mercury, Morning Leader, Freeman's Journal, Liverpool Courier, Mining Journal, National Service Journal, Local Government Chronicle, &c.*

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A Lecture
ON THE
INDICATIONS FOR OPERATION.

Delivered at the Medical Graduates' College and Polyclinic, London, on May 11th, 1905,

By RUTHERFORD MORISON,
F.R.C.S. Eng. & Edin.,
SURGEON TO THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

GENTLEMEN,—To prevent sepsis, to arrest hæmorrhage, or to remove a focus of disease—one or other of these things is, in the majority of operations, the purpose of the operator.

PREVENTION OF SEPSIS.

As an illustration of this, the following case may be given of operation after injury to the brain. One afternoon I received by telephone a message asking me to go to see a young man, aged 18 years, who had injured his head and who still bled but not profusely. The message was not urgent; I was to go as soon as convenient. On my arrival he was in the nursery with some younger brothers and demonstrated on the remnants of a toy cannon what had happened. In firing the cannon it exploded and something struck him in the forehead. Part of the cannon was missing. There was a small incised wound on the upper part of his forehead on the right side still slowly oozing. If I have not already conveyed the impression that he appeared to be no worse for the accident let me say now that he was able to walk along with me to a private hospital without help or difficulty and to run upstairs. I did what we *always* do as a matter of routine—introduced a sterilised probe into the cleansed wound. A finger is the best probe but this wound was quite small. On introducing the probe I found to my horror that it went through a hole in the skull. To prevent wound infection I decided at once to operate—to trephine. On removing a disc with the trephine a hole was found in the dura mater and on introducing a probe through this small pieces of bone and the breech of the cannon were discovered in, and removed from, the right frontal lobe. After suture of the dura mater the wound was packed with gauze and dressed. Ten days later the wound, which showed no sign of infection, was reopened and the skull defect was repaired by bone grafts. He was afterwards passed into the Yeomanry as sound and distinguished himself in the South African war.

In contrast with the above case, which illustrates the value of probing, I will describe another in which probing was neglected. The most curious feature of this very curious case is that the results which might well have been expected from this neglect did *not* happen. A boy, riding on a hay-cart and carrying a pitchfork, fell and was carried home unconscious. A large wound on the right side of the scalp and face was cleansed and stitched and subsequently healed by first intention. Two years afterwards, when the boy was about 12 years old, the wound began to reopen. A small abscess formed and healed and then, after a few months, a black object, *protruding about one-eighth of an inch, came through the skin.* At the Newcastle Infirmary he was seen by my house surgeon, Dr. J. W. Heslop, who easily pulled out with his finger and thumb a piece of hayfork four and a half inches long. It had apparently transfixed the antrum of Highmore and crossed the back of the naso-pharynx to the opposite side of the face. The boy suffered no ill-effects from its removal and walked away to the photographer's.[1]

The most necessary and the most successful operations are, as I have reminded you, performed for the prevention or for the arrest of sepsis. It is the best reason to be urged in favour of an operation that its object is to prevent or to arrest blood poisoning. Take the question which has been discussed *ad nauseam*, when to operate in cases of appendicitis. Operation is demanded when the risk of peritoneal infection is manifest. There is no other definite indication for operation. In cases of "appendicitis" of the type which allows its possessor to attend business regularly and which never interferes with a dance there is grave doubt whether the removal of the appendix is useful or even justifiable. But in cases that commence with acute pain and vomiting and are attended by inability to rest, elevation of temperature, quickening of pulse, tenderness and rigidity of the abdomen, the sooner operation takes place the better. When some doubt has been felt at first, none should remain at the end of 24 hours. Every case in which *all* symptoms and signs are not improved in that time requires operation; it is not enough that there may be betterment in some of them. This has been pointed out by my colleague, Mr. W. G. Richardson.[2] A rule of immediate operation in acute cases would prevent much prolonged illness from abscess and many deaths from general peritonitis, but in the peritoneum, as elsewhere, septic inflammation which has started may be impossible to arrest and when once it has been fully established operation frequently does more harm than good. The same truth may be recognised in other abdominal emergencies. If, for example, a ruptured gastric ulcer is not recognised till peritonitis has been established the patient had probably better be left alone. The chief object of the operation is to prevent or to arrest peritonitis; the repair of the ulcer is only a part of this.

It is no less true of acute cases of intestinal obstruction than of these more generally recognised examples that the most frequent cause of death is blood poisoning. Early in every acute case of intestinal obstruction that I have had the opportunity of observing it was possible to make a diagnosis by noting the cries of the patient in response to the severe spasmodic pain and by discovering increased peristalsis which could be seen, or heard, or felt. In these cases, if they are left alone or treated medically, the prognosis is very bad; not less than 80 per cent. die, while to do radical operations when the small intestines are distended and paralysed by septic contents is usually to court disaster.[3] These cases require prompt decision. I have elsewhere[4] urged the importance of early operation. A few hours of delay may make the difference between recovery and death. Additional experience has confirmed the results I then recorded and proved that the mortality of early operations is comparatively low—not more than 10 per cent. When the intestines are distended my rule has been to do enterostomy through the smallest possible opening with the object of arresting blood poisoning and at a later stage if the patient survives to complete the operation. The danger, however, should have been foreseen and operation done to prevent sepsis at an earlier stage.

The following cases illustrate the danger of delay in operating in cases of kidney stone and gall-stone respectively. A few days ago I operated upon a patient very ill with a large swelling in the left side of the abdomen. He gave a history of 20 years' discomfort and occasional pain in the left loin. There was abundant pus in the urine which was found to come from the left kidney, that from the right being healthy. Roentgen rays showed a definite shadow in the position of his left kidney. I opened the kidney, from which a large quantity of pus escaped, and removed a large branching stone from the calyces. The patient is doing well but will only recover after a serious and prolonged illness with either the complete loss of the left kidney or much damage to it. Roentgen rays would have shown the stone before it caused septic changes in the kidney; its removal then would have been safe and satisfactory.

The same day I operated upon a patient who had gall-stones. There was a history of more than one year's duration that left but little doubt as to the diagnosis of gall-stones. In addition his liver and spleen were large and hard and his kidneys were defective, conditions attributed to prolonged liver sepsis secondary to gall-stones. This view was based upon the fact that at least once a week he had a violent rigor followed by vomiting, a high temperature, delirium, sweating, and great prostration. The diagnosis was confirmed by operation and subsequent post-mortem examination. The liver was in an advanced stage of cirrhosis, the common bile-duct was so much dilated as to resemble the small intestine, there were a large number of stones in the ampulla of Vater and elsewhere in the common duct, the ducts throughout the liver were much dilated, and the gall-bladder was packed with stones and had leaked into an abscess of the liver underlying it which contained many stones. The kidneys were much diseased.

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[1] Journal of the Northumberland and Durham Medical Association, October, 1904, p. 357.

serve as an excuse for the neglect of the earliest possible operation.

[4] THE LANCET, Jan. 31st, 1903, p 279.

An early operation would have prevented all this mischief. There are far too few operations done for gall-stones, not for those cases which have advanced so far as the one just described and in which the propriety of operation is very questionable indeed, but for cases in which the gall-stones are still confined to the gall-bladder. I have fully expressed my views on this subject in previous papers,[5] and shortly summarised they are: that gall-stones may, like the [illegible] kidney stone, remain *in situ* for [illegible] causing symptoms; that the symptoms of gall-stones are only found when infection of the gall-bladder (sepsis) is superadded, and that then they become a serious possession and demand operation for their removal. I pointed out more than ten years ago[6] that gall-stones first show their presence by attacks of "spasms" which are likely to be ascribed to stomach troubles; this fact has now been generally recognised. Post-mortem examinations have proved to me that death not infrequently occurs from gall-stones which have escaped recognition. More opportunities for pathological research in the post-mortem room would convince all unbelievers. In the later stages a large percentage of cases die as a consequence of the operation and of their enfeebled condition, while others are not cured because it is impossible to remove stones from all parts of the liver and liver ducts. When the sepsis and stones are limited to the gall-bladder, operations are safe and easy and satisfactory; when stones have escaped into the ducts and have caused liver sepsis, operations are difficult and dangerous and unsatisfactory.[7]

The fact that mouth sepsis, ear sepsis, and throat and nose sepsis are a menace to health and life is not even yet sufficiently recognised, or at least if it is the knowledge is not sufficiently acted upon. To remove all of these conditions should be regarded as a necessity, and if their removal, as it sometimes does, demands a serious operation or operations these must be faced. No patient should be left with a septic focus if by any reasonable possibility it can be removed. It is only because the dangers of such foci are frequently obscured and delayed that their connexion with serious illness has not been more often proved. It is often even now said of persons with discharging ears that the discharge does no harm and has lasted for many years without result. Every surgeon knows the mortal consequences of middle-ear suppuration and does not hesitate at any measure which promises to arrest it; there are other forms of chronic suppuration elsewhere not less deadly.

ARREST OF HÆMORRHAGE.

The surgical rule is, to *see* the bleeding point in order to arrest the flow from it successfully; its importance has not been exaggerated. To comply with it may, as pointed out by Guthrie in his graphic commentaries, require a serious operation, but the advantages to be derived from it were for ever made clear by the relation of his cases. Recent surgical advances have only strengthened his arguments. Under this heading I will mention only a few points that have specially interested me.

Secondary hæmorrhage after injuries or operations is now an uncommon event, for it results from sepsis and this we usually succeed in preventing, and possibly because of the comparative rarity of its occurrence treatment may not always be prompt and decisive. It is often readily arrested by a pad over the bleeding point and a bandage, but recurs a few days later. If it does the bleeding point should be *seen* and the bleeding vessel should be firmly secured. This may involve a considerable operation but that should be no deterrent. The fact has been strongly impressed upon me that hæmorrhage which has more than once recurred is almost certain, sooner or later, to lead to a fatal result unless boldly attacked.

Some years ago it appeared to me probable, arguing from this analogy, that hæmorrhage from a gastric ulcer if it recurred was likely to proceed to a fatal issue without operation, but a larger experience has taught me that this is an exception to the rule. It is, however, probable, in spite of the difficulty of finding the bleeding point, that in cases of recurrent hæmorrhage from the stomach the safest course is to operate.

The symptoms and signs of hæmorrhage into the abdomen demand immediate operation. It would scarcely have seemed necessary to me to mention this but for a recent experience. Twice within the last six months I have been asked to operate for ruptured ectopic gestation on patients dangerously ill and have found the abdomen "full of blood." In one patient the practitioner in attendance had recognised the case so early as to diagnose ectopic gestation before rupture, strong evidence of his capacity and zeal. He followed the rupture of the sac and watched the formation of a localised hæmatocele. Three weeks later, after a sudden seizure, the operation was performed. The second case had a similar history but no diagnosis had been made till the hæmatocele stage. In both the abdomen was "full of blood." Each of the capable gentlemen who reported these cases told me the same story—viz., that they had been guided to the course they had adopted and had been led to defer operation by reading a recent discussion on the treatment of hæmatocele resulting from ectopic gestation. The outcome of this discussion by some of the greatest authorities on the subject was the conclusion that a large percentage of cases can recover without operation. It is, however, impossible for the greatest authorities to make a prognosis as to which cases will recover if left alone, while, on the other hand, surgeons generally recognise that death after operation is th[illegible] in neglected cases. Operation for the [illegible] of hæmorrhage should therefore, I consider, follow the diagnosis of ectopic gestation in the present state of our knowledge. As an answer to the question, "When would you operate?" I have given you these general indications, danger of sepsis or the presence of hæmorrhage, as the two most important guides in the decision of the question.

I will now proceed to refer to certain other problems of surgery in which the question, "When to operate," is also of vital importance.

ABDOMINAL WOUNDS.

One of the "lessons of the South African war" was to leave wounds—punctured wounds at least—of the abdomen alone, and the statistics offered in support of this position and the experience of the most competent army surgeons are overwhelmingly in support of it. The same rule applied in civil practice ends in disaster. It [illegible] *no wound of the abdominal wall must* [illegible]*ploratory operation.* It is surely needless to say that by this I do not mean to say the abdomen should be opened but that the track of the wound should be followed to the end. The relation of a case will emphasise the importance of this better than anything I can say.

At the end of a morning's work I met a man going into the infirmary as I was going out. He had come six miles by train and had walked from the train to the hospital when I saw him. An hour before, whilst at a marriage feast, he put a cartridge into the fire and watched the explosion. Something struck him on the abdomen, he found that he was wounded and bleeding, and came off at once to the hospital. He complained of no pain; his appearance was that of a vigorous man with nothing the matter. In the accident room I found a trifling looking wound above and to the left of the umbilicus, which had bled a little on to his clothing. He requested that this should [illegible] return home and was with [illegible] After proper preparation of [illegible] administration of an anæsthetic the wound was carefully opened up. To our surprise it was found to extend into the abdominal cavity. A rush of blood followed removal of the exploratory finger. The parietal wound was extended upwards and downwards when a quantity of blood, estimated at not less than one and a half pints, was found in the abdominal cavity. The origin of this was a divided artery in the omentum which was pumping freely when caught and tied. Close to this spot, and evidently the cause of the laceration, lay the brass end of a cartridge. There was no other damage done and the patient recovered. The whole of the incidents in this case were a revelation, for nothing but a trifling cut was suspected, and without such a rule as I followed death was inevitable.

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[5] See Northumberland and Durham Medical Journal for 1895, p. 21; Scottish Medical Journal, February, 1899; and again later in the Annals of Surgery.

[6] See Northumberland and Durham Medical Journal for 1893.

[7] Another argument in favour of more frequent operation has been advanced. It is said (the late Dr. G. R. Slade, THE LANCET, April 22nd, 1905, p. 1059), and statistics lend weight to the statement, that cancer o the gall-bladder is no uncommon occurrence in cases of gall-stone and that cancer follows gall-stone irritation. My own experience, which is limited, of cancer of the gall-bladder does not confirm this; so that I will do no more than mention this view.

Certain abdominal injuries demand immediate operation for their successful treatment and no surgical question is more difficult to answer in an individual case than, Is it necessary to open this abdomen? The guides that I have adopted for my own use are based upon the history of the accident and the physical signs. When the history is one of a sudden severe localised blow, such as that resulting from the kick of a horse, severe visceral injury is so probable that only exceptionally should operation be delayed. When after an abdominal injury there is marked shock careful hourly watch should be kept and the administration of opium avoided. Increasing pallor, increasing thirst, and restlessness with increasing rapidity of pulse suggest internal hæmorrhage and the need for prompt action. Continued severe pain, marked local tenderness, localised muscular rigidity, thirst, vomiting, and a quickening pulse suggest a leak in the gastro-intestinal tract and the need of immediate exploratory operation. It is necessary to emphasise the fact that if operation is postponed till septic peritonitis has developed, and this often does not require many hours, the possibilities are that it will then be useless and may be actually hurtful. Radical operation should never be done when the abdomen is much swollen and tense, for if the intestines are not already paretic the operation makes them so. An enterostomy under local anæsthesia is the largest operation that should be performed in these circumstances and this *may* be useful whether the condition is due to mechanical obstruction or to peritonitis.

TUBERCLE AND CANCER.

There is much that is common in the surgery and pathology of tubercle and cancer. Everyone knows the desirability of removal of the focus of disease in both, with the hope of preventing further infection and generalisation, but not all act upon this knowledge. The most common form of tuberculous disease that calls for surgical interference is that which results from infection of the neck glands. So far as my own knowledge goes it would be practically correct to say that enlargement of a neck gland due to chronic inflammation is always the result of tuberculous infection. I think that every such gland is a source of danger and should be removed. When the operation is limited to the excision of a localised glandular enlargement it is attended with little risk and is followed by a trivial mark and the result is likely to be satisfactory. If, on the other hand, extensive glandular infection is found, neither the immediate nor the remote results of operation are likely to be perfect. The same statement may be made, though even more strongly, for cancer. In both the best results are only [illegible] ed disease. Though [illegible] amount of disease, [illegible] rendered innocuous temporarily or permanently by the surrounding healthy tissues. None will deny the truth of this in the case of tubercle and I think it also holds for cancer. No other explanation can be given of the long immunity after operations, [illegible] partial, done by the older surge[illegible] account for the delay of local [illegible], or even years, after operations for cancer. Not only for tubercle and cancer is this true. The germs of a great many diseases can, and do, lie inert in the tissues ready to become active under favourable conditions but are kept in check so long as the tissues are healthy. This is an important view, because it will necessarily lead to an increased number of so-called palliative operations, and I believe this to be the correct action in certain cases. Contrary to accepted surgical authority, which teaches that unless it appears to be possible to remove the whole disease operations for cancer do more harm than good, my experience is that in selected cases a satisfactory result may follow partial operation.

In the case of tumours of the stomach and bowel it may be justifiable for mechanical reasons alone to excise non-localised malignant growths. In other regions, too, I would suggest that when a large mass of malignant disease can be safely extirpated it should be done, even though glands or other deposits must be left, if it is in a position where sepsis is avoidable. One patient of mine with rapidly growing malignant disease of both ovaries and small secondary deposits in the peritoneum lived for six years, five and a half of which were vigorous, after an operation for removal of both ovaries, before her death from abdominal cancer. (The diagnosis in this case was verified by microscopical examination and by a second operation.)

How much septic infection superadded to cancer or tubercle increases the risks, multiplies the sufferings, and hastens the downward progress of the patient is not sufficiently appreciated. A single example of this in the case of cancer must suffice. I have seen a fair number of cases of cancer of the cervix uteri in virgins, sufficient to be able to make some definite statements concerning them. The disease in them is not attended by the symptoms usually associated with cancer of the cervix—viz., early hæmorrhage and profuse fœtid discharge. Hæmorrhage occurs late; fœtid discharge, if at all, not till after vaginal examination. The first evidence of cancer in unmarried women (and often in widows) is bladder trouble with pains in the course of one or other of the pelvic nerves. Physical examination shows an inoperable fixed mass of malignant disease in the pelvis. Acting upon this knowledge it is possible, and I have done it, to prolong the life and to remove the symptoms, in cases where a radical operation was impracticable, by arresting sepsis. The sharp spoon and regular antiseptic dressings may be successful for months, and in some rare cases for years, in removing the urgent symptoms of this dreadful disease.

A great deal of interest has been excited by the question of cancer and its recent increase and that it is increasing out of proportion to the increase of the population scarcely admits of doubt. So far as my own experience goes, the increase is largely in cases of cancer of the gastro-intestinal tract and especially in cancer of the colon. A very usual history in these cases is as follows. The patient, generally over 40 [illegible] tterly troubled with increasing [illegible] owels to act, more and more [illegible] necessary. Flatulence has been troublesome and flatus has been with difficulty voided per anum. Rumblings in the abdomen have been troublesome and sometimes especially so after taking medicine. They may be sufficiently loud and disturbing to prevent ordinary social or business intercourse. Some loss of flesh is the ordinary rule, but it is not uncommon to see such patients "the picture of health." Physical examination of the abdomen, which is often stout, is likely to reveal nothing. Digital examination per rectum may discover through the wall of the bowel a growth in the lower end of the sigmoid flexure. If it is higher and out of reach of the finger the sigmoidoscope may demonstrate its presence. In women such a growth is heavy and if it occurs in the slack portion of the sigmoid flexure the weight of it makes it fall to the bottom of Douglas's pouch and more than once I have seen it then mistaken for a hard diseased ovary. If examination fails to detect a sigmoid stricture due to the presence of a growth yet if not more than a pint of enema can be retained the fact is in favour of that diagnosis. When in spite of the absence of physical signs the symptoms in a patient over 40 years of age are as I have described them—viz., increasing difficulty in obtaining an evacuation, with painful rumblings, still more if there has been actual obstruction, which may be the first symptom, accompanied by increasing flatulent distension—then exploratory operation should be done without delay. Much as I dislike exploratory operations in general there are good grounds for it here. If a growth be found, as is probable, removal of it may cure the patient or avert by anastomosis the need for a later colotomy, which in many instances is a worse calamity than death itself.

TUBERCLE OF JOINTS.

Tubercle of joints commences, as is well known, in the bone or in the synovial membrane. It is possible now, with the aid of the Roentgen rays, to localise tubercle in the bone before the joint in its proximity is involved. Operation should then be performed with the object of removing the osseous tubercle in time to prevent invasion of the joint. If the synovial membrane is diseased excision of the whole of it precludes the possibility of recovery with a perfect joint. This is so serious a matter that in many cases we must break the rule for tubercle, to excise all infected tissue, and treat tubercle of the joint as an exception. In practical surgery it is necessary to think of tuberculous joints as occurring at three ages—in childhood, in young adult life, and later. In all three it may exist as simple tuberculous infection or it may be complicated by sepsis. It is good teaching to say of tuberculous joint disease in children up to the age of 12 years that recovery without any operation will surely follow complete and prolonged rest of the diseased joint and attention to the general health. In these circumstances even septic tuberculous joints may entirely recover.

In tuberculous joints occurring in young adults before the age of 25 years recovery may be anticipated from the same measures but interference with the functions of the joint is more likely. If recovery is to result in loss of *the functions of the joint I believe excision to be* the best treatment. By excision I do not mean the operations described in text-books as such, most of which should be abolished, but thorough exposure of the joint and the removal of all diseased tissues and of the cartilage covering the ends of the bones, to allow of cure by bony ankylosis, which in advanced cases is the best result to be expected. The test I employ as to whether this is desirable or not is the amount of movement obtainable under an anæsthetic. If there is fair movement excision is not justified, but if movement in every direction is much limited recovery is quicker and more satisfactory after excision. After the age of 15 years and up to that of 35, if a joint is septic as well as tuberculous excision should be the rule. A striking exception to this is met with, however, in septic tuberculous disease of the wrist, a joint which I never excise. Experience has taught me that by prolonged immobilisation of the joint, treatment of the septic sinuses, and attention to the general health, complete recovery with good movement, even in the most unfavourable-looking cases, may be confidently anticipated. After the age of 35 years the prognosis of tuberculous joint disease is very bad and increasingly so in every advancing decade. Operations should, I think, be more frequently done and earlier than they are, for no other means offers a reasonable prospect of recovery. I have now resected joints for tuberculous infection in several patients over 50 years of age with good immediate and remote results. When *tuberculous is complicated by septic infection in elderly* patients amputation should not be delayed.

ABSTRACT OF

An Address

ON

TUBERCULOSIS OF THE KIDNEY.

Delivered before the British Gynæcological Society on June 8th, 1905,

By HOWARD A. KELLY,
PROFESSOR OF GYNÆCOLOGICAL SURGERY IN THE JOHNS HOPKINS UNIVERSITY AT BALTIMORE.

GENTLEMEN,—The nexus between etiology, diagnosis, and treatment is so closely woven that I must touch upon causation, if but briefly, in order to give my little sketch, taken as it were from a surgeon's diary, its due perspective. In the first place, how does the disease reach so recondite an organ? Manifestly there are but three avenues of access: by the blood, by ascending the ureter, and by direct extension from some contiguous organ. Baumgarten of Tübingen (1901) *insisted that the tubercle bacilli* being no *secretionsparasiten* never advance against the current of secretion but always with it. This dictum, generally speaking, is true, although there are good clinical reasons for believing that in man the disease frequently extends from the epididymis to the bladder, where it may involve and cause a stricture of one or both ureteral orifices. This in turn causes a slight hydro-ureter and then follows the invasion of the upper urinary tract. Without any doubt the infection of the kidney is almost always hæmatogenous. It is important to note that the focus by which the blood becomes infected is often found in the thorax. The primary focus, as has been shown by necropsy, is sometimes a cheesy bronchial gland apparently dormant but for this accident. If for any reason the kidney becomes a *locus minoris resistentiæ* it may then become affected by a tuberculosis when it would otherwise have escaped. This is proved (1) by cases of trauma (see especially Newman) followed by tuberculosis; (2) by the occurrence of tuberculosis with calculi (in a case of Heurotius of Chicago the tuberculous disease developed years after the abstraction of the stones); and (3) by the occurrence of a tuberculosis grafted on to a hydronephrosis, in instances too numerous and too entirely in accord with experimental data to be coincidental.

Tuberculosis once started finds in the kidney so favourable a nidus that the disease becomes, with perhaps the rarest exceptions, progressive. Time spent in trying to cure *this disease* by climatic or other methods is lost time, for the affection moves *pari passu* or *per saltum*, but in any case it advances. Delay in active treatment means courting the risk of involvement of other organs. A spontaneous cure is so rare an occurrence that Albarran could successfully challenge the French Surgical Society to produce an indubitable instance. Excluding cases of general and miliary tuberculosis, rarely seen by the surgeon, and excluding those forms of the disease in which it is but a late complication of an advanced and manifest tuberculosis elsewhere, usually pulmonary, we have to deal with a disease which is local and unilateral in its onset and which may remain local and unilateral for months and even for years.

Diagnosis.—The clinical history of this almost malignant bacterial infection of so delicate an organ is characterised by the invariable tendency of the disease to proceed step by step until the kidney has been completely destroyed and *pari passu* with its local progress there is a tendency to become disseminated or to invade other vital organs. The clinical studies of the disease have further demonstrated the fact that the disease when it starts in the urinary tract always attacks one kidney first and then the ureter, then the bladder, and that the involvement of the other kidney is fortunately almost always a late secondary affection. From these considerations it at once becomes evident that if the disease can be correctly diagnosed at an early stage, while it is as yet in the one kidney, a cure may be effected by a complete extirpation. *The great question of importance in every urinary tuberculosis* is as to the accuracy of the diagnosis. In brief, the diagnostician has to consider: (1) Has the patient a tuberculosis of the urinary tract? (2) Is the disease still localised? (3) If the diseased kidney is removed, is the remaining kidney able to do the work?

A satisfactory diagnosis is made when tubercle bacilli are found in the urine at more than one examination and preferably by more than one observer and when these are traced upwards to one kidney and positively excluded from the other. In order to do this the urine as it is collected from the bladder must first be examined; then the separated urines (I use the plural discriminately) must be collected near their sources in the pelves of the kidneys. The diagnosis must include both the character or quality of the infection, as well as the abundance of the bacteria and the question of their constant or intermittent appearance in the urine. In an advanced case with all the signs present the diagnosis is usually quite easy. The patient, often much emaciated and cachectic, has hectic fever, sweats, a rapid pulse, a furred tongue, and anorexia, with a more or less marked low hæmoglobin. There is, as a rule, constant vesical tenesmus, with the passage of urine loaded with pus and sometimes bloody. Palpation in the loin at once reveals, if it is not already manifest to the eye, a more or less manifest tumour on one side. On inspecting the body scars may be found in the neck, in the axilla or in the groin, or there may be a swollen joint or distinct evidences of pulmonary disease. The family history in a large percentage of cases points strongly towards tuberculosis. On making a vaginal examination an enlarged cord-like ureter, sometimes nodular and sometimes so infiltrated and rod-like that it feels as though it would break under firm pressure, is felt through the anterior vaginal wall sweeping round the front of the cervix. Pressure upon this often induces an intense desire to urinate. The opposite fornix is, as a rule, soft and yielding, and here the practised touch readily detects the little normal yielding ureter slipping like a soft wet string between the fingers as it is handled bimanually or is pressed against the pelvic wall. If in a case presenting such earmarks tubercle bacilli are found in a specimen of urine taken from the bladder by a catheter, the diagnosis is assured, and it only remains to determine further the condition of the bladder and of the opposite kidney by a cystoscopic examination, upon which I shall dwell more fully a little later. While the diagnosis of tuberculosis, renal and ureteral, becomes more easy as the disease advances, with the increasing involvement of the bladder comes the difficulty of finding the opposite orifice and analysing the separated urines and so of differentiating the two sides, and when this is not done the diagnosis must be considered incomplete.

The cases most difficult of diagnosis are the early ones in which the bacilli are often sparse or appear in the urine only at considerable intervals. We are obliged here to depend upon repeated examinations of large quantities of urine (24 hours), allowed to stand, decanted, and then the sediment centrifugalised. Sometimes the examiner only finds the bacillus after many hours of search repeated day after day. In this way one who has bad experience and whose suspicions have been aroused by an otherwise inexplicable slight pyuria will sometimes succeed where others have failed. In all obscure cases one of the first steps should be to collect the urinary sediment and to inject it into two guinea-pigs, one into the peritoneal cavities and one under the skin of the groin or axilla. If there is tuberculosis after three weeks the disease will have developed sufficiently to be recognised at the necropsy. The injection of tuberculin is valuable if, in addition to the fever induced, there is marked local reaction in the form of intense pain in the kidney. A practised examiner will in these *early cases often* detect a little thickening or hardening of a ureter on one side as compared with its fellow, which is significant and yet would ordinarily escape notice. It is in these doubtful cases, too, that the *inspection of the* ureteral orifices plays such an important part; a tell-tale blush or puffiness or granular condition will often mark *the diseased side*. The ureteral catheter may then be introduced and the urine from the infected kidney *collected without dilution with that of its fellow. In case* the diagnosis is not clear the physician can well afford to demand the important added element of time and observation, putting off any thought of operation while he keeps his eye on the patient from week *to* week or perhaps from month to month.

Any persistent acid pyuria, as Caspar insists, even of a mild grade, which does not yield an efflorescence of organisms with the ordinary culture media should at once be placed under the category of suspected tuberculosis and the urine centrifugalised *and a test* guinea-pig injected. The following plan is used, adopted from Belgard, cited by Caspar[1]: The urinary sediment which has been centrifugalised and washed with sterile water is injected both intraperitoneally and subcutaneously. The guinea-pigs should at first receive 0·5 cubic centimetre of the old Koch's T.B. If they are tuberculous when this dose is *given it is deadly. One then receives an* injection into the peritoneal cavity of the washed urinary sediment mixed in about 0·2 cubic centimetre of sterile water. The other receives the same quantity subcutaneously. If the urine contains tubercle bacilli in from three to four weeks *following* the subcutaneous injection large palpable glands can be felt *in the fore or* hind feet according to the point inoculated. These glands have already begun to undergo cheesy degeneration and contain tubercle bacilli. The intraperitoneally injected guinea-pigs develop a general miliary tuberculosis with characteristic nodules on the peritoneum, *omentum*, spleen, and in the lungs and kidneys. Any slight persistent cystitis rebellious to treatment should also always be suspected as a possible tuberculosis and in such a case diagnosis must be looked upon as incomplete until the condition of the kidney has been investigated.

The cystoscopic examination.—I prefer to all other methods in these *cases* the direct aeroscopic examination of the bladder. If that viscus is badly affected it is most difficult, as well as [illegible] l to distend [illegible] e ureteral or[illegible] a tight ureter, as well as hazardous to attempt to catheterise the kidney through a medium of contaminated fluid. By my direct method I can see all parts and I do not frequently mistake a painful bladder which screams when the effort is made to distend it for a contracted bladder, which is a rare bugbear in women. I can also cleanse the ureteral orifices before catheterisation and use hard metal as well as flexible [illegible] h a rigid ureter. The [illegible] is a common picture. [illegible] orifice on one side, a pocketed retracted orifice, a deep hole looking like a diverticulum (Fenwick's golf-hole orifice), often tell the tale and *are* finger-posts to the side diseased. If one orifice looks sound while the *other is in the midst* of a diseased area the case promises well. In an advanced case when *most* of the work is being done by one side the orifice *shows* twice the normal activity and it is easy to catch the *urine* as it spurts out in the lumen of the speculum *and to collect* it below and to subject it to a microscopical and bacteriological examination. One may thus avoid catheterising the sound side, although I have yet to see any serious harm done by so doing. The diseased side may resist the entrance of the catheter and when it is once engaged it may bite *it so tightly* that it feels as if held in a vice. *If* the urine does not flow after the catheter reaches the kidney it may be started by injecting a little bland fluid [illegible]

Let me here present in a categorical manner some of the alternatives to be borne in mind in making a diagnosis. 1. Is the organism found the smegma bacillus? How was the urine secured? Was it by voiding or by catherisation? 2. Given the tubercle bacillus in the mixed urines, from which side does it come? Determine by catheterisation, the appearance of the ureteral orifice and the thickened ureter. 3. Is the opposite side entirely free from disease? Bear in mind that a simple pyelitis is not infrequent in the opposite kidney. 4. Bear in mind that the opposite ureter may show marked thickening (perimetritis) and yet the kidney be free from tuberculosis. 5. Note carefully to what extent the bladder is affected as having an important bearing upon the operation and the subsequent treatment. 6. Determine the urea coefficient of the opposite kidney. Is it able to support life? 7. Look carefully for disease elsewhere. Is there a tuberculosis of the genital organs? Is there any pulmonary or glandular tuberculosis? 8. In injecting guinea-pigs remember that tubercle bacilli may pass out of the bladde[illegible] without injury to the kidney. [illegible] kidney found in the loin may [illegible] and therefore the only sound organ. Twice has such a kidney doing all the work of the body been taken out. There is a great risk of making this mistake. With the information afforded by such a complete analysis one is then ready to proceed to the operation with confidence, or at least with full knowledge of the risks incurred.

Treatment.—This consists in the extirpation of the disease in every case which will permit it. The supreme aim of surgery is conservatism but in spite of some notable exceptions it has not done well here. The difficulty is that almost all tuberculous kidneys contain scattered foci [illegible] infection which cannot be seen before the complete removal of the organ from the body. I would only be content to exsect the diseased area in rare cases in which the disease was evidently limited to one pole, as demonstrated by splitting the organ from end to end and down into the pelvis as it lay outside the body before ligation of the vessels and detachment. Now having spoken so strongly [illegible] occur in [illegible] In its pr[illegible] nephrotomy is a precious life-saving measure. I have had several patients apparently in the last stages of emaciation and hectic fever to whom a nephrotomy readily done in from three to five minutes without shock under gas gave immediate relief to the distressing symptoms and enabled them to pick up and to stand a radical operation at a later date. It is important in a nephrotomy to open up all the abscesses in both poles of the kidney.

The radical operations may be conveniently divided into five classes: (1) in the early stages of the disease; (2) in advanced renal disease; (3) with involvement of the ureter; (4) with involvement of both ureter and bladder; and (5) a group of anomalous cases in which the tuberculosis complicates a hydronephrosis or a calculous kidney. Not to enter into unnecessary details before an audience of surgeons let me state that I find the most satisfactory avenue for the exposure of the kidney in the absence of malignant disease to be the posterior lumbar triangle formed by the tendinous aponeuroses of the oblique muscles and lying just below the last rib. The boundaries of the triangle are the oblique muscles, the quadratus *lumborum, and the eleventh or* twelfth ribs. Above the triangle lies the covering of the latissimus dorsi and ventrally lies the retro-peritoneal fat,

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[1] American Journal of Urology, 1904, I., 50.

other extra- and intra-ureteral conditions was one of the most difficult fields of surgical diagnosis. A differentiation between renal and ureteral colic and lithiasis was practically impossible and yet that division was of vital importance in deciding between expectant and operative treatment. The possibility of determining precisely the size and position of all calculi, or of excluding them, altered the indications for operation in ureteral lithiasis. The detection of a calculus in the kidney is an indication for immediate operation. The indications in ureteral conditions vary with the size and position of the calculi and the accompanying symptoms. A study of the symptomatology of the cases of ureteral lithiasis will help to determine the differential symptoms from renal lithiasis and the indications for operative or expectant treatment in cases of ureteral stone.

The confusion in symptomatology often met in cases of suspected urinary lithiasis renders an accurate differentiation practically impossible. There may even be such a lack of symptoms that a diagnosis of calculus is not justified and yet a calculus will be found to be present by the Roentgen method. Any differentiation between renal and ureteral lithiasis by symptomatology cannot be applied to every case nor can it be considered possible except in typical cases. In certain cases, however, a symptom or group of symptoms will render probable the presence of a ureteral rather than a renal stone. The study of the symptomatology will give a clearer idea of those symptoms that point to a position of ureteral stone and demand the employment of the Roentgen method to establish the presence of, or exclude all, calculi. The earlier the cases come for diagnosis the more efficient and valuable will be the treatment and this end will be furthered by a better understanding of the suspicious symptoms. This end can be best attained by discussing the atypical symptomatology and attention can be confined to those particularly indicative symptoms that materially assist in differentiating between renal and ureteral involvement, and also those which when taken in conjunction with the Roentgen diagnosis of a ureteral calculus indicate the probability of its passage, and that expectant treatment should be instituted rather than immediate operation.

The anatomical conditions and physical forces that come in play when a calculus becomes impacted in the ureter and act to propel it downward are responsible for much of the variations in symptomatology. The impaction of a calculus causes a stoppage of the urinary flow and thus a gradual distension of the pelvis of the kidney and ureter. The pelvis and ureter are capable of contracting upon their fluid contents and thus a hydrostatic pressure is brought to bear upon the calculus. The normal peristaltic wave has probably very little to do with the expulsion of a calculus. The *vis a tergo* is purely hydrostatic, resulting from the spasmodic contraction of the viscus. This force has a twofold action: it tends to distend the ureter at the seat of impaction of the calculus and to push the calculus along the distended ureter. The result in the progress of the calculus is largely dependent upon the size and character of the stone, a factor that also influences materially the symptomatology. The urine may distend the ureter and escape around the calculus without pushing it before it or it may gradually work the calculus down the ureter. The most frequent seats of impaction have been the uretero-iliac junction, the juxta-vesical portion of the ureter, and the narrow portion an inch or more below the lower pole of the kidney. The frequency of impaction has been in the order named, while all multiple ureteral calculi have been found in the juxta-vesical portion of the ureter.

The impaction of calculi and much of the variation in symptoms are due to their shape, size, composition, and the presence or absence of infection. So long as infection is absent and the calculus does not produce obstructive symptoms it may remain for a long time without producing suggestive symptoms. In the kidney the larger the calculus the less liable is it to produce severe symptoms. In the ureter very small smooth calculi may pass almost unnoted and yet in one case (No. 226) a smooth oval calculus composed of earthy phosphates and uric acid and weighing only 0·096 gramme had produced two previous attacks and a final attack that lasted 11 days before the calculus was passed. The rougher the calculi the longer and more painful will be the attacks and the more chance there will be of finding blood in the urine.

The larger calculi which enter the ureter are liable to produce repeated attacks of ureteral colic with an almost constant dull ache in the lumbar region, due to the intermittent hydronephrosis. On the other hand, the simplest and gravest conditions may be present where there are aseptic calculi of no matter what form. The very absence of symptoms, which is the condition generally accompanying them, is the gravest element of danger. Undetected or unsuspected calculi are a grave menace—a menace which is removed when their exact position and size are known. The importance of this method, which accurately determines their presence or absence, is self-evident.

In studying the characteristic symptoms which differentiate ureteral from renal lithiasis it must be borne in mind that often any accurate differentiation is impossible and that in many cases symptoms only suggest the possibility of a calculus with no way of determining its presence, even much less of accurately locating it. There are, however, certain differences in the nature and character of the symptoms present in ureteral and renal colic that should suggest the presence of the calculus in one or the other portion of the urinary tract. The pain experienced may in general seem identical and yet when the exact location of the calculus has been determined by the Roentgen method marked characteristics can often be noted. A dull ache in the lumbar region is common to both; it may be constant as the result of a large quiescent renal calculus, either sterile or in a pyonephrotic kidney. In ureteral lithiasis the dull ache is due to the obstructed flow of urine and the gradual distension of the kidney and ureter. The renal condition seldom presents colic attacks unless clots of blood from a loosening of the calculus or masses of pus produce obstructive symptoms. The pain even then is not so lancinating in character during the sharp attack. The renal stone that produces a constant ache seldom produces obstructive symptoms of itself. The ureteral calculus causes an increasing ache as the obstruction becomes complete, which is due to the increasing hydronephrosis and forms a prodromal stage to the acute attack. The attack is sharper. The fulminating point of the colic pain is low down in the line of the ureter. The pain is more lancinating and is generally accompanied by nausea and vomiting. The lumbar ache persists after the attack, unless the calculus has been expelled, and generally subsides gradually. This prodromal stage and gradual subsidence of the lumbar pain differentiate ureteral colic from renal colic, due to the temporary impaction of a small or medium sized calculus in the infundibulum of the ureter, and the sharp attack of renal colic it produces and also from the dull constant ache without exacerbations of the large quiescent renal calculus.

The fulmination point of the colic attacks and the direction of radiation are also often very characteristic. The acute pain of renal colic may go in all directions, around the body and to the stomach, as well as down the line of the ureter to the testicle and scrotum. The classical descriptions of renal colic grouped together all the symptoms, confusing and confounding them. The accurate localisation of the calculi during the attack has rendered the differentiation possible. The pain of ureteral colic radiates in the paroxysms up to the kidney as well as down through the ramifications of the genito-crural nerve. The pain is located in the testicle, the scrotum, the labium major, along the urethra, in the line of the groin, the inner side of the thigh, the knee, or even the foot; generally in more than one of these points, sometimes in nearly all. It also has an upward direction and in addition to the dull lumbar ache there are acute pains during the colic attack which ascend the ureter and involve the kidney or pass to the stomach causing nausea and vomiting. A reflex symptom in addition to the tendency to nausea and vomiting, often present in ureteral stone above the iliac artery, is due to irritation of the psoas muscle. Its relaxation is often sought as a method of relief, flexing the thigh upon the pelvis and *this in turn upon the spine.* The relief afforded can be readily explained by the straightening produced in the ureter at its iliac crossing, and is one of Nature's methods of facilitating the passage of the calculus.

The symptoms change for calculus below the iliac artery and will be considered further on. In ureteral stone at or above this point palpation often affords valuable confirmatory evidence. The most common point at which a ureteral calculus can be palpated is at the uretero-iliac junction, where the ureter crosses the common iliac artery and dips down into the pelvis. This is a point of narrowing and bending of the ureter which often causes impaction. In most patients this point can be readily detected and in all where the bifurcation of the iliacs from the abdominal aorta can be palpated. After determining this point the finger is carried to the right or left and downward along the line of the common iliac artery for an inch or one and a half inches. The pulsation in the common iliac can generally be felt. Along this line an acutely tender point will be encountered, "like touching a sore tooth," as the patient expresses it, and often the hardness of the calculus can be perceived. Sometimes it is possible to follow up the distended and tender ureter from this point. The tenderness in these cases can, however, be readily confused with that of a ureteritis of tuberculous origin or one which accompanies a condition of surgical kidney. Palpation may also detect the hydro-ureter and hydronephrosis. The marked and fluctuating intermittent hydronephrosis resulting from calculous obstruction of the ureter has frequently been mistaken for a floating or moveable kidney, the kidney in its distended condition being mistaken for a displaced organ.

Pain and tenderness are, however, very misleading symptoms in the differential diagnosis of extra-ureteral conditions from ureteral lithiasis. Pain localised at the uretero-iliac junction and the tenderness along the ureter have been mistaken for appendicitic and ovarian disease. In two of the cases the patient has been previously operated upon for appendicitis while one had also had the kidney stitched in place. In both the ureteral calculi were subsequently recovered. My friend, Dr. Boggs of Pittsburgh, has had a similar experience, finding ureteral calculi in two cases which had previously been operated upon for appendicitis without relief from their symptoms. The possibility of this confusion in symptomatology was first mentioned by me in 1902 in a paper before the American Medical Association.

After the calculus passes the iliac artery the next point of possible impaction is at the bend near the iliac spine at the commencement of the juxta-vesical portion of the ureter. Calculi, however, more generally become impacted at the vesical end of the ureter where it enters the wall of the bladder. The symptomatology of calculus in this portion of the ureter differs decidedly from that where the calculus is higher up. True, there are lumbar ache, a sense of fulness, and possibly a palpable renal tumour but the majority of the symptoms are referred to the bladder and simulate vesical stone. There is pain referred to the glans penis or the meatus in the female and to the urethra in both. The pain may follow urination or may be entirely distinct from it and so severe in the urethra as to amount to veritable strangury. There is generally less involvement of other branches of the genito-crural nerve. Though pain is often complained of in the groin, and pain referred to the other side of the abdomen, it was felt in only one case in which the calculus was situated in the juxta-vesical portion of the ureter, while the pain was chiefly felt on the opposite side. Small calculi impacted in this portion of the ureter have given rise to the most severe symptoms. In one case there were complete obstruction and a pyo-uretero-nephrosis with high fever that demanded immediate operation. The obstruction was caused by three small calculi no larger than grape seeds. In another the bladder had been explored by cystotomy for encysted stone. In two or three other female patients persistent local treatment for the cystitis had been carried on for some time without any alleviation of the symptoms. A calculus in the juxta-vesical portion of the ureter can often be palpated either per vaginam or through the rectum; sometimes, however, minute calculi cannot be detected in this manner, especially if they lie in the para-sacral or the first part of the juxta-vesical ureter.

The differential diagnosis of renal from ureteral lithiasis is only valuable in formulating the indications for treatment. The study of the symptomatology of those conditions which simulate ureteral or renal stone that are intra-ureteral or renal show the importance of the Roentgen method of diagnosis, while an attempt to differentiate intra- from extra-ureteral conditions shows how impossible in many cases is any accuracy in diagnosis. In fact, exploratory operation as a method of diagnosis is often necessary, where an accurate diagnosis cannot be reached by other methods after calculus has been excluded and the symptoms indicate the presence of a grave condition that threatens the functional efficiency of the kidney. The greatest value of the Roentgen method of diagnosis is found in its combination with other known methods and yet its importance as a diagnostic method is very evident when the impossibility of differentiating urinary lithiasis from other conditions is realised. The elimination of calculous conditions by this method is essential to the rational treatment of all cases of ureteral and renal disease. This may be said of even the so-called purely medical diseases of the kidney. Ureteral and renal calculi have frequently produced an irritation of the kidney that has been expressed in an albuminuria without other symptoms which has been mistaken for chronic interstitial nephritis or for Bright's disease.

In difficult cases of suspected ureteral lithiasis urinalyses are frequently of little value and are generally negative. The presence of red blood cells immediately after a severe attack of colic is of the utmost importance and yet they may be entirely wanting. A small amount of albumin is almost constantly present but is of little value in differential diagnosis. The crystalline deposits in the urine are valuable, because they aid in determining the quality of Roentgen discharge that may be safely employed in the search for calculi; where there are no crystals present the preponderant salt may be determined by refrigerating the urine. The crystals thus precipitated can be recognised under the microscope. Their value is, however, only relative.

The determination of the amount of urea excreted forms the safest guide in expectant treatment, as it determines the functional capacity of the kidney and shows whether it is sustaining injury from the presence of the calculus. In the difficult cases of diagnosis urinalysis is often of very little value as the urine may be perfectly normal and yet very grave conditions may be present. It is not, therefore, a method upon which much dependence can be placed in cases where a negative finding is made. An estimate of the value of any method of diagnosis in suspected calculous conditions can only be made by comparing it with the results obtained by other methods, both in detecting and excluding calculi from the urinary tract.

Probably the most striking proof of the accuracy of the Roentgen method is that it has shown that ureteral colic and calculi are more frequent than renal colic and that it has led to a differentiation between the symptoms of these two conditions. The increased frequency of ureteral stones is not due to their more frequent occurrence but to their recognition by a more accurate method of diagnosis. A fact recently made known to me by several operators, and one which is true in my series of cases, is that as the technique becomes more perfect the proportion of ureteral calculi detected increases. In considering the accuracy of this method the personal equation of the individual operator must always be taken into account. Although this diagnosis depends for its accuracy upon its mechanical method of obtaining results, those results will not be accurate unless it is employed properly. The skill and experience of the individual operator with this method must therefore be taken into consideration in every case and his percentage of error estimated. Not only must the technique be capable of producing a negative upon which both the positive and negative or exclusion diagnosis can be based, but the operator must also be able to translate the diagnosis from the negative which he recognises to be satisfactory. This is often the most difficult part that depends for its value upon the clinical experience of the operator. The introduction of this personal element introduces the only source of error in a method which otherwise would be mechanically accurate. Infallibility has never been claimed for this method, but clinical experience shows that it possesses greater accuracy than any other method when correctly employed.

In the series of cases upon which these conclusions are based there are many cases which prove its greater accuracy. Competent surgeons have failed to find encysted calculi, calculi imbedded in the substance of the kidney and one or more of multiple calculi have been left behind, while calculi in both kidneys or in kidney and ureter have led to incomplete and later second operations. In four cases calculi left behind resulted in urinary fistulæ that healed after the calculus was removed.

The possibility of these errors has been admitted by the best operators and the most eminent writers. Mr. Henry Morris said: "Even when the kidney is exposed to the eye and has been palpated all over, and exploratory punctures have been made systematically in every direction into its substance, a calculus may yet escape detection." It can be added with equal truth, as the experience of other surgeons, that the kidney may be split open and yet a calculus will escape the exploring finger. This has been proved by my own experience in this series of cases where calculi in both the kidney and ureter have been found after operations by skilful surgeons and in one case where a calculus detected by the Roentgen method was not found by the first operator but was subsequently removed by another. Literature has also many examples that show how common incomplete operation has been and how frequently small ureteral calculi have been passed after an unsuccessful nephro-lithotomy.

The accuracy which has been demonstrated for this method by clinical experience has led me to hold that the negative diagnosis where proper technique and skill have been employed and a satisfactory plate has been obtained is of such accuracy that surgical interference with the purpose of detecting calculi is unnecessary and not justified. That is, in an exploratory operation upon the kidney, unless some macroscopic pathologic lesion is found, an incision into the kidney to seach for calculi is not justified. This cannot be held to be true of the fluoroscopic examination of the kidney during an operation or at any time. The delicacy in detail, essential in a radiographic negative before an exclusion diagnosis can be made, shows how impossible are the claims of accuracy by the fluoroscopic method.

This claim of accuracy for the negative or exclusion diagnosis is borne out by the statistics of the cases examined by myself. There have been but four cases in which calculi have been found on operation or passed in the series of 330 cases examined since I claimed equal accuracy for the negative and positive diagnosis, and the negative diagnosis has been confirmed by operation 47 times. There have been six other cases in which the surgeon failed to find a small calculus detected by the Roentgen ray or in which only a mass of cretaceous substance was found in the pelvis of the kidney. It is probable that half the errors were due to defective operating, a delay after the examination sufficient for the calculus to pass, or its escape during the operation.

The value of an accurate negative diagnosis is very great; it not only renders unnecessary exploratory operation for stone, but often all operations can be avoided and the patient treated by purely medical methods. There are many cases of oxaluria and phosphaturia in which the symptoms so strongly suggest calculous conditions as to render operation necessary unless an exclusion diagnosis can be made. On the other hand, the gravest conditions of calculous anuria, with scarcely no symptoms, are so serious that their treatment by medical measures would surely result in death. The differentiation of extra-ureteral conditions from ureteral lithiasis is often very difficult and yet the exclusion of calculi renders their recognition and treatment possible. But including all these cases as due solely to errors in Roentgen diagnosis the total amount of error in both the positive and negative diagnosis is less than 3 per cent. of the 330 cases examined. This is a percentage of error that compares very favourably with any other method, or all other methods of diagnosis, including exploratory nephrotomy.

In comparing the dangers of other methods this method is shown to be far preferable. The only danger lies in a possible chance of x ray burn which cannot be absolutely excluded but is of rare occurrence. The method is much less dangerous and more accurate than segregation of the urine, ureteral catheterisation, cystoscopic examination, or even sounding of the bladder. While all these methods are valuable and should be used in conjunction with the Roentgen method, there is an element of danger due to infection that makes that routine employment in aseptic cases a matter of grave doubt, while where infection of the bladder is present, ureteral catheterisation, either through the cystoscope or retrograde catheterisation during nephrolithotomies, is unjustifiable, as infection will probably be carried to the kidney. The danger is equally great no matter which way the catheter is passed, as its withdrawal from the bladder to the kidney in retrograde catheterisation can cause infection.

Upon what, then, shall operative intervention be based in calculous conditions and how shall a differentiation be made between cases in which operation is demanded and those in which expectant treatment is indicated? In renal lithiasis the detection of a calculus by the Roentgen method is of itself an indication for immediate operation. This is true even where ureteral calculi are also present. The indications for treatment in cases of ureteral lithiasis have been greatly modified by the greater accuracy and exact knowledge afforded by the Roentgen method of diagnosis. In a paper before the surgical section of the American Medical Association in June, 1901, I pointed out the effect which this method of diagnosis had had upon the indications for operation. I showed that it furn
rational and safe course of
established and that with th
safe to leave to nature that w [illegible]
be accomplished without danger to the patient. Such a course of treatment must necessarily be carried out under strict supervision. The result of the employment of that method has been the passage of calculi in 26 cases without operation—a result which attests the value of this method of treatment.

The tolerance by the ureter of a calculus in it, when there is no infection present, has been previously demonstrated by many cases reported in literature in which patients have passed long series of calculi. There are two such cases in those recorded by myself. The detection of a calculus by the Roentgen method does not therefore constitute an indication for its immediate removal, it rather establishes an indication for non-operative treatment if its size indicates the possibility of its passing and there are no complications that point to immediate removal.

The conditions that indicate immediate operation in the presence of a ureteral calculus are the detection of a renal calculus in one or other kidney, the large size of the calculus making it improbable that it should pass, the presence of infection, pyrexia, &c., showing that the vitality of the kidney is endangered and the absence of urinary flow from the affected ureter, as suggested by a sudden decrease in the amount of urine passed or in the excreted urea and demonstrated by the absence of flow as observed by the cystoscope. Where the calculus is small and even where there are multiple calculi if there is a history of repeated attacks of colic marking the progress of the calculus down the ureter there is great probability that the calculus can be passed by natural channels.

The mortality from ureter-lithotomy is high, especially for calculi situated in the para-sacral or juxta-vesicle portions of the ureter, unless they can be reached through the bladder or the vagina. With a series of 26 cases of ureteral calculi that have been passed under the expectant plan of treatment it is reasonable to advise this course of treatment when safeguarded by the exact knowledge of the size, position, and number of the calculi, making immediate and accurate intervention possible if urgent symptoms demand it.

While the presence of an undetected calculus may be a grave danger and a menace to the integrity of the kidney, so soon as its exact size and location are known that menace ceases unless there are symptoms present that indicate a progressive impairment to the function of the kidney. Comparatively few of the migrating calculi give rise to anuria or the greater proportion of patients suffering from ureteral stone would die. The relative infrequency of symptoms that demand operation for ureteral stone is indicated by the fact that in only 15 cases was operation employed, and even then possibly the calculi would have passed, while 26 patients passed the calculi without operation. Many cases operated upon were complicated by multiple or renal calculi that demanded immediate operation.

The symptoms that suggest the employment of expectant treatment are a constant dull ache in the lumbar region with a history of repeated acute attacks of ureteral colic that have been referred to the location of the calculus. There may or may not be blood in the urine as an evidence of the progression of the calculus, but pus and the indications of ureteral and renal infection should be absent. When these symptoms, and possibly a palpable hydronephrosis, are found in conjunction with a Roentgen diagnosis that shows a calculus of moderate size in the ureter; they may be considered as sufficient indications of a vitality and force in the kidney that will finally expel the calculus. Each attack of ureteral colic is an indication of Nature's efforts in expelling the calculus and generally means a distinct progression. The attacks should be welcomed as indicating a near approach to expulsion. The patient should not be put to bed or advised to keep particularly quiet unless there are dangerous symptoms that demand immediate operation. Large quantities of any naturally alkaline mineral water should be taken. Their efficiency is probably due to their volume and diuretic action rather than to any solvent tendency, though they tend to prevent concentration of the urine and possible increase in the size of the calculus. Glycerine in teaspoonful doses has been recommended and has been employed in several of the cases that have passed calculi. Its direct influence upon the passage of the stone cannot be, however, determined. Urotropine has had remarkable efficacy in rendering or keeping the urine sterile. No direct benefit has been seen from the use of piperazine, although it may have decreased the formation of uric acid; the evidence has been purely negative. In phosphaturia and cases where

an aggravated character would persist for days. Over the upper part of the right scapula a diffuse swelling was noticed; the measurement under the axilla and over [illegible]

Being anxious not to overlook sarcoma and tuberculous disease I sent her into hospital to a surgical ward where she was kept under observation for a few days and examined with the [illegible] was observ[illegible] section of our branch of the [illegible] a possible case of myositis. When examined the reason for suspecting sarcoma was readily appreciated. Little definite opinion as to the case was expressed except that it was probably not myositis but neuritis following injury of the brachial plexus. By this time the patient was already under treatment with sali[illegible] night) and a purin-free diet [illegible] for the meat and tea system [illegible] the exquisite tenderness and pain it was not deemed advisable to adopt any local treatment. For six weeks no improvement was noticed; then the excessive sensory disturbances began to diminish. The salicylate of sodium was taken every night for six months and then discontinued, as the pain was much less and the whole condition was better. By this time anæmia, which had been a prominent symptom at first, had almost disappeared and that without any iron being given. At this period there was found to be a marked difference in pulse tension on assuming the erect posture, due to poor tone of the abdominal muscles; a course of exercises for these muscles was therefore instituted. After nine months the patient, who had led a useless life for nearly three years, began to do housework and also a little needlework; three months later she could sew without much difficulty and a few weeks afterwards was able to resume her work as a dressmaker. She adheres to the diet, as she finds that it suits her so well. She is now in a good state of health, has married, and has a baby.

It is unnecessary to bring forward more cases in support of the view that this system of diet is a potent remedy in certain forms of chronic illness; it is also a useful adjuvant in disorders of a less chronic nature and especially in those that are generally designated as gouty, rheumatic, or neurotic. As an instance of the latter may be mentioned the following.

CASE 4.—The patient was a young married woman who had been confined three months previously of her first child. While wheeling her perambulator she suddenly felt faint and overcome and lay down at the side of the road, but did not think that she became unconscious. After a short time she recovered somewhat and was able to make her way home in a dazed condition. Similar attacks recurred and on one occasion when I was in the house. While talking she complained of feeling faint and lay down on the sofa. For a few minutes she was semi-conscious; the face was cyanosed and the pulse was strong. There was no cardiac lesion. This was no attack of syncope. The older generation of practitioners would have called it hysteria. The patient was, however, known to have a large appetite, especially for meat. A diagnosis of vaso-motor disturbance due to an excess of purins therefore seemed reasonable. Under treatment on these lines she rapidly improved and ceased to have the attacks.

The usual objections to the diet are, that it is difficult to digest, that it is impracticable, and that it is insufficient for ordinary life and health. The first is due to the misleading idea that a purin-free diet is necessarily a vegetarian one. The second is at once answered by the fact that no diet can be simpler or less expensive than one selected from milk, cheese, butter, white bread, cereal foods, nuts, and fruit, without any cooking being required. The remaining one carries little weight because it is usually made on *a priori* grounds by those who have had no proper experience of this system as well as the ordinary one. Those who have given both a fair trial in the case of themselves and patients—and there are now a considerable number of such men—are in a position to state that the new system is adequate for nutrition and energy; indeed, they find that the general standard of health is vastly improved and the capacity for work greater. Many of the Japanese subsist on a purin-free diet, yet are not deficient in enterprise or concentration in any kind of work. This is not to be explained away by differences of race and climate, for extraordinary feats of endurance have been accomplished both in this country and in America by athletes trained on a simple diet. Several professional men, taking no other food, have worked for years with vigour and success.

"In order, however, that no one may object that while this is all very well for the athlete, who reserves all his energies for one effort, and for the sedentary professional man, yet it will not do for laborious work, I may refer to the case of a puddler who states that he has been a simple feeder for 11 years and that he can undertake to do more than a meat-eater; at his works it is a recognised fact that he and his mates who have adopted this system of feeding accomplish the most. The recent experiments of Chittenden and others have proved that our former notions of the necessities for nutrition are extravagant. For a generation ideas in dietetics have been dominated by the statements of one or two investigators whose conclusions have been unhesitatingly accepted in spite of obvious fallacies. In the first place, diet experiments conducted for a few days or even weeks must be valueless; such investigations require months at least. Most people are upset by a change in diet and a revolution so great as that from the ordinary to a purin-free one must be extended over a period of not less than 18 months. Many people eat too quickly and would find their nutrition improved by more efficient mastication; this should be attended to in all experimental work. The exact state of health at the beginning and end of the investigation must be noted, and records of the pulse tension, of the capillary circulation, and of the hæmoglobin percentage made. Certainly a more accurate estimate must be formed than the popular one which accepts headaches, indigestion, rheumatism, constipation, colds, and influenza as the inevitables of life rather than as evidence of faulty habits. I know several men who after changing gradually to a purin-free diet have found that during a period of years they have remained free from such disturbances, although previously they had not. Their experience has been that they can do more work and that whereas they could only bicycle perhaps 20 or 30 miles without fatigue they can now ride from 50 to 100 without effort.

It has already been hinted, and must be distinctly understood, that though a vegetarian diet may be made purin-free it is not the most desirable, nutrition and vigour being maintained with difficulty. Meat should be replaced by something of greater caloric value, such as cheese; while if purin-containing substances are excluded there is no necessity for vegetables. The staple food should be selected from milk, cheese, nuts, and cereals, with fruit as a sauce. Great variety is possible. In Haig's small work on "Diet and Food" will be found a complete account.

Till recently the results of diet have been largely matters of theory; with the introduction, however, of Walker Hall's purinometer we have an exact test. It is true that many examinations for uric acid and its congeners were previously made, but most of the methods were untrustworthy and too complicated for ordinary clinical work. The purinometer, however, which is fully described in Walker Hall's book, "The Purin Bodies of Food-Stuffs," is a useful clinical instrument suitable for any medical man. It will not satisfy the observer who expects to have merely to pour a reagent into a tube and read off the result; yet it is quite simple and takes up little time, only some 10 or 12 minutes when the test is started and 10 minutes more when the results are worked out. The fallacies are few. As an instance of its value one or two cases may be cited.

CASE 5.—The patient, a woman subject to rheumatism, consulted me on account of extreme depression which made life unbearable. With this instrument the purin nitrogen in 24 hours was found to be 0·35 gramme, an amount ample to account for the symptoms. A change in diet was advised, the exclusion of tea, coffee, soup, and beef tea being recommended as the first stage. A week later the purin nitrogen was 0·23 gramme and the patient felt better. After a few weeks a plain breakfast was substituted for the former one, and a little later meat and fish were also eliminated from a second meal. On this *régime* the register two months after [illegible] The [illegible], and [illegible]

CASE 6.—The patient, a young man employed in a bank,

making valid distinctions between them The cells described [illegible] lymphocytes in construction [illegible] extremely large They are [illegible] indifferent lymphoid cells and the large lymphocytes in the blood in acute lymphæmia Death occurred at 3 A M on March 20th

Necropsy —A post mortem examination was made nine hours after death The body was markedly jaundiced The thoracic viscera appeared to be normal The thymus was large but not abnormally so and showed no gross alterations The liver was somewhat enlarged, firm, and bile stained The spleen was greatly enlarged and unusually firm on section, deep red in colour, and weighed 370 grammes (13 ounces) The lymph glands all over the body were distinctly enlarged and their colour was deep red, almost as deep as that of the spleen Peyer's patches and the solitary follicles of the intestine were also red and hypertrophied The marrow of the femur and ribs was red Pieces of the liver, spleen, lymph glands, bone marrow, and thymus were taken for microscopic examination Some of the material was fixed in 75 per cent alcohol and after going through 90 per cent and absolute alcohol was imbedded in paraffin Other pieces were fixed in a mixture of potassium bichromate (2 5 per cent) and formalin (15 per cent) for 24 hours and after remaining in 3 per cent potassium bichromate, which was changed daily, for a week were washed out, dehydrated, and imbedded in paraffin The alcohol material was first examined but proved unsatisfactory owing to the coarse fixation of the cytoplasm The erythrocytes also appeared to have lost their hæmoglobin The bichromate formalin material, on the other hand, was very well fixed, there being an almost complete absence of shrinkage and perfect cytoplasmic, as well as good nuclear, fixation Various staining methods were employed but the most useful was Jenner's eosinate of methylene blue in absolute methyl alcohol used as follows Sections mounted on albuminised slides, after having the paraffin removed, are washed with absolute alcohol and put into well corked specimen tubes of Jenner's solution for an hour to overnight The slide is then taken out of the tube and rapidly wiped clean A few drops of the solution are then poured over the section and an equal quantity of distilled water is added and mixed rapidly The slide is then kept moving from side to side and the section from pale blue becomes dark blue if it has many basophil constituents, while the oxyphil elements become pink It is found that when a scum begins to form on the surface the section is sufficiently stained It is then washed in water and examined under the microscope (preferably with a water immersion objective such as Zeiss D*) If there is then too much blue either in the red cells or so as to obscure detail, it is rinsed in a weak watery solution of acetic acid not stronger than 1 in 2000, till a little blue comes away It is then dehydrated quickly in absolute alcohol, cleared in pure benzene (crystallisable benzene free from thiophene[1]), and mounted in Grubler's pure neutral balsam dissolved in pure benzene The method in principle is that of L [illegible]

The bone marrow — [illegible] mate this was decalci[illegible] before imbedding) Blood cell formation is going on actively and mitoses are frequent Megaloblasts are present The appearances agree completely with the view originally, we believe, enunciated by Saxer and since upheld by Wolff Pappenheim, and others The cell from which all the others can be traced is a cell whose construction and staining reactions are those of a lymphocyte which only differs from the ordinary lymphocyte of the blood and tissues in its greater size and the fainter staining of its nucleus This is the indifferent lymphoid cell of Wolff and the basophil myelocyte of Dominici

From this develop the neutrophil and eosinophil myelocytes The mechanism of their development is as follows In the cytoplasm, generally in one spot near the nucleus, the specific granulations appear At the same time, in this spot the cytoplasm begins to lose its basophily and the granules lie in an unstained space More granules appear until eventually the cell body is full of granules and the cytoplasm has completely lost its basophily Simultaneously with this granule formation the nucleus becomes smaller and more deeply staining The myelocytes thus formed develop into the adult polymorphonuclear cell Mast cells were almost absent in this marrow

Between the indifferent lymphoid cells and cells like ordinary small lymphocytes there is every transition and we find it quite impossible to say where this small lymphocytic cell ends and the polychromatophilic normoblast begins As mentioned above, there was the same difficulty of distin[illegible] latter classes of [illegible] e from a cell of [illegible] hate between the [illegible] mphocyte The nucleus becomes deep staining before the cytoplasm begins to alter This transition one of us has observed recently in a case of lymphæmia

The spleen —There is no fibrosis or any degenerative change to be seen The organ is densely packed with erythrocytes and various kinds of leucocytes The Malpighian bodies appear to be normal at their centre, but at their periphery indifferent lymphoid cells, neutrophil and, in greater abundance, eosinophil myelocytes are seen The presence of these cells and transitions from the former to the two latter is most noticeable at the edge of the Malpighian bodies and along the finest trabeculæ leading from them They are present, however, throughout the organ, but are scarcer in the other parts, or else their presence is masked by the vast numbers of red cells and normoblasts which form the most striking feature of the section The endothelial elements of the spleen pulp are not prominent nor have we found evidence of blood cell destruction

The lymph glands —These bear no resemblance to normal lymph glands but have undergone complete transformation into red bone marrow, so much so that all stages of blood-cell formation can be seen here as well as in that tissue Giant cells, with large convoluted and deep staining nucleus and homogeneous cytoplasm with little affinity for dyes, corresponding to the megakaryocytes of Dominici[3] are frequent They appear to be phagocytic, for occasional leucocytes and red cells can be seen englobed by them There [illegible] the sin[illegible] brown [illegible] These latter also contain many myelocytes and adult leucocytes and normoblasts

The thymus —This organ does not show the myeloid transformation seen in the spleen and lymph glands but occasional myelocytes can be seen most of which are eosinophil The most frequent situation is in the connective tissue between the alveoli of lymphadenoid tissue Eosinophil cells, however, seem frequently to be found in the thymus Normoblasts are seen occasionally in the vessels but that is of little importance since the blood contained about 7500 of them to the cubic millimetre

The liver —The lobular arrangement is not at all clear There does not appear to be any fibrosis or inflammatory change The cytoplasm of the liver cells is scantier and more reticular than in the adult somewhat resembling that of the fœtal liver Some of the cells are degenerate and have homogeneous, diffusely staining nuclei Bile is seen frequently in the intercellular bile capillaries and occasionally in what appear to be intracellular bile canaliculi In the connective tissue spaces of the portal tract and the capillaries throughout the liver there can be seen indifferent lymphoid cells with erythrocytes and myelocytes, both neutrophil and eosinophil, developing from them as in the bone marrow, spleen and lymph glands Mast cells are scanty One megakaryocyte was seen in the examination of many sections In short, it is a fœtal—i e , a hæmopoietic—liver, to which are superadded some parenchymatous degeneration and the injection of the bile capillaries met with in obstructive jaundice

We have then, in this case complete myeloid transformation of the lymph glands and spleen , in fact, the former are as myeloid as the marrow itself The liver also participates in blood cell formation, behaving as a fœtal liver

Dominici,[4] working on animals in experimental infections and anæmia produced by frequent abstractions of blood, has found that in these conditions the spleen takes on the functions of red bone marrow Hirschfeld[5] examining the spleen and lymph glands of the human subject post mortem, has found that in severe infections the spleen assists the bone marrow in the production of neutrophil myelocytes and polymorphonuclears and that, to a lesser extent, the lymph glands participate in this function. He frequently found eosinophilic myelocytes in them, but very rarely normoblasts. When we turn to anæmias we find less written about the spleen and lymph glands. Wolff[6] [illegible] case of anæmia due to chronic [illegible] bone marrow was defective in the pr[illegible] neutrophils, [illegible] that the spleen, although not enlarged, was producing them freely. Hirschfeld[7] quotes Rindfleisch as having, in [illegible]31, found normoblasts in the lymph glands of a child with [illegible]æmia and marked rickets. Fowler[8] and Melland,[9] dis[illegible]ing splenic anæmia of infants, have very little to say [illegible] the histology of the condition, with the exception [illegible] Fowler found eosinophilia of the spleen in two cases. [illegible]utchison[10] in his Goulstonian lectures for 1904 reviewed [illegible]eports of the histological findings recorded by various [illegible]vers. From these reports it appears that we can as yet [illegible]ate no definite morbid anatomy and histology for the [illegible]ion. He quotes, however, Luzet, Mya and Trambusti, [illegible]nt as having, in their cases, found the liver to be fœtal [illegible] our case. Fowler[11] mentions jaundice as occurring [illegible] cases, twice transient and once associated with [illegible] epatitis. We can offer no satisfactory explanation [illegible] this case. The results of the blood examination [illegible] abnormal for infantile splenic anæmia, and accord [illegible] those given by Fowler, Melland, and Hutchison, [illegible] at the count of erythroblasts was very high, 7500 [illegible]ts and 400 megaloblasts per cubic millimetre. [illegible]entions one case with 9353 erythroblasts.

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[1] Mann Phys Histology Oxford 1902, p 37?

[2] Brit. Med Jour Sept 2 st, 1901

[3] Cornil and Ranvier Manuel d'Histologie Pathologique, tome I p 593

[4] Archives de Médecine Expérimentale, 1900 1 01 159?

[5] Berliner Klinische Wochenschrift 1902, No 30

[illegible] production of the anæmia our investigations give [illegible] The phagocytosis of erythrocytes in the lymph [illegible] not a very marked feature, while we have seen [illegible] in the spleen, as opposed to the findings of [illegible] Herzog[12] in splenic anæmia of adults. If [illegible] been no blood examination the histology of [illegible]rming organs would have suggested myelæmia [illegible] examination negatives that supposition. Of [illegible] *a priori* possible to say that the child [illegible]ed in the pre-leukæmic stage of myelæmia, [illegible] blood picture of myelæmia was altered [illegible]ion; but the former proposition is sus[illegible]ither proof nor disproof, while there is no [illegible]vour of the latter. Also myelæmia is very [illegible]n. Infantile splenic anæmia is common [illegible]y: many cases thus classified are really [illegible]æmia due to rickets or congenital syphilis, [illegible] there was no evidence of either. On the [illegible] do not frequently come to the post-mortem [illegible]r pathology is obscure we have thought the [illegible]ing. The chief importance of it, however, [illegible] it shows that under suitable stimulation [illegible]mphoid cells of the lymph glands can [illegible]ey do normally in the red bone marrow.

RAPID GENERAL MYASTHENIA GRAVIS.

[illegible]K DODD, F.R.C.S. ENG., &c.,

[illegible]O, AND CLINICAL LECTURER ON OPHTHALMIC [illegible]GERY AT THE ROYAL FREE HOSPITAL;

AND

[illegible] WOODWARK, M.R.C.S. ENG.,
[illegible].R.C.P. LOND.,

[illegible]CAL OFFICER, ROYAL FREE HOSPITAL.

[illegible] this interesting condition it is well [illegible]ry case.

[illegible]ged 25 years, a copying clerk, was [illegible] Free Hospital on Nov. 10th com[illegible]e history of the illness dated back [illegible]y the patient had always been a [illegible] was playing football two days [illegible] about to be described. About [illegible] had "influenza" with bad pains [illegible]ng from his nose and eyes, and feverishness. The attack lasted for about a week but did [illegible] stop the patient from continuing at his work. After [illegible] felt weak and four weeks ago noticed [illegible] chewing his food. His jaw [illegible] he had partaken of [illegible] time he [illegible] later diffi[illegible] at work. When tired his [illegible] his chin touched his ches[illegible] His should[illegible] constantly and he could with difficul[illegible] hold himself erect. Walking fatigued him quickly. Withi[illegible] the last two weeks the patient had noticed dropping of h[illegible] eyelids, the left eye being affected first. Since then he [illegible] not been able to open his eyes fully, this condition pr[illegible]gressing during the day till towards evening he cou[illegible] barely hold them open. As night approached he had diffi[illegible]culty in taking liquid food and said that it had occa[illegible]sionally returned through his nose. Subsequently he notic[illegible] weakness in the hands. Two days before admission [illegible] suddenly became so much weaker that he fell down once [illegible] twice and eventually had to lie down. There was no histo[illegible] of syphilis, alcohol, or pulmonary tuberculosis. There w[illegible] nothing in the family history bearing on the case. When fir[illegible] seen the patient was very pale and rather thin. The face h[illegible] a listless, apathetic, mask-like expression. The jaw w[illegible] generally slightly dropped. There was marked and consta[illegible] ptosis of the left eye and occasionally less marked ptosis [illegible] the right eye. The lower lids always showed two or thr[illegible] millimetres of sclerotic below the cornea. The quality [illegible] the voice appeared to be unaltered. The lips and muco[illegible] membranes were rather pale. There were no enlarg[illegible] glands and his skin was quite normal. There were [illegible] developmental defects of the hands or feet.

An examination of the various systems showed the foll[illegible]ing phenomena:—There were no deformity and no tend[illegible] area in the skull. The superciliary ridges were extreme[illegible] prominent. This, with a somewhat prominent lower j[illegible] gave the face something of an acromegalic appearance. Th[illegible] spinal column showed nothing abnormal. The patie[illegible] could walk, performing the movements correctly but ve[illegible] weakly and soon got tired. When in bed he could only rai[illegible] himself with difficulty to the sitting posture. If he rea[illegible] aloud his eyes, jaws, and hands soon became fatigued in th[illegible] order mentioned, so that his eyelids drooped, he had [illegible] support his lower jaw with his hand, and finally allowe[illegible] the book to fall.

There were no fibrill[illegible] muscles. [illegible] examination of the [illegible] that on bo[illegible] sides the triceps, del[illegible] pectorals were very weak; a[illegible] the supinator longus and biceps fairly good; the inte[illegible]costals acted well, erector spinæ, trapezius, and infraspinat[illegible] weakly, while the rhomboids were fairly strong. The gr[illegible] on both sides was extremely feeble. In the legs no defini[illegible] paralysis of the posterior or anterior tibial groups w[illegible] noticed but both were slightly affected, so that they we[illegible] not as strong as the quadriceps extensor. The adducto[illegible] were weak. All the muscles reacted well to faradism b[illegible] as the examination proceeded the contractions became inte[illegible]mittent and finally ceased. This phenomenon was best se[illegible] in the muscles markedly paretic but was present also to son[illegible] extent generally. The reaction to galvanism was norma[illegible] Coördination and sensation were unaffected. On testi[illegible] the reflexes the plantar response was found to be flexor [illegible] character and occasionally absent altogether. The knee-jer[illegible] were exaggerated but decreased gradually if the attemp[illegible] to elicit them were persisted in. Ankle clonus was prese[illegible] sometimes. The supinator longus and the palate reflex[illegible] were present. Jaw clonus was marked. The lumbar centr[illegible] were unaffected. There was no loss of control over the a[illegible] of defæcation and micturition.

The cranial nerves are best considered *seriatim*. [illegible] Olfactory normal. II. Optic discs normal. The vision a[illegible] visual fields were normal. There was no alteration of colo[illegible] vision and no scotomata were to be found. III., IV., and V[illegible] There were marked ptosis, no squint, and no nystagmus [illegible] any position of the eyes. Diplopia was occasionally com[illegible]plained of. The movements of the eyeballs were incomplet[illegible] the downward movement being better than that in any oth[illegible] direction. The pupils were about four millimetres [illegible] diameter and equal. They reacted to light, accommodatio[illegible] and convergence. As convergence was imperfect the patie[illegible] could read better with one eye at a time than with bot[illegible] V. Sensation over his face was unaffected. The muscle[illegible] of mastication acted feebly and soon became fatigue[illegible] VII. The occipito-frontalis muscle acted pretty well. Th[illegible]

[illegible]. Jour., Epitome, Feb 7th, 1903.
[illegible]c. cit.
[illegible]r., Sept. 6th, 1902.
[illegible]bid.
[illegible]ay 7th, 1904, p. 1253.
[illegible]. cit.
[illegible]gery, July, 1901.

orbicularis palpebrarum was very weak. The patient could not firmly shut his eyelids but could only just close them and [illegible] show his teeth. When he laughed his face assumed a sneering expression owing to the fact that he only raised his upper lip so that the nasolabial furrow did not extend round the corners of the mouth. VIII. Unaffected. IX. Taste unaffected. X. and XI. The patient had no difficulty in swallowing whilst an in-patient although he gave a previous history of that condition. The muscles supplied by the eleventh were, as stated above, weak. XII. He could only protrude the tongue incompletely. There were no fibrillary tremors.

The respiratory and circulatory systems were normal. A blood count showed 5,300,000 red corpuscles and 9600 white corpuscles per cubic millimetre. The pulse was generally about 80 and the respirations were 18 per minute.

The urinary system was normal; the urine was alkaline, turbid from urates, and contained neither albumin nor sugar. The digestive system was normal and the liver and spleen did not appear to be enlarged. His temperature remained normal or rather subnormal. He lost three and a half pounds in weight during the ten days he was in hospital and left with his condition unimproved. He was treated with the usual tonics, iron, arsenic, and strychnine.

It was a most markedly typical case of myasthenia gravis and showed such a rapid progress that in four weeks from a strong healthy man the patient became so extremely weak that he actually fell and later could not raise himself in bed. The onset of the trouble appeared to have followed an attack of influenza and it is possible that this disease may stand in a causal relation to this case. He appeared to have such a difficulty in feeding himself before he came into the hospital that he felt half starved and this may have added somewhat to his rapid increase in weakness. His mental condition was remarkably good and acute; there were a certain depression of spirits and a tendency perhaps to suspicion. Since leaving the hospital he has been under the care of Dr. T. Battersby Jobson of Ilford, who reports on April 11th, 1905, that "he was little better than he was on leaving the hospital."

A SIMPLE TECHNIQUE FOR THE ENUMERATION OF ORGANISMS IN ANY FLUID.

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CRITICAL consideration of the plating-out method of estimating the number of organisms in fluids such as water, milk, sewage, &c., reveals several disadvantages apart from the inaccuracies inseparable from the method. The two chief disadvantages are the multiplicity of manipulations and the quantity of apparatus required, the result being that in routine work the amount of time expended on the process is altogether out of proportion to the value of the information obtained. It will be readily admitted that in actual practice information as to the source of the sample will often indicate the probable number of contained organisms sufficiently well to save the experienced investigator from much unnecessary manipulation; but, on the other hand, cases not infrequently occur in which such information is either not available or if available will not suffice to guide the investigator in the important question as to the limit dilution to be employed. For example, I have received within a fortnight three samples of stored rain water which contained respectively 100, 1600, and 3,000,000 organisms per cubic centimetre. On the basis of these results a rigid application of the method of plating out, as recommended by the committee of experts appointed by the Royal Institute of Public Health,[1] to future samples of stored rain water would necessitate an expenditure of time and energy which could be more profitably employed in other directions. I would submit that for routine work it will be sufficient if in place of the actual number of organisms per cubic [illegible] 10–100. [illegible] which [illegible] any m[illegible] and in [illegible] plating [illegible] tions a[illegible] siderat[illegible] worker[illegible] devised which will go further and in addition to the above advantages will indicate with an accuracy equal to, if not greater than that of, the plating-out method the total number of organisms per cubic centimetre in terms of 10, 100, 1000, 10,000, 100,000, &c., then a very strong case can be made out in its favour in opposition to the plating-out method as at present practised. I have therefore felt justified in putting before my fellow workers a method of enumerating organisms in any fluid which I have used in routine work for some months past and which seems to me to fulfil the following requirements: (1) Minimum number of manipulations; (2) minimum quantity of apparatus; and (3) accurate estimation of the total number of organisms in terms of 10, 100, 1000, 10,000, &c.

The method in question is not original, being merely a modification of the technique introduced by my former teacher Dr. A. E. Wright for the estimation of the number of living organisms in a given culture and used by him in connexion with his researches on the blood serum. The technique referred to is described in detail by Dr. Wright in his original papers, to which the reader is referred,[2] but in order to give an intelligible description of the modification I have adopted it will be necessary for me to repeat some of the subject-matter of those papers. The method is applicable to the quantitative estimation of bacillus coli, streptococcus, and the spores of bacillus enteritidis sporogenes in sewage effluents in addition to the quantitative estimation of organisms in water, milk, &c., but it will be sufficient for the purposes of description to state the details of the method as applied to the quantitative estimation of organisms in water.

DESCRIPTION OF THE METHOD.

The following is the apparatus required: three sterile diluting pipettes; three sterile watch glasses; eight agar slopes numbered from 1 to 8 consecutively; eight gelatin slopes numbered from 1 to 8 consecutively; and a vessel containing sterile water. The pipette which I use and which I have found to be extremely useful as a general service instrument in the laboratory is graduated differently from Dr. Wright's original model. The stem of the pipette is graduated in ten divisions of five cubic millimetres each, the remaining graduation marks indicating 450 cubic millimetres and 500 cubic millimetres respectively. The safety chamber is dispensed with, the shank of the pipette being merely bent to a right angle in the blow-pipe flame. With the exception of these differences the pipette is constructed and graduated according to the directions of Dr. Wright.

The steps of the operation are as follows. 495 cubic millimetre [illegible] This [illegible] 500 c[illegible] metre [illegible] to be [illegible] pipette—care being taken not to soil the pipette above the five cubic millimetre [illegible] first watch glass. T[illegible] contents of the watch [illegible] the pipette and from this dilution 100 cubic millimetres (obtained by filling twice up to the 50 cubic millimetre mark, interspacing with an air bubble) are planted out in the gelatin and agar tubes numbered 3. Similarly, 10 cubic millimetres are planted out in the tubes numbered 4. From the 1 in 100 dilution five cubic millimetres are then transferred to the second watch glass, giving a dilution of 1 in 10,000. With the same pipette 100 cubic millimetres and ten cubic millimetres of the original water are planted out in the tubes numbered 1 and 2 respectively. (This manœuvre requires a little explanation. If, instead of proceeding as described, tubes 1 and 2 were first seeded and then five cubic millimetres of the original water were added to the contents of watch glass No. 1 it is obvious that this pipette cannot be used to mix the contents of the watch glass without being re-sterilised, as it has been soiled for a considerable portion of its length with a fluid containing spore-bearing organisms.) The first pipette is then laid aside and another one is taken in hand. The contents of the second watch glass are thoroughly mixed and 100 cubic millimetres and ten cubic millimetres are planted out in the tubes numbered 5 and 6. From the 1 in 10,000 dilution five cubic millimetres are transferred to the third watch glass giving a dilution of 1 in 1,000,000. The third pipette is now taken in hand and after thorough mixing 100 cubic millimetres and ten cubic millimetres of this dilution are planted out in the tubes numbered 7 and 8. The whole of the process described can, of course, be carried out with the aid of a single pipette, provided it be sterilised thoroughly in the flame between each dilution. This, however, occasions considerable loss of time and for rapid working three pipettes will be found essential. The remaining steps of the technique will vary according to the wishes of the investigator. Taking either the gelatin or agar series of tubes the quantity of water (in cubic centimetres) planted out will be as follows: tube 1, 0·1; tube 2, 0·01; tube 3, 0·001; tube 4, 0·0001; tube 5, 0·00001; tube 6, 0·000001; tube 7, 0·0000001; and tube 8, 0·00000001. If it is only desired to ascertain the limits within which the number of organisms per cubic centimetre must lie then the tubes are simply incubated in the vertical position and the results are interpreted as follows. Growth in tube 1, but not in tube 2, would place the number of organisms per cubic centimetre between 10 and 100. Growth in tube 2, but not in tube 3, would place the number of organisms per cubic centimetre between 100 and 1000, and so on, the limits adopted being those in general use for the classification of waters by the number of contained organisms. If it is desired to know the actual number of organisms in terms of 10, 100, 1000, &c., it will be necessary to distribute the water planted out over the surface of the medium and to incubate the tubes in the sloping position in order to prevent the accumulation of organisms at the foot of the slope. If preferred the quantity of water planted out may be spread over the surface of the medium with a glass rod but in actual practice I have found this to be unnecessary as in the case of the larger quantities even distribution can be obtained by manipulation of the tube, whilst in the case of the smaller quantities sufficient distribution can be obtained by means of the pipette at the time of planting out. The following three examples will indicate sufficiently well the results obtainable by this method:—

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[1] Journal of State Medicine, August, 1904.

[2] Proceedings of the Royal Society, 1902; THE LANCET, June 1st, 1901, p. 1532.

1. *Sample A.*

Gelatin at 22° C. for seven days :—			Agar at 37° C. for 48 hours :—		
Tube 1.	Growth (liquefied).		Tubo 1.	Growth.	
„ 2.	„		„ 2.	„	(2 colonies).
„ 3.	„		„ 3.	Sterile.	
„ 4.	„	(4 colonies).	„ 4.	„	
„ 5.	Sterile.		„ 5.	„	
„ 6.	„		„ 6.	„	
„ 7.	„		„ 7.	„	
„ 8.	„		„ 8.	„	

Number of organisms per cubic centimetre of gelatin at 22° C., 40,000.
„ „ „ „ agar at 37° C., 200.

2. *Sample B.*

Agar at 22° C. for seven days :—			Agar at 37° C. for 48 hours:—		
Tube 1.	Growth.		Tubo 1.	Growth.	
„ 2.	„		„ 2.	„	(14 colonies).
„ 3.	„	(1 colony).	„ 3.	„	(1 colony).
„ 4.	Sterile.		„ 4.	Sterile.	
„ 5.	„		„ 5.	„	
„ 6.	„		„ 6.	„	
„ 7.	„		„ 7.	„	
„ 8.	„		„ 8.	„	

Number of organisms per cubic centimetre of agar at 22° C., 1000.
„ „ „ „ 37° C., 1200 (mean between tubes 2 and 3).

3. *Sample C.*

Agar at 22° C. for seven days:—

Tube 1.	Growth.		Tube 5.	Sterile.
„ 2.	„		„ 6.	„
„ 3.	„		„ 7.	„
„ 4.	„	(5 colonies).	„ 8.	„

Number of organisms per cubic centimetre of agar at 22° C., 50,000.

In the quantitative estimation of bacillus coli in sewage effluents one pipette will be sufficient as washing out with boiling water between the dilutions will meet the requirements of the case and the pipette can then be rapidly cooled by washing out with sterile water. With regard to bacillus coli, &c., the special media and methods of incubation used in such cases will, of course, take the place of the ordinary media and methods of incubation used in the mere enumeration of organisms in water.

In conclusion it will be well to consider the advantages and disadvantages of this technique as compared with the plating-out method. The following disadvantages may be urged against the technique:—

1. The diluting pipette being home-made is liable to be inaccurate. I have had a batch of these pipettes tested against a standard one centimetre pipette and it was found that while the relative error as between pipettes was barely appreciable the absolute error in one centimetre was in all cases less than 0·01 centimetre.

2. The method does not admit of microscopic examination of the colonies which develop. This difficulty can easily be overcome by subculture.

Against these disadvantages the following advantages may be set forth:—

1. It relieves the investigator of all anxiety on the score of the limit dilution to be employed when dealing with unknown waters, &c. By the employment of this technique all unpleasant surprises can be avoided. Whether the sample contain 12 organisms per cubic centimetre, or 12,000,000, the number will be estimated with equal accuracy and beyond the possibility of mishaps, such as [illegible] of the plates," "organisms innumerable [illegible] ilution."

2. The technique permits of very rapid working. With the aid of an ordinary coolie I have found that the whole process takes between six and seven minutes.

3. The small quantity of apparatus required.

4. There is practically no waste in this method as all tubes which remain sterile are ready for use again.

5. The pipettes are easily made, inexpensive, and can be sterilised in the flame without fear of breakage.

6. The whole process can be carried out at the water side, a spirit lamp being added to the armamentarium for the purpose of sterilising the pipette.

7. The labour of counting colonies in a Petri dish is entirely dispensed with and consequently all artificial aids to counting, such as counting discs, cease to be necessary.

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SEVEN CASES OF BERI-BERI.

By P. N. GERRARD, M.D. DURH., D.T.M.H. CANTAB.,
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SINCE my return to the East I have had the opportunity of observing and of carrying out post-mortem examinations upon seven fulminating cases of beri-beri which have occurred in the District Hospital, Taiping. As some of the observations which have been made are of interest and as the disease has of late attracted a certain amount of attention at home it seems to me advisable to publish these cases to the profession in view of the fact that fulminating cases occurring under the conditions of a local epidemic are rare. The cases all occurred in the same ward. All the cases except one occurred in patients who had been for a considerable time under treatment for beri-beri and the one exception was a case which was brought to hospital in the fulminating state but late in the local epidemic, which lasted about one month. All of the patients in the other wards of the hospital, 400 in number, were receiving similar diets to those which were prescribed for the subjects of the cases which fulminated and no patient in the ward where the epidemic occurred who was not admitted in the first instance for beri beri acquired the disease. (There may be one exception to this statement in the case of a Chinese, aged 38 years, who was admitted on Oct. 17th, 1904, for dysentery. He recovered from his dysentery but developed beri-beri which was diagnosed as such on Dec. 3rd.) The majority of the patients in the ward who were not suffering from beri-beri were phthisical. One end of this ward was used as a reception ward for all cases that were admitted to the hospital. In the reception ward the patients remain for about 48 hours and are then transferred to the wards set apart for their respective diseases. No beri-beri has occurred amongst these patients.

CASE 1.—The first case occurred in a Chinese, 53 years of age, who was admitted on August 21st, 1904. He had been nine years in the country and gave a history of having suffered from a disease which was apparently beri-beri for six months. His first bad symptoms occurred on Nov. 14th and he died on the 18th. The treatment of his case was on general principles and no attempt was made to discover the gastric reaction, favourable or unfavourable, to the poison (if such it is) as was done in subsequent cases. He had an iron and arsenic mixture to start with and subsequently, on the increase of his œdema, he was put on a diuretic and when the heart commenced to show signs of failing digitalis was added (Nov. 5th). There were no ankylostoma ova in the stools and until the 14th nothing to excite suspicion of impending crisis in the case arose. On the 14th his pulse was 100° F. and his respirations were 30. He had a pericardial friction rub and the case commenced to fulminate; artificial serum clysters were given twice daily without any relief to the symptoms. The patient died on the 18th at 11 P.M.—that is, three months after his admission to hospital, 96 hours from the commencement of fulmination, and nine months from the commencement of his disease, according to his history.

A post-mortem examination was performed on the day of the patient's death and the most important observation in this case was as usual in connexion with the stomach and intestines. The stomach was dilated and congested with deep purple erosions for a considerable area in the neighbourhood of the pylorus It contained a mucoid fluid in which a bacillus $2 \cdot 8\ \mu$ long by $1 \cdot 05\ \mu$ predominated (Hamilton Wright's bacillus measured from 4 to 6 μ by from 1 to $1 \cdot 5\ \mu$).[1]

CASE 2.—The patient in this case was admitted to hospital on July 15th, 1904. He gave a history of having been ill for two months before admission. He was 25 years of age and had been in the country for three years. During the early days of his stay in hospital he was treated in the usual routine manner with mixtures of iron combined with strychnine and arsenic. On Nov. 21st fulminating symptoms appeared and solution of trinitrin was administered with the object of relieving the right heart; the stomach symptoms were severe, pain and fulness being both complained of, the latter being evidenced [illegible] puffiness. With a view [illegible] the stomach was washed [illegible] of warm water being giv [illegible] of 30 grains of ipecacuanha powder. In view of the possibility of the disease being due to the absorption of a toxin from the alimentary tract the patient was put on a 1 per cent. solution of formalin by the mouth, 15 minims every three hours in water. This proved of no avail; the patient only lived to receive four doses and he died at 1 A.M. on the 22nd.

A point worthy of mentioning in this case is that one of the first symptoms which interrupted the course of what might be described as a chronic case and heralded the fulmination was an extreme tenderness over the splenic area. The abdomen generally was somewhat painful on deep pressure and all the abdominal muscular reflexes were greatly increased. The spleen, however, remained normal in size. The fæcal excretion remained normal throughout; the urine, however, was as usual diminished.

The post-mortem examination, made on the afternoon of the 22nd, showed the following conditions: there was deep congestion of all the mucous membranes, an ounce of fluid was present in each pleura, there was deep general congestion of the lungs, the pulmonary artery was full of dark clot, the pericardium contained four ounces of fluid, and the anterior surface of the heart showed punctiform hæmorrhages. All the other organs were congested and the stomach exhibited a dull reddish-purple interior with considerable erosion which was most marked at the pylorus.

CASE 3.—The patient, a Chinese, aged 23 years, living in the town of Taiping, was admitted into hospital on Nov. 1st, 1904. He gave a history of having been ill for two months. He had been eight months in the country. He was treated at first on ordinary lines—iron preparations, &c. On the appearance of fulminating symptoms, however, which set in on the 21st, I put him on permanganate potassium pills (one grain) morning and evening. Subsequently trinitrin and strychnine had to be exhibited and nitrite of amyl inhalations to be employed. A mustard plaster was also applied over the heart on account of the presence of pericardial fluid. The patient died at 9 A.M. on the 22nd.

The necropsy showed deep congestion of the mucous membranes and of the nails and finger-tips, about an ounce of fluid in each pleura, deep congestions of the lungs, cyanotic enlargement of the liver and the spleen, four ounces of fluid in the pericardium, and the usual severe erosion of the pylorus which extended down the jejunum. This patient had only four grains of permanganate of potassium from the time when it was first exhibited until he died; this was hardly sufficient to expect any rapid result from.

CASE 4.—The patient was a man, aged 45 years, who had lived for 18 years in the country. He was admitted to hospital on Oct. 25th, 1904. Fulminating symptoms showed themselves first on Nov. 24th. At 10.30 A.M. on this day he was in such distress with epigastric pain and dyspnœa that I tried an emetic of ipecacuanha powder followed by warm water in quantity but no emesis took place and gastric paralysis had probably already taken place. At 11.30 A.M. his symptoms became alarming and the engorgement of the right heart clear, so he was bled from the median basilic to ten ounces with relief for about an hour. Strychnine was exhibited and a stimulating mixture of digitalis was administered frequently. The patient died in deep distress at 3.20 P.M. on the same day, the illness having run a very rapid course.

With regard to the post-mortem appearances, there was no rigor mortis such as I have frequently observed in beri-beri cases. Both lungs were intimately "glued" to the chest wall throughout their whole surface, presumably due to acute emphysema, due in turn to a paralytic state of the air vesicles probably, the pericardium contained two and a half ounces of fluid, the heart was enormous, and the surface veins were engorged and dilated. The stomach showed the usual purple erosion, which was most marked at the cardiac end in this case; the condition increased in severity towards the lower end of the duodenum.

A differential leucocyte count in this case at the commencement of fulmination showed: polymorphonuclears, 53·3 per cent.; large mononuclears, 7·3 per cent.; lymphocytes, 33·3 per cent.; eosinophiles, 1·6 per cent.; and transitionals, 4·3 per cent. No malaria parasites were observed.

CASE 5.—The patient, a man, aged 29 years, who had lived for five years in the country and who had been ailing for 20 days, was admitted to hospital on Nov. 24th, 1904. Fulminating symptoms occurred on the 28th and death took place at 9 50 P.M. on the 30th, the crisis having lasted 50 hours. On the 25th he was placed upon a mixture containing creasote and iodoform which I have been giving as a routine mixture in the treatment of beri-beri, with the object of checking gastric fermentation and attempting to heal the erosion which occurs in all these cases. He was also given small doses of a cardiac stimulant and a sudorific. On the 28th he refused to take his medicine, saying that it made him feel "worse," and his obstinacy was so great that although other patients in the ward expressed themselves as "feeling better" on the same mixture I changed it in his case to a stimulating mixture containing carbonate of ammonia, digitalis, and nux vomica. On the 29th he was so ill with distressed breathing and all the usual signs of cardiac engorgement that I commenced clysters of normal saline solution with the object of preventing clotting in the right ventricle and, if possible, of diluting the unknown poison in the blood. On this date the reaction of his fæces was highly acid and vomiting started. Saline enemata (six ounces every three hours) were persisted in without amelioration of his condition and on the morning of his death—namely, the 30th—five days after the premonitory symptoms of crisis (namely, dyspnœa, epigastric pain, fulness, and tenderness, and increase of the œdema, with vomiting), the case assuming a dangerous aspect, he was placed on solution of trinitrin and strychnine injections were administered. The following was his physical condition on that date. The pulse was 128, the respirations were 42, the temperature was 99·8° F., the liver was two and a half inches below the costal margin, the spleen was not palpable, and pretibial œdema was increasing. The amount of urine voided in 24 hours was 27 ounces. As the bowels had been constipated for two days the patient was given as a forlorn hope one minim of croton oil. The vomiting, however, continued and death took place at 9.50 P.M.

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[1] Studies from the Institute for Medical Research, Federated Malay States, vol. ii., No. 2.

Post mortem marked rigidity was met with, the finger-tips and lips were livid, in the right pleura were found seven ounces of fluid and in the left three and a half ounces, the pericardium contained 16 ounces of fluid which was not diagnosable by percussion 12 hours before death (probably a fulminating hydro-pericarditis—compare the acute emphysema mentioned above), the gall-bladder was distended, the liver was congested, enlarged, and somewhat friable, the spleen was deeply congested, enlarged, and friable, and the kidneys were congested. The erosion was not so marked in the stomach itself, but the pylorus and the first stage of the duodenum were very severely affected. In the intestines patches of erosion occurred with intervals of healthy intestine of from six inches to one and a half inches in length; these erosions occurred throughout the small intestine, and at longer intervals in the large intestine right up to the anus. There was also a subacute appendicitis in this case.

CASE 6.—The patient, a man, aged 43 years, who had lived in this country for 20 years, and who had been ailing for 10 days, was admitted in a condition of pneumogastric crisis on Dec. 4th at 11.30 A.M. He died at 1.15 P.M. on the same day. Nothing could be done for this man as he was nearing dissolution on arrival. I quote the case merely to complete my series.

Post-mortem examination showed rigidity to be only fairly marked. The face, neck, fingers, and lips were almost black. The pleura and lungs were normal, in the pericardium were two and a half ounces of fluid, the heart was large but healthy, there was commencing cirrhosis in the liver, the gall-bladder was full and tense, the spleen weighed one pound and was congested, and the kidneys were congested. There were hæmorrhagic patches about the middle and at the pyloric end of the stomach; these also occurred in the duodenum and intermittently also in the jejunum, becoming more intense towards the lower end; they were very numerous and well marked in the ileum. The cæcum was congested. The first part of the colon was healthy but the erosions occurred again on approaching the lower end as far as the rectum, which in itself was healthy.

CASE 7.—The patient was a Chinese, aged 29 years. He had been resident for a year in the Federated Malay States. The duration of the disease was said to have been one month. He was admitted to hospital on Sept. 20th, 1904; fulminating symptoms developed on the morning of Dec. 23rd and death occurred on the same day. This patient was first placed on a mixture of iron and quassia. On Oct. 7th a stimulating mixture containing carbonate of ammonia and digitalis was exhibited. This proved of no practical benefit to the patient and with a view to determining whether the toxin was more partial to an alkaline or acid reaction in the stomach I put him on a strongly alkaline mixture of soda and carbonate of ammonia on Nov. 29th. The secretion of urine throughout this case was very small, the daily average for the six days commencing Nov. 29th being 12·16 ounces; it contained no albumin but there was a copious deposit of phosphates. On Dec. 8th the urine had diminished to six ounces in 24 hours; he was given a mixture containing iodide of potassium and digitalis and a hot bath twice daily. The stools were examined for ankylostoma ova but without finding any. On the 21st the œdema had become more marked and the general condition of the patient was worse. On the morning of the 23rd the temperature rose to 100·6° F., the œdema was much more severe, and the crisis commenced. The urine averaged for the 15 days previous to this date 8·5 ounces in 24 hours. I made prolonged efforts to save this patient. He was bled to relieve the right heart, the pericardium was tapped to relieve the effusion, and transfusion of saline solution was pushed, but to no purpose, and he died on the operating table with the cannula still in his median basilic vein.

With regard to the tapping of the pericardium in this case I may admit freely that there was more cardiac dilatation than fluid in question and I will also remark that the right ventricle was wounded superficially by my trocar. I would therefore recommend that in future where patients suffering from beri-beri are concerned (in whom the cardiac dilatation may be, and often is, beyond all anticipation in its extent) if the pericardium is to be tapped *let it be by means of deliberate operation*, in which the membrane is to be picked up and carefully punctured in a direction clear of the enormously dilated heart. I would draw attention to the following points in the history of this case: (1) that the urine during the last 15 days of life *was less than the normal amount by 622 ounces*; (2) that the temperature rose at the commencement of the crisis; and (3) that alkaline mixture brought about no improvement.

A post-mortem examination was made within ten minutes after the death of the patient. Rigidity was not yet present; the skin and tissues were very œdematous, the muscles were deeply congested; the superficial veins on the stomach were injected, and the body generally was anasarcous. In the right pleura a small amount of fluid was met with and in the pericardium five and a half ounces of blood-stained fluid had collected. The heart was enormously dilated and flabby (one of the most striking cases of paralytic "jelly-fish dilatation," if I may coin a term, which I have seen); a small puncture on the left ventricle did not penetrate. The liver was congested, normal in size, and the gall-bladder was full (paralysed?); the spleen was slightly enlarged and soft; the right and left kidneys were small and very hard but were apparently normal; the capsules stripped easily; the stomach was small and the mucous membrane was reddened diffusely and considerably thickened; in the intestines there were two patches of [illegible] in the second and third stages of the duodenum and two round worms were found lower down; and there was a patch of marked inflammation in the upper part of the descending [illegible] colon.

In concluding these [illegible] selves they are [illegible] I can safely say, [illegible] beri to some ext[illegible] worthy of note [illegible] classical signs. [illegible] sometimes marked [illegible] increase of abdom[illegible] and to some exten[illegible] diminution in the [illegible] congestion of the [illegible] favour the developm[illegible]. Although only one of these cases exemp[illegible] point, I have, I believe, proved it in many others. 3. That no dilution of the poison in the blood by means of saline clysters or transfusion is possible and that the crisis is, therefore, in all probability a collapse of the nervous system, and the poison may be transmitted purely through nerve tissue. 4. That bleeding is of no permanent value (previously established, I consider). 5. That no alteration of the normal proportions of the leucocytes occurs.

The hospital beds are infested with bugs which are almost impossible to exterminate, owing to faulty construction and the Perak system of blanket bed-covers instead of mats. I have examined microscopically several bugs from the beds of fulminating cases but have found nothing suspicious. I must express my regret that my impending transfer to a district where there is practically no beri-beri will probably interrupt for some considerable time my further remarks upon this disease. I have been obliged thereby to publish these cases in a somewhat rough form but trust that they may be of interest.

Krian, Federated Malay States.

A FATAL CASE OF PRECIPITATE LABOUR.

BY H. E. RAYNER, F.R.C.S. ENG., L.R.C.P. LOND.,
AND
W. L. STUART, M.D., B.S. LOND., M.R.C.S. ENG.,
L.R.C.P. LOND.

FATAL cases of precipitate labour comparable with the following are not unknown, but fortunately they appear to be of sufficiently rare occurrence to justify the publication of this case, which, though it may be described as gruesome in its details, nevertheless presents some points of interest.

A primipara, aged 26 years, had been examined on Feb. 27th, 1905, with the object of deciding the approximate date of her confinement. She had been again seen on May 10th with reference to the advisability of calling in a nurse; no examination was made on this occasion. At the examination in February a vertex presentation was revealed, apparently in all respects normal, fœtal heart sounds indicating a living child. The husband left for his work at 2 P.M.

on the afternoon of May 11th, the woman being apparently in good health and spirits. On his return at 4.30 he was unable to find his wife, but eventually on forcing an entrance to the water-closet he found her seated there apparently inanimate. She was carried to another room and assistance sent for. Restorative measures were persisted in for half an hour but without success, death having apparently taken place some time previously, probably an hour or more before she was discovered. It was then found that the whole contents of the uterus had been ejected into the pan of the closet, the child's head having completely passed through the lower opening, the body and shoulders remaining above. Forcible attempts were then made to extract the child but without success. The passage of the head through the opening had no doubt been due to the force of expulsion aided by gravity; the task of withdrawing it was probably rendered impossible by the subsequent œdema and congestion due to its dependent position, also possibly to extension. Eventually the commode had to be taken to pieces and the earthenware pan forcibly smashed before the dead body of the child could be liberated. The infant was a female of full size, had apparently reached full [illegible] There had [illegible] ut it was of [illegible] accuracy.

An examination of the mother was then made and the following facts were determined. The upper segment of the uterus was intact and fairly well contracted; the lower segment and cervix showed bilateral rupture through the whole thickness of the muscular wall. There were several longitudinal fissures in the vagina involving the mucous membrane and part of the muscle wall. The deeper tissues of the perineum were lacerated but superficially it was intact. Death must have been rapid and had presumably been due to shock from the ruptured uterus and from the sudden great diminution of the intra-abdominal pressure, possibly assisted by hæmorrhage, external and also potentially internal by the congestion of the splanchnic area of [illegible] threatened abortion occurring in the third month of gestation. In addition to this the placenta was found to be thinner than normal and apparently not developed in proportion to the child. This fact combined with the history of the threatened abortion may perhaps indicate that there was in this case a tendency to separation in the placenta and membranes and it seems not unreasonable to suppose that such a separation may have occurred and have acted as the actual exciting cause of the violent uterine contractions which must have taken place to produce so fulminant a birth.

The majority of obstetrical text-books give the causes of precipitate labour as consisting mainly of two factors—namely, increased propulsive force and diminished resistance, or both combined. But the auxiliary propulsive force produced by straining at stool is, after all, only physiological, and in this particular case, the woman being a primipara, the second cause, that of diminished resistance, was certainly not present. It would seem probable that in such extremely rapid cases as the one under consideration some exciting cause to uterine contraction, such as separation of the placenta with intra-uterine hæmorrhage, must occur to act as the reflex stimulus.

A peculiar mental disposition is by some authors stated to be present in the majority of these cases and in this instance it is worthy of mention that the woman was of a peculiarly reserved character. While pregnant she shunned her acquaintances and was averse to the aid of a nurse and to medical examination, and it had even been difficult to con- [illegible] also appears [illegible] itself is this: if the birth had not been fatal to the mother it might have [illegible] (such as interference on the part of the mother) [illegible] to the forces of expulsion and gravity had been used to get it into the extraordinary position in which it was found.

It would be interesting to know whether in any previous recorded cases a history of hæmorrhage in the earlier months had been reported. It is regrettable that a post-mortem removal of the genital tract, with a view to preservation, was refused.

Camberley.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON "RETURN" CASES OF SCARLET FEVER OF UNUSUAL CAUSATION.

By H. CAMERON KIDD, M.B. LOND., F.R.C.S. ENG.,

MEDICAL OFFICER TO THE JOINT ISOLATION HOSPITAL, BROMSGROVE.

A BOY, aged two years, was recently discharged from the scarlet fever ward of the joint isolation hospital at Bromsgrove after a detention of seven and a half weeks. The case had been mild and entirely free from complications throughout. There had been no persistent catarrh of the nose or the throat, no otorrhœa, and no sign of eczema, and the child was to all appearances healthy. Desquamation had proceeded normally. He was isolated and "bathed out" in the usual way, being examined by me on the day before his discharge and by the matron on the morning of discharge. A pimple on the buttock was pointed out to the matron by the nurse who last bathed the child but this was regarded as without significance. Eight days later two other cases of scarlet fever occurred in the house to which the child had returned and in another day or two a neighbour's child also sickened. The medical officer of health, when the new cases were reported, examined the boy and found that he presented a patch of raw moist eczema surrounding the anus and extending for quite one and a half inches towards the buttocks in every direction. The pimple which had been noticed before discharge from hospital had undergone no developme [illegible] learnt that the first signs o [illegible] patch of eczema round the anus [illegible] after the child's return home an [illegible] gressed rapidly until in a few [illegible] se in [illegible] cessary to seek medical advice. [illegible] hospital where he still remains. [illegible] other patches of eczema have developed, one on the leg and the other behind the knee. There can, I think, be little doubt that this child conveyed scarlet fever to others through a moist eczema of the anus which developed after his discharge from hospital, and the case shows the uncertainty which surrounds our efforts to destroy infection.

In the form of inquiry into "return" cases of scarlet fever recently issued by the Society of Medical Officers of Health one query is: "Was there any eczema of ears, nose, or mouth?" In view of this case it appears that we must add the anus to the list of possible sites for infectious eczema after scarlet fever and that the skin disease may develop without any previous warning after as long an interval as eight weeks, and may yet be capable of conveying infection.

Bromsgrove.

NOTE ON THE USE OF CHRYSOIDIN IN HUMAN TRYPANOSOMIASIS.

By SHEFFIELD NEAVE, M.R.C.P. LOND.,

TRAVELLING PATHOLOGIST TO THE SOUDAN GOVERNMENT WELLCOME LABORATORIES.

AT the end of December last I proceeded to Gondokoro in the course of my duties to meet Captain E. D. W. Greig, I.M.S., in order to arrange a joint investigation as to the prevalence of the tsetse fly. Among his caravan arrived from Uganda was a boy, about 18 years old, in the first stage of sleeping sickness. Trypanosomes in number were demonstrated in the juice of the neck glands. Captain Greig was good enough to hand the boy over to me as I had brought up some chrysoidin on the chance of having this opportunity. Dr. A. Balfour of Khartoum had been making some experiments with this substance on mosquito larvæ and bilharzia ova which had been more or less successful and it occurred to me that it might be useful in trypanosomiasis. I at once began injecting chrysoidin hypodermically in small quantity—viz., three-twentieths of a grain—as it had, I believe, hitherto only been given by the mouth and later increased the dose gradually to half a grain. The boy remained at Gondokoro, while I went and came for some time (as he had gonorrhœa and possibly syphilis), and it was in consequence of Dr. C. J. Baker's kindness in continuing the treatment in my absence that it was possible to carry out this experiment. A fortnight after the first injection on examination of gland juice only one trypanosome was found after much searching where many had been found previously. Subsequently Dr. Baker made several examinations and found none between this time and the end of January, when the boy was sent on to me while camping on the Bahr-el-Ghazal. Until the first week in March I remained on the river and injected the patient at first every day but gradually diminished the dose to twice a week and I often examined the gland juice without result. The boy rapidly improved and from the first got fat and only suffered occasional pangs from over-eating.

I made a blood count in February, when the boy was quite well, as follows: lymphocytes, 486; large mononuclears, 61; polynuclears, 442; eosinophiles, 7; and myelocytes, 4; total, 1000. At the beginning of March I had to make a forced march of some 330 miles in somewhat difficult circumstances and the boy only got his injection about once in ten days, also he had hard work and less food, his condition getting lower. On arrival at Khartoum at the end of April I was disappointed to find two trypanosomes (of an altered appearance, possibly due to devolution) in the gland juice and at once commenced to inject him as before. The boy now remains at Khartoum, employed in a hospital, to all appearance fat and well, and I hope to be able to report later that he still remains so. It appears to me that chrysoidin has in this one case controlled the disease, at any rate for a time, more easily than arsenic, trypanroth, &c., and I write this in the hope of inducing others to try it and to report.

P.S.—Since writing the above I have received a letter from Dr. A. Balfour at Khartoum, under whose care the boy is, saying that since the injections have been resumed regularly no trypanosomes can be found either in the gland juice or peripheral blood.

Ingatestone.

THREE CASES OF OTORRHŒA THAT HAD RESISTED LONG-CONTINUED TREATMENT CURED BY OTECTOMY AND IRRIGATION.

By F. FAULDER WHITE, F.R.C.S. ENG.

THE first patient, who was an unmarried female, 55 years of age, had suffered for many years with a discharge from the left ear. She had consulted various medical men, including myself, and had recently been advised by a London specialist to have the radical operation performed. She was sent to me by Dr. H. T. Tomlinson for further advice on account of increasing pain and giddiness. The ear was very offensive. On Nov. 27th, 1904, I performed otectomy. There was little pain or other disturbance. Antiseptic irrigation was carried out twice daily for three weeks when the ear was sweet and the patient left for home. Daily irrigation was, however, carried out by a friend who had been taught to use my attic cannula. Seen in April the ear was quite well, discharge, pain, and giddiness having disappeared some weeks previously. The second patient was a male, 30 years of age. He came to me on Jan. 8th suffering from a very offensive discharge from the left ear. He was still using the remedies of a leading specialist, under whose care he said he had been for about four years. There was a large perforation in the membrane. I performed otectomy on Jan. 22nd. There was little or no disturbance. In less than a fortnight the cavities were disinfected and the ear was well by the middle of February. Seen on May 30th the ear was perfectly healthy and the man could hear a watch several inches from the meatal orifice. The third patient was a boy, 12 years of age. He was sent to me by Dr. W. Richardson Rice for the relief of deafness and otorrhœa which had existed for seven years. On two or three occasions he had seen a specialist who ordered syringing and this had been carried out at home without producing any benefit. On Jan. 15th I performed otectomy in the right ear. Irrigation was carried out daily by Dr. Rice. There was little or no disturbance after operation. There was gradual improvement but it was not till the middle of March that the ear could be pronounced well. Seen in May the ear was healthy and with good hearing.

Coventry.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

METROPOLITAN HOSPITAL.

A CASE OF SPINA BIFIDA.

(Under the care of Mr. WALLACE ASHDOWNE.)

FOR the notes of the case we are indebted to Mr. R. I. Douglas, house surgeon.

A female child, aged four days, was admitted to the Metropolitan Hospital on April 12th, 1905, suffering from spina bifida. The tumour, situated in the lumbar region, was of about the size of a Tangerine orange, sessile, and somewhat constricted at its base. The base alone was covered with skin which merged gradually into a translucent membrane. There was a suggestion of lobulation but no umbilication. The summit of the sac was raw, suggesting injury during delivery or rupture of adhesions between the sac and fœtal membranes. There was no deformity of the legs or paralysis and the functions of the bladder and rectum were normal. On the 13th the child was lightly anæsthetised and placed in the prone position with the buttocks raised above the level of the body, so that the tumour formed the highest point. Two skin flaps were dissected from the base of the tumour; an opening was then made into the lowest part and to one side of the sac and the fluid was allowed to escape slowly. This opening was carefully enlarged and the cord was found to be adherent to the upper part of the lining membrane of the sac in the middle line. Two small nerves on each side were found, apparently arising from the end of the cord, running on the inner wall of the lower part of the sac forwards to the spinal column; these had to be sacrificed. The lining membrane of the sac was first separated from it and then divided on each side of the cord and allowed with its nerves to fall back into place in the bony groove of the spinal canal and the cut edges of the lining membrane, apparently dura mater, were sutured with fine silk over them. The rest of the sac was removed and the skin was sutured with silkworm gut over the closed dura mater. A collodion dressing was applied and the child was put back to bed in the position in which the operation was performed. Healing took place by primary union and was uneventful except for a rise of temperature for 12 hours on the second day. On the seventh day the stitches were removed and the line of suture was found to be soundly healed. There was no leakage of fluid from the wound. The child was, when discharged from the hospital on May 12th, in good health and is still progressing favourably.

Remarks by MR. ASHDOWNE.—The fact that the surface of the tumour was damaged and the difficulty of protecting it from further injury, together with the fact that except for the tumour the child was well developed and healthy, led me to decide upon an early operation, and its successful issue is due partly to the skill of the anæsthetist and partly to the favourable anatomical relations of the cord and nerves which allowed of a rapid conclusion of the operation. The membrane to which the cord was attached was easily separated from the sac wall and must have been, I think, dura mater. The nerves which came off from the cord with two exceptions ran forwards across the sac to the intervertebral foramina. No attempt was made to free the cord from its attachment to the lining membrane but a longitudinal incision was made through the membrane on each side and cord and membrane were allowed to fall back into place The two small nerves which ran in the inner wall of the sac were sacrificed but, as far as can be made out at present, with no ill result

KENT AND CANTERBURY HOSPITAL

A CASE OF NEPHRITIS, WITH ACUTE URÆMIA, ASSOCIATED WITH ACUTE DIFFUSE COLITIS, DEATH

(Under the care of Dr HAROLD WACHER)

FOR the notes of the case we are indebted to Dr E Weatherhead, house physician

A married woman, aged 37 years, was admitted on April 4th into the Kent and Canterbury Hospital, under the care of Dr Harold Wacher, with a history of having had no action of the bowels for four days in spite of castor oil and enemata and of having frequently passed blood by the rectum during the last week or two There had been some tenderness and pain about the umbilical region but no abdominal distension and no vomiting

On admission the patient seemed to be somewhat lethargic and would only speak in answer to questions There was some tenderness about the umbilical region but no distension or rigidity of the abdomen The tongue was moist and clean The pulse was 100 and the temperature was normal Rectal examination disclosed nothing The heart and the lungs appeared to be normal About 6 30 the same evening the patient had an epileptiform fit, from which she never wholly emerged She remained semi conscious the whole of the next day (April 5th) and could not be made to take food or medicine The temperature was now slightly raised (from 99 5° to 100 5° F) As no urine was passed a catheter was used and the urine was found to be loaded with albumin Jalap was administered, the patient not refusing the medicine this time, and a hot vapour bath was given The bowels acted during the night a watery motion, slightly stained with blood, being passed into the bed The next day (April 6th) the patient became more comatose Now and then, for a few minutes she would breathe in stertorous fashion, with cheeks blown out with expiration, eyes strongly convergent, and teeth clenched The mouth also twitched at times Any examination of the patient brought on these symptoms In the afternoon she suddenly became convulsed extremely cyanosed, and died

Necropsy —At the post mortem examination both kidneys were found to be deeply congested being bluish in colour pping them off the a slightly granular of the cortex The kidneys were about normal in size and weighed six and a half ounces each The large intestine from the splenic flexure downwards was intensely congested and bluish black in colour No blood was found inside the bowel The mucous membrane had the same bluish black colour with here and there little slightly raised and roughened patches of greyish appearance The whole of the wall of the bowel was very much swollen The rest of the intestines was healthy The remaining organs, including the brain, pre

bowel were sent away e following report was received from the Clinical Research Association "The kidney shows dilatation of the convoluted tubes and a granular condition of the secreting epithelium in certain areas Many of the tubules contain granular and hyaline casts and in several places there is a decided increase of the fibrous stroma The condition is therefore a mixed nephritis with excess of tubal change The large intestine exhibits the effects of an acute diffuse colitis and the greyish patches on the mucosa are due to exudation and necrosis The whole thickness of the wall is œdematous, with many foci of small round cells in the submucosa and destruction of much of the mucous membrane itself "

Remarks by Dr WEATHERHEAD —The following points are of interest in the above case 1 The absence of any œdema throughout the history of the case Without an examination of the urine there would be nothing—until the advent of uræmic symptoms—to suggest nephritis Vomiting was absent throughout and headache apparently was not complained of 2 The occurrence of acute colitis In his article on Nephritis in Allbutt s "System of Medicine"[1] Dr W H Dickinson gives no description of this form of colitis though he makes special mention of an ulceration of the intestine in association with nephritis—"more particularly about the ileo cæcal region"—which is the result apparently of submucous hæmorrhage Dr W Hale White[2] gives instances of acute colitis in association with Bright s disease but says "it is certainly unusual " 3 The mixed character of the renal changes In some respects the kidney presented the appearance of an early stage of chronic interstitial nephritis , in other respects it presented the appearance of acute nephritis Clinically, the case would seem to be an acute one, but there may have been symptoms at some previous time which were not understood The patient was in fact laid up with an illness some months ago, of which it was impossible to obtain any definite account As there was no appearance of hypertrophy of the heart we may conclude that the nephritis was at all events of not very prolonged standing

WEST OF ENGLAND EYE INFIRMARY.

A CASE OF DOUBLE CATARACT EXTRACTION FOLLOWED BY GLAUCOMA IN BOTH EYES

(Under the care of Mr A C ROPER)

THE patient a woman aged 60 years, was admitted to the West of England Eye Infirmary on Dec 9th, 1898 with well marked cataract, nuclear and cortical in each lens The pupils were active and tension was normal There was some dacrocystitis on the left side In July, 1900, the left canaliculus was slit up and the lacrymal condition was energetically treated On Sept 27th, 1900, an uneventful extraction without iridectomy was performed on the left side and on Jan 8th, 1901, a needling of the capsule The result was D V L $+ 10\,D = \frac{6}{9}$, N V L $+ 14\,D = 1$ On Feb 26th of the same year she came to the infirmary again with a typical subacute glaucoma of the aphakic eye which had been treated by her local medical attendant for a fortnight Tension was + 2 The cornea was hazy The pupil was dilated , V = fingers A large iridectomy upwards was performed on the same day with escape of vitreous and much bleeding from the iris On March 7th Mr Roper s note was "No fundus reflex A good deal of blood still in pupil but not enough to account for the loss of fundus reflex Query retinal hæmorrhage " Three grains of iodide of potassium were given thrice daily On the 15th the note was "Media clearing Red reflex to day " The eye steadily improved and on June 7th V L with correction was $\frac{6}{9}$ partly Meanwhile the right lens had become opaque and in view of the glaucoma in the left eye a preliminary iridectomy was performed on March 25th, 1901 On the 29th the right eye had recovered from the iridectomy and the patient was made an out patient She remarked on leaving that the last iridectomy had entirely cured a constant frontal headache which she had suffered fro On July 2nd an ight lens was perfor the 29th with D V $\frac{R + 9\,D = \frac{6}{9}(3)}{L + 10\,D = \frac{6}{12}(4)}$ The left eye was therefore losing vision Mr Roper next saw her in January, 1903, when vision was with spectacles $\frac{R = \frac{6}{60}}{L = \frac{6}{12}}$ The right pupil was covered by a crinkled capsule and both optic discs showed deep cupping The membrane was needled freeing some iritic adhesions and causing some slight hæmorrhage from the iris, and on May 4th the corrected V R was $\frac{6}{18}$ The patient reappeared on Nov 7th, 1904, with glaucoma of the right eye She had fundus reflex but no details were seen She was taken into the infirmary and was treated with eserine, pilulæ hydrargyrum, &c reducing the tension to normal She remained better for three weeks but on Dec 12th the eye became worse The field was small, the cornea was hazy and vision was $\frac{7}{60}$ Treatment failing to arrest the glaucoma Mr Roper determined to excise more iris and this he did on Jan 5th of this year There was of course escape of vitreous but the eye speedily recovered and on Feb 20th the corrected vision was R $\frac{6}{18}$ (2), L $\frac{6}{18}$ Mr Roper last saw her on April 3rd when the corrected vision was

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[1] Vol iv p 393

[2] Allbutt s System of Medicine, vol III , p. 942.

R., $\frac{6}{18}$ (2), L., $\frac{6}{18}$ (3), and the fields of both eyes were concentrically contracted to one-quarter of the normal. The eyes were quiet and normal looking and the patient was using a weak eserine drop daily.

Remarks by Mr. ROPER.—The above is a brief abstract of my notes of this interesting case, which is worthy of being put on record. Two points are brought into strong relief—the inveteracy of glaucoma and the remedial value of iridectomy in this condition. The occurrence of glaucoma after cataract extraction must be rare, as I can only recall one other such case in an experience of considerably over 100 cases.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

Puerperal Eclampsia.—Repeated Tubal Pregnancy.—Thyroid-like Structures in Ovarian Cysts.—Deformed Fœtus.—Ruptured Interstitial Pregnancy.—Primary Carcinoma of both Fallopian Tubes.

A MEETING of this society was held on June 7th, Dr. W. R. DAKIN, the President, being in the chair.

Captain J. C. HOLDICH LEICESTER, I.M.S., of Calcutta, reported a case of Puerperal Eclampsia with death on the sixteenth day after delivery from general septic peritonitis, due to rupture of an abscess in the spleen.

Mr. ALBAN DORAN reported a case of Repeated Tubal Pregnancy which had twice been under his observation in hospital with clinical evidence of tubal gestation, first on the right side and after an interval of 12 months on the left. Owing to increasing swelling with pain and hæmorrhage the abdomen was opened and clots together with both tubes and the right ovary were removed. The patient was the subject of pulmonary tuberculosis to which she ultimately succumbed 13 months after the operation. Mr. Doran raised the question whether, in view of the possibility of another abnormal pregnancy taking place, it was justifiable in operating for tubal gestation to remove the opposite tube even when healthy. He quoted three cases of his own in which a normal uterine pregnancy had followed removal of a pregnant tube.—Dr. R. BOXALL mentioned a case in which a normal pregnancy and delivery occurred about a year subsequently to removal of a ruptured tubal gestation.—Dr. HERBERT R. SPENCER said that he had operated [illegible] three cases of bilateral tubal pregnancy and in two others [illegible] observed intra-uterine pregnancy after tubal gestation.—Mrs. M. A. D. SCHARLIEB mentioned a case of [illegible]ured ectopic gestation operated on in July last, the patient being now five months pregnant.—Lieutenant-Colonel A. J. STURMER, I.M.S., referred to the case which he had recently brought before the society in which, at the time of operation, the opposite tube was found to be red and swollen but was not removed. A year later it was discovered that ectopic pregnancy had again occurred. He consequently thought that it would have been safer to have removed both tubes at the first operation.—Mr. DORAN, in reply, said that every conceivable variation had been observed in cases of tubal pregnancy—repeated in the opposite side, repeated in the same side, simultaneous in the right and left tubes, simultaneous tubal and uterine pregnancy and, lastly, gestation in a tubal stump. Still, the evidence of those who had joined in the discussion supported his opinion that when pregnancy occurred after the removal of a tubal gestation sac it was, as a rule, normal; hence, when the sac was removed it was not justifiable to amputate the opposite tube.

Mr. R. HAMILTON BELL reported two instances of Thyroid-like Structures in Ovarian Cysts. In both cases the cysts were multilocular and had been removed by operation. They showed in each instance appearances resembling those of the thyroid gland. An explanation was doubtless to be found among the following: (1) metastatic growth from a primary thyroidal carcinoma; (2) secondary growth from a normal thyroid gland or from a simple goitre; (3) growth of a teratomatous nature; (4) endothelioma; and (5) colloid degeneration of an ordinary cystic adenoma of the ovary. He was disposed to regard the last mentioned as the most probable explanation.—Dr. H. WILLIAMSON agreed that in many cases the resemblance to thyroid tissue was brought about as the result of pressure exerted by colloid contents in the smaller loculi, upon the columnar epithelium of an adenoma of the ovary. But, at the same time, he thought it possible that in some cases an explanation was to be found in a teratomatous origin.

Mr. CHARLES SINGER exhibited and described a case of Extreme Ectopia Vesicæ and Congenital Absence of the Colon, combined with other deformities, in a full-time fœtus which had lived for 14 days.

Dr. H. RUSSELL ANDREWS recorded a case of Ruptured Interstitial Pregnancy in the Left Cornu of the Uterus which had undergone early rupture. The period was only six days overdue and the gestation cavity would but just admit the tip of one's thumb. The uterus was removed by supravaginal amputation, both ovaries being left. But he raised the question of the possibility of preserving the uterus in cases like this where rupture took place early, merely excising the affected cornu and suturing together the resulting raw surfaces.

Dr. C. J. CULLINGWORTH showed and described specimens of Primary Carcinoma of both Fallopian Tubes which he had removed by operation from a woman 41 years of age. For two years previously she had had almost continuous pelvic discomfort, with frequency of micturition and a constant and increasing watery discharge sometimes blood-stained and frequently offensive. The diagnosis was obscure. A month's rest in bed having been followed by no apparent benefit operation was decided upon. When the preliminary enema was given about a pint of bright blood was passed by the bowel and under anæsthesia a small fistulous opening was felt in the rectum four inches from the anus. On opening the abdomen both tubes were found to be affected with malignant disease, the left being much the larger but the uterus was of normal size and no extension of the disease to other parts in the abdomen could be felt. There was no ascites. It was thought that the fistulous opening into the bowel would supply [illegible] drainage. Subsequently some difficulty was [illegible] ing the bowels to act. The patient died [illegible] the operation.—Mr. DORAN thought [illegible] that the cancer had developed, as is often the case, in an old hydrosalpinx.

OPHTHALMOLOGICAL SOCIETY.

Cribriform Choroido-retinitis.—The Question of Visual Efficiency.—Subsequent note on a case of Orbital Tumour.—Against the Use of Strong Applications in the Treatment of Ophthalmia.—Subsidence of Optic Neuritis after Removal of Cerebral Tumours.—Ring Sarcoma of the Uveal Tract.—Exhibition of Cases and Specimens.

A MEETING of this society was held on June 8th, Mr. JOHN TWEEDY, the President, being in the chair.

Mr. R. W. DOYNE and Mr. SYDNEY STEPHENSON contributed a note on Cribriform Choroido-retinitis, a Rare Form of Fundus Disease. They described three cases in adult patients of a peculiar clinical type of choroido-retinitis, characterised by large membranous sheets of white exudation lying in the fundus beneath the retinal vessels, and showing few or many round or oval holes, through which the colour and markings of the underlying choroid could be recognised. In some instances the holes might be filled with pigment. There were grounds for thinking that the affection had resulted from acquired syphilis. They rejected the view that the condition of the fundus was the outcome of the metamorphosis of copious hæmorrhages.

Mr. G. A. BERRY (Edinburgh) contributed a paper, which was read by the Secretary, on the Question of Visual Efficiency, in which he suggested a graduated scale representing partial loss of sight for guidance in allotting compensation and awards by insurance societies.

Mr. F. RICHARDSON CROSS (Bristol) [illegible] sequent Note on a C[illegible] exhibited before [illegible] Krönlein's operati[illegible] recovery of the pat[illegible]

Mr. W. E. CANT [illegible] Use of Strong Appl[illegible] Treatment of Ophthalmia. In the East there were a great variety of regular and irregular practitioners dealing with the prevalent cases of ophthalmia, some of whom used solutions of nitrate of silver, 80 and 60 grains to the ounce, which did considerable damage to the cornea and conjunctiva. He thought a strength of 10 or 15 grains to the ounce the utmost that should be employed.

Mr. **LESLIE J. PATON** read a paper on the Course of Optic Neuritis and its Subsidence after Operation in cases of Cerebral Tumour. The present paper was the result of an analysis of a series of 105 cases of cerebral tumour at the National Hospital, Queen-square, during 1903 and 1904. 20 of these cases showed no optic neuritis; 38 of the remaining 85 were not operated on. Of the 47 cases operated upon 17 died shortly after operation or were never in a condition allowing of proper examination. There remained 30 cases in which it was possible to examine more or less fully the eye conditions subsequently to operation. As regards visual acuity it was found that the cases fell into four main classes: 1. The visual acuity practically unaltered during the whole course of the neuritis or only very slightly diminished. This class included eight cases. 2. The visual acuity markedly reduced at the time of operation, in some [illegible] classes: (*a*) those which were practically blind at the time of operation and which regained no vision (six cases) and (*b*) those in which the vision failed markedly despite operation (two cases). A total of eight cases out of 30 in which operation did not save sight. 4. Three cases in which one eye retained good vision and the other became blind or nearly so. Out of a total of 30 cases good vision had been saved in 22. In none of the cases in which the sight was lost was the optic neuritis more severe than it was in some of the cases in which perfectly good vision remained. A subjective symptom in cases of cerebral tumour was transient dimness of vision. This occurred in six of the cerebellar cases in the present series, in two frontal cases, in one parietal case, an [illegible] nother series of [illegible] our it occurred [illegible]. The occurrence of this phenomenon so frequently in cerebellar [illegible] onger [illegible] sually [illegible] head- [illegible] er by [illegible] with [illegible] change in the optic nerves, but it might, of course, be due simply to a temporary increase in the intracranial pressure causing a temporary strangulation of the optic nerves. Subjective phenomena of a positive character only occurred in two cases. An examination of the relationship of visual loss to site of tumour showed that the five cases of frontal tumour belonged three to Class 1, one to Class 2, and one to Class 4. In 11 cases of parietal tumour four belonged to Class 1, three to Class 2, one to Class 4, and three to Class 3—i e., where sight was lost. Out of 11 cerebellar cases one came into Class 1, six to Class 2, and four to Class 3. The only pontine case belonged to Class 3. The optic neuritis commenced by inc[illegible] of the upper and [illegible] veins. The blurring [illegible] and then to the outer margin, the central cup filled in, the veins became more turgescent, the smaller vessels on the disc usually invisible filled up, and a condition of steep-edged swelling of a somewhat striate and juicy appearance characterised the completion of the first stage of the optic ne[illegible], of all small and linear [illegible] of the disc, appeared. [illegible] ger and more scattered. [illegible] frontal and parietal tumours was from three to five dioptres, and in cerebellar cases from five to seven dioptres. Later patches of whitish exudate appeared on the disc and in the neighbouring retina. Macular changes only appeared in a small proportion of cases, five in this present series of 30, one in a case of frontal tumour, one parietal tumour, and in three cerebellar cases. The macular change was of a fairly definite type, a layer of œdema forming a kind [illegible] horizontal parallel lines. They lay in the superficial layers of the retina. When there was more extensive œdema of the [illegible] from the fovea [illegible] hanges was not [illegible] with vision—another point in favour of its being superficial, since it did not seem to interfere with the percipient layers of the retina. At the time of operation the intradural tension was noted to be definitely high in all the cases. The subsidence of the swelling was fairly steady in all the cases, usually taking about two months. In some of the cases, especially when the tumour was cystic, it was much more rapid. In the cases which went on to blindness the disc assumed an opaque papery-white appearance as the swelling subsided and in all these cases the arteries were markedly diminished in size. In the other cases where sight was retained the disc had usually a muddy [illegible] that there ever had been an attack of optic neuritis. In one case in which there had been [illegible] vision was $\frac{6}{6}$ in each eye and all [illegible] degree of macular change w[illegible] pigmentation at the macula in one eye and in the other the same pigmentary disturbance at the macula and a small cluster of bright white dots above and to the inner side of the macula.—Dr. **J. S. RISIEN RUSSELL** said that as regards saving sight, even where it was impossible to localise or to remove the tumour, trephining and opening the dura mater so as to relieve pressure were effective.—Mr. **R. MARCUS GUNN** said there appeared to be no relation between the degree of neuritis and the size of the growth. Prognosis based on the locality of the tumour would still require a larger series of cases. He referred the temporary eclipses of vision to increase in intracranial tension with pressure on the optic nerve fibres.—Mr. **DOYNE** mentioned a case of intracranial tumour growing from the left wing of the sphenoid in a woman, aged 30 years, occluding the optic foramen and causing blindness without fundus change on the same side but optic neuritis on the right side.—Mr. **PATON**, replying, attributed the temporary loss of vision to distension of the infundibulum due to intracranial exudation pressing against the chiasma. It specially occurred in cerebellar cases which involved obstruction to ventricular circulation.

[illegible] anterior chamber in its whole circumference. The patient, a lad, aged 18 years, noticed the failure in the sight of his right eye nine months before he was seen by Mr. Werner; he also observed that black spots were beginning to form on the iris. On examination the iris was observed to be covered with coal-black patches of pigment, least marked above; there was also a small brown tumour wedged into the angle of the anterior chamber at the outer side. The anterior chamber was deep, although the tension was + 1. The pupil was slightly dilated and there was a deep glaucomatous cup. The boy could only distinguish the motion of the hand before the eye. The eye was enucleated and the [illegible] unpigmented cells in alveoli. At the upper and lower margins it extended into the ciliary region and sent flat extensions on to the surface of the iris. The rest of the circumference of the angle of the anterior chamber, and of the ciliary body close to it, was infiltrated with deeply pigmented cells and also clusters of unpigmented cells. The ligamentum pectinatum was choked with pigment cells which extended into the canal of Schlemm and along the perivascular lymph spaces of the anterior ciliary vessels. The surface of the angle was lined by black cells, in a single row, or in a condition of active proliferation, the latter especially below. A large quantity of round pigmented cells which had become free were deposited at the bottom of the anterior chamber. When bleached some of them contained shrunken nuclei but in others the nucleus was normal and sometimes two nuclei were visible. The pigment layer on the iris was either confined to the surface where it taken without effect. Bromide and hyoscyamus were the best combination for nocturnal restlessness but sulphonal and paraldehyde were the most successful drugs for the insane, the latter having the advantage of being a heart stimulant. When the usual hypnotics failed it sometimes became necessary to resort to a general anæsthetic. With reference to feeding, when the patient absolutely refused food it was necessary to feed by tube either nasally or orally, as it was a most important factor in successful treatment of insanity that nourishment should be given. Dr. Stoddart concluded his paper by enumerating the means of procedure in sending a patient to an institution.—The President thanked Dr. Stoddart in the name of the society for his paper and corroborated his remarks with reference to treatment, particularly impressing upon the members the imprudence of recommending travel in cases of acute mental disorder.—Dr. S. D. Clippingdale referred particularly to cases of anorexia nervosa occurring in private practice, in which cases it was very difficult to carry out the nasal or oral feeding, and suggested rectal alimentation as being more suitable and better tolerated.—Mr. A. B. Kingsford questioned the advisability of administering hyoscine hypodermically in cases of *acute mania. He found that hyoscine given by the mouth* appeared to be of great benefit and to give quiet sleep, whereas given by hypodermic injection it caused an alarming degree of depression.—Dr. H. P. Potter, in comparing the methods of feeding, expressed his opinion that oral feeding carried out slowly and carefully was the most advantageous.—Dr. H. Campbell Pope spoke of urethane as being a most valuable hypnotic in some cases. He also mentioned an important condition of the urine in so-called cases of neurasthenia—namely, upon using Fehling's test a dark discolouration was found, followed by a black precipitate, probably sulphide of copper.—Dr. Stoddart made a few remarks in reply.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on June 2nd, Mr. C. J. Symonds, the President, being in the chair.—Mr. H. S. Barwell showed a case of Nasal Tuberculosis and a case of Lupus of the Larynx and Uvula.—Dr. G. C. Cathcart exhibited a case of Multiple Growths in the Epiglottic Region in a man, aged [illegible]3 years. These were considered to be growths of the lingual tonsil.—Dr. Atwood Thorne showed a girl, aged 17 years, with Complete Paralysis of the Left Vocal Cord associated with Dilatation of the Left Pupil, Mitral Stenosis, and Hypertrophied Left Auricle.—Mr. P. R. W. de Santi showed a case of Inspiratory Dyspnœa in a woman and Dr. H. L. Lack a specimen of Adenoids removed from a man, aged 59 years.—Other cases were shown by Dr. W. H. Kelson, Dr. air Thomson, Dr. Lack, and Dr. R. H. Scanes Spicer.

Reviews and Notices of Books.

The Law relating to Factories and Workshops. By MAY E. ABRAHAM (MRS. H. J. TENNANT), formerly one of Her late Majesty's Superintending Inspectors of Factories; and ARTHUR LLEWELYN DAVIES, of the Inner Temple, Barrister-at-law. Fifth edition. London: Eyre and Spottiswoode. 1905. Pp. 414. Price 5*s*.

THE law relating to factories and workshops is not summarised by the three Acts of Parliament known as the Factory and Workshop Acts but is contained in these with about 20 others, and in a large number of Orders and Regulations made under their authority. Consequently anyone who wishes to have access to the knowledge of this branch of the law necessarily has recourse to a text-book. He need not be a lawyer in order to require to be informed quickly and accurately upon such a subject. A very large number of persons are directly concerned by the Factory and Workshop Acts in a manufacturing country and ignorance of the law is no defence for him who is accused of breaking it. Medical men are most directly interested in this branch of the law when they hold appointments connected with its enforcement, such as those of medical officers of health and of certifying surgeons, and it is to these especially that a handbook at a moderate price, which contains practically all that they need know, is likely to be useful. It is essential that such a work should be "up to date," and the fact that this volume, jointly written by a lady factory inspector and a barrister, has been republished four times since 1896 shows that the authors have taken care to make it so. The statutes which are new since 1902, the date of the last edition, are not of great importance, but include the Shop Hours Act, 1904, the Shop Clubs Act, 1902, and part of the Employment of Children Act, 1903. This last is one under which any medical man may be applied to with a view to determine the fitness of a child for any specified occupation, and so may be said to be of some direct interest to the medical profession apart from its influence upon the health of the younger section of the population. The new Orders and Regulations since 1901 refer in some cases generally to the sanitary conditions under which work is to be done and in other instances are framed as protections against the inherent dangers of particular processes of manufacture. Medical men *not holding appointments of the class indicated above* have but little liability under the law so far as the health of factory workers is concerned, beyond that of notifying cases of poisoning by lead, phosphorus, arsenic, or mercury, or of anthrax contracted in factories or workshops, to the Chief Inspector of Factories at the Home Office. Medical men holding appointments such as those referred to have to know the law relating to their work intimately and if these are already acquainted with the volume under review from previous editions they do not require that it should be recommended to them. Those who have not before met with it will find it a convenient and well-arranged text-book, not too bulky and certainly not expensive, consisting of two parts: I. A Practical Guide to the Law and its Administration by Mrs. Tennant; II. The Acts, with Notes, by Mr. Llewelyn Davies, and an appendix with the Regulations for dangerous trades and the Orders of the Home Secretary. A full and clear index by the use of figures of different sizes distinguishes between information conveyed in the explanatory Part I. and that which is supplied in the words of an Act or Regulation in Part II.—a very convenient plan.

Electro-diagnosis and Electro-therapeutics. By Dr. TOBY COHN of Berlin. Translated from the second German edition by FRANCIS A. SCRATCHLEY, M.D., of New York. London and New York: Funk and Wagnalls Company. 1904. Pp. xiii.-280.

THIS book is written as a guide to students and practitioners who are taking up medical electricity more or less seriously. There is no doubt as to the excellence of the author's method of teaching the subject and it will be sure to commend itself to the readers of the work. The technical part is dealt with in a very brief yet effectual manner, avoiding confusing calculations and complexity of apparatus, which only serve to discourage the beginner. The chief principles are first explained and made clear with a few simple diagrams. Then follows a description of a simple galvano-faradic outfit, also accompanied by a few diagrams to show the different arrangements of circuits. The author then passes to the physiology and the methods of investigation. Under the latter heading the directions are laid down in a most careful and painstaking manner, and it may be said truly that he who reads may easily learn. The plates showing the motor points deserve special mention. Instead of being placed all together at the end of the book, as is so often the case, each is placed next that part of the text referring to it. The motor points are shown on a schematic figure drawn on transparent paper. Under this is found a plate illustrating the muscles referred to. These plates are adapted from Quain and [illegible] muscle plates. In this part the normal reactions of all the superficial nerves and muscles are given in detail and the pathological changes are dealt with in the same manner in the following chapter. This first part of the volume takes up nearly two-thirds of the whole, the author's contention being that anyone who commands a knowledge of electrodiagnosis can quickly and easily comprehend the electrotherapeutic technical terms, while without such knowledge he learns these terms with great difficulty or not at all. The rule all through is not to confuse the beginner by mentioning innumerable possibilities and variations but rather to represent types which can be easily comprehended and retained. At the end of the book are chapters on other forms of apparatus, static electricity, and Tesla or high-frequency and other forms of constantly varying currents.

The translator is to be congratulated on his share of the work. It is perhaps a fair criticism that he should have kept more closely to the standard anatomical nomenclature and it is difficult to see what good end is served by adopting phonetic spelling in the case of a few isolated words. On Plate III., after indicating the superficial muscles and nerves of electrical importance from the shoulder to the hand, with their *Latin* names, the last of the series is referred to as the "little finger-ball muscles," which is slightly incongruous. These are, of course, mere details and if not adding to its attractions they do not impair the value of a book which is to be commended for its many points of excellence.

A Text-book of Practical Gynecology. By D. TOD GILLIAM, M.D. Illustrated with 350 engravings, a coloured frontispiece,, and full-page half-tone plates. Philadelphia: F. A. Davis Co. 1903. Pp. 634. Price, extra cloth, $4.00 net; half morocco, $5.00 net.

IN the introduction to this work the author calls attention to the large part played by the late Professor Marion Sims in the evolution of gynæcology. According to Dr Gilliam America claims not only the distinction of giving birth to this great and beneficent specialty but has maintained her position in the front rank of discovery and operative technique. We imagine that no one would be prepared to deny that in the production of text-books America still leads the way. Unfortunately, although the amount of work produced by American writers is great, the same cannot always be said of its quality. The present book is a good example of the class of work which possibly finds its appreciators amongst American students but there are many better works on gynæcology in the English language. The style in which the book is written can be exemplified by the following quotation. Dr. Gilliam in pointing out the difficulties which the student at first experiences in acquiring a familiarity with the various methods of pelvic examination compares it to "seeking the middle ounce of mush in a kettle of mush"! It is hardly necessary for us to notice this text-book at any length. Importance is laid on the large part played by a supersensitive condition of the nerves as a factor in the causation of the pain in dysmenorrhœa. In endeavouring to account for the relationship between dysmenorrhœa and anteflexion of the uterus the author tells us that in these cases the endometrium is attenuated and devoid of succulence and is wanting in lymphoid elements. We wonder what is meant exactly by a succulent endometrium? In performing the operation of ventrofixation Dr. Gilliam brings the two round ligaments out on either side through a puncture in the fascia, muscle, and peritoneum (about three-quarters of an inch from the edge of the abdominal incision) and fixes them in this position with a catgut suture, the skin and the fat being meanwhile drawn aside. By this means he claims that better results are obtained than by the ordinary operation. In the chapter on Ovarian Tumours a most interesting case is recorded in which the author successfully removed a cystic tumour of the ovary weighing 176 pounds, the largest tumour ever operated upon with success in Europe or America.

A Manual of Fever Nursing. By R. W. WILCOX, M.A., M.D., LL.D., Professor of Medicine in the New York Post-Graduate Medical School and Hospital; Consulting Physician to the Nassau Hospital. Illustrated. Philadelphia: P. Blakiston's Son and Co. 1904. Pp. 236. Price $1.

THIS volume contains the lectures on fever nursing which were delivered to the nurses at St. Mark's Hospital during the session 1903-04. Dr. Wilcox has selected the material for his lectures with great judgment and discrimination. He has included in the lectures all that nurses should and ought to know, but has wisely refrained from giving any directions as to diagnosis or treatment which might tempt nurses to try to become amateur doctors. The earlier chapters of the book are devoted to a consideration of the general aspects of "fever" and the methods of taking and noting temperatures; then a good description is given of the modes of reducing temperature by means of baths. Nurses may read these remarks with profit. Practical demonstration is undoubtedly of more value than verbal description but many useful hints are here given which nurses will do well to observe. It will be noticed that when writing on "the cold tub bath" Dr. Wilcox remarks: "Vigorous rubbing of the body by the hands of the attendants throughout the bath is an absolute necessity." The combination of massage with cold baths when given for typhoid fever is more frequently practised in America than it is in this country. The various fevers are then considered in detail, information being afforded under the following headings: definition; causation; course and symptoms; varieties; complications; prevention and treatment, including dieting. Directions are given in simple but precise language and the manual can be cordially recommended to all nurses, for in it will be found useful instruction which they may not have opportunities of obtaining whilst receiving their training in general hospitals.

A Text-book of Diseases of Women. By BARTON COOKE HIRST, M D. With 655 illustrations, many of them in colours. London, Philadelphia, and New York: W. B. Saunders and Co 1903. Pp. 683. Price 21*s* net.

THIS work has been written by Professor Hirst as a companion to his text-book on Obstetrics and is the result of 20 years' experience. The author has followed an anatomical rather than a pathological classification as more logical and convenient. The volume, consisting of some 683 pages, is divided into 12 parts. The first part deals with the examination and the local treatment of the patient. The next section deals with anomalies of development in the genital tract. In discussing true hermaphroditism no mention is made of the latest work on the subject with which the author appears to be unacquainted. Part III. deals with the diseases and injuries of the vulva and contains a number of very good illustrations and a very detailed account of coccygodynia.

In discussing complete rupture of the perineum the author mentions the interesting fact that he has appeared in one year as an expert witness in three suits brought for malpraxis as the result of the occurrence of this injury For the palliative treatment of a cystocele Professor Hirst recommends that a Gehrung's pessary should be employed but as he mentions, and as we have found, this pessary is easily displaced and is very liable to set up ulceration of the anterior vaginal wall. In the operative treatment of this condition the author recommends very strongly that the so-called anterior vaginal sulcus on either side should be denuded and sewn up as well as the removal of an oval area of the mucous membrane of the vaginal wall in the usual way. By this means he claims that a more permanent and better result is obtained. The various methods of repairing tears of the pelvic floor are well described and if we may judge by the photographs reproduced of some of the cases operated on by the author the results obtained are exceedingly good.

It is much to be regretted that there is not a greater unanimity of opinion amongst writers on gynæcology as to the best classification of the different kinds of carcinoma. In this work we find the terms epithelioma, squamous-celled carcinoma, medullary carcinoma, scirrhous cancer, and malignant adenoma all used without any real distinction being made between them. The multiplicity of the terms used by various writers in discussing cancer of the uterus leads to great confusion on the part of students. The microphotographs illustrating this section are very poor indeed and we are surprised that the author has reproduced such inadequate illustrations. They are worse than useless and only mislead the student. In the operative treatment of cancer of the uterus the combined vaginal and abdominal operation of hysterectomy with as wide removal as possible of the connective tissue round the cervix is recommended. Of late Professor Hirst has employed the electro-thermic angiotribe to divide the tissues of the broad ligament. In this way outlying nests of cancer cells are likely to be destroyed and the risk of implantation of portions of the growth during the operation is much lessened.

In the treatment of bad cases of prolapse Professor Hirst has obtained good results by the performance of anterior colporrhaphy combined with amputation of the cervix and an extensive posterior colporrhaphy. He finds that after this operation the ultimate result is satisfactory and he is somewhat surprised at the number of failures recorded by various European operators. As an operation for the removal of fibroids panhysterectomy is not recommended, for, as Professor Hirst points out, supravaginal amputation of the uterus is to be preferred as an easier and quicker operation with less risk of injury to the ureters and leaving a more natural condition of the vaginal vault. He reserves complete removal of the uterus for cases of malignant disease, for cases of infection of the tumour or of the uterus, and where it is desired to drain the pelvis by way of the vagina. In considering the treatment of inflammatory conditions of the tubes great stress is laid by the author on the good results to be obtained by prolonged palliative treatment. At the present time when operative gynæcology is so much the vogue some of the younger school of gynæcologists are likely to forget how much can be done for such patients without operation by rest and local treatment, and we are glad to see Professor Hirst lending the weight of his authority to this view. He is also strongly in favour of the retention of a part of the ovaries whenever possible and does not believe that the uterus should be removed when the ovaries are on the ground that it is in these conditions a useless organ. The section on tumours of the ovary is a good one and so is that dealing with the diseases of the bladder. The last 100 pages or so are devoted to an account of the details of the operations recommended in the body of the work.

The illustrations are very numerous and some of them are good. The microphotographs are disappointing and most of them show very little. We were much interested in Plate 8 which is described as showing mucous polyps (*sic*) of the cervix. A series of the wax models from which the plate is taken exists in one of the hospital museums in London and is well known to us. As a matter of fact, three of the models represent a fibroid polypus of the cervix and one of them a vascular sessile growth arising from the vaginal aspect of the cervix, certainly not a mucous polypus. The description of the plate is therefore most inaccurate. No doubt this is a small matter but of importance as an instance of carelessness easily avoided and an error which does not tend to increase our confidence in the author's general accuracy.

The book contains some striking instances of the American method of spelling ordinary English words. However, in spite of this blemish—a very annoying one to the eyes of English readers—and of the defects to which we have alluded, the work may be described as containing much that is of value and interest.

LIBRARY TABLE.

Tables for Qualitative Chemical Analysis, Arranged for the Use of Students. By A. Liversidge, M.A., LL.D., F.R.S. Second edition. London: Macmillan and Co. 1904. Pp. 126. Price 4*s.* 6*d.*—We are glad to find that Professor Liversidge deprecates the far too common plan of allowing the student of practical chemistry to continue mechanically to test mixture after mixture without being required to give evidence of the meaning of the reactions. This is always the danger involved in tables of systematic schemes for qualitative chemical analysis. Analysis by chart is seldom satisfactory inasmuch as the student who is training merely for examination purposes is sorely tempted to take a short cut. So long as he is able to discover what the unknown salt is he gains his immediate object but he may be left with a very unintelligent idea of the rationale of the scheme. Professor Liversidge introduces his subject with some wise words of which the student would do well to take heed. Though we can find no particular novelty in regard to the treatment of the subject yet the author has taken pains to give a satisfactory scheme and to include the characteristic tests of most of the ordinary substances known to chemistry. The sections on organic substances are decidedly good.

The Maintenance of Health in the Tropics. By W. J. R. Simpson, M.D. Aberd., F.R.C.P. Lond., Professor of Hygiene, King's College, London. London: John Bale, Sons, and Danielsson. 1905. Pp. 118. Price 2*s.* 6*d.* net.—This handbook on the maintenance of health in the tropics has been written at the request of the Committee of the London School of Tropical Medicine and is published under its auspices. The author divides it into six chapters which deal successively with climate; diet and drinking water; the dwelling house; illnesses of the tropics and their prevention; snakebite; and wounds. 40 pages are devoted to the prevention of malarial fever and other diseases spread by mosquitoes, the directions given on these questions being very practical. At the end of the work there is a list of necessary medical equipment. The advice given throughout is sound and is set forth in clear and simple language. The book is illustrated in a useful way and will be of service to those residing in, or visiting, the tropics.

Manual of Diseases of Children. By James Burnet, M.A., M.B. Edin. Edinburgh: E. and S. Livingstone. 1905. Pp. 406. Price 6*s.* 6*d.* net.—This manual comprises a brief outline of the diseases of infancy and childhood. Theoretical discussions and morbid anatomy find no place in the volume. Brief considerations of diseases of the skin and also of the nose, throat, ear, and eye are included. The book is valuable so far as it goes and it is written in a clear and straightforward way but on many questions the information is insufficient for the practical treatment of cases. However, the study of the volume will serve to lay a good foundation for further reading and observation on the subjects of which it treats; this is the author's hope. Eight plates illustrate the volume. Students will find the book useful.

Mucous Membranes, Normal and Abnormal, including Mucin and Malignancy. By W. Stuart-Low, F.R.C.S. Eng., Assistant Surgeon to the Central London Throat Hospital. London: Baillière, Tindall, and Cox. 1905. Pp. 60.—The substance of this carefully thought out monograph was originally given as a lecture at the Medical Graduates

College and Polyclinic. Those who make an attentive study of the nature, functions, and probable ulterior destiny of mucin will admit it to be of the first importance in the animal economy. Mr. Stuart-Low says that "one of the most important actions of mucin, and one which has hitherto been altogether overlooked, is as a bactericide." It is evident that mucin fills a potent part in the defence of the body against bacterial attack. Dust and microbes do no harm if they fall on healthy cutaneous structures, nor can they do much harm by impinging on sound mucous membranes; but, falling on impaired tissues, great havoc and disaster may follow. With regard to the possible relation between mucin and malignancy the author writes: "I have now carefully observed for years a large number of cases of malignant disease and have never yet seen one that was not decidedly hypomyxiatous and that had not been so for years previously." ...... "Normally, there is always a layer, however thin, of mucigenous material which separates the constituent cells in every tissue and membrane throughout the body; in carcinoma, however, the cells are not thus isolated but touch one another. Has this no causative significance? In old age the intercellular material undergoes a wasting change and, as a result, its resistive power against the ingrowth of epithelial cells is lessened and the onset of carcinoma is favoured." ...... "A study of the distribution of mucus-manufacturing structures reveals the striking fact that where mucus normally is least abundant malignant disease is most frequently located." He is inclined to believe that the hypomyxiatous state is a forerunner of the cancerous, especially in view of the fact that three-fourths of all cancer in man occurs in the alimentary canal. The topical application of mucin in carcinoma certainly retards growth, soothes, and has a marked cleansing effect. The author is indebted to Dr. Walker Overend for the nomenclature which indicates the changes that may occur in mucus and mucous membranes in the diseased conditions. He is inclined to believe that orthomyxia is conducive to healthy old age and he has not seen one healthy old man who was not orthomyxiatous. We have read this brochure with considerable interest. The author's views are very clearly and practically stated. He remarks that if practitioners will apply the principles arrived at from this study they may "gain a rich return in their daily medical practice."

JOURNALS AND MAGAZINES.

IN *Medical Electrology and Radiology* for May an editorial article deals with a circular—which is printed in full—issued by the governors of Guy's Hospital to the effect that they are prepared to accept paying patients for treatment by Finsen light, x rays, radium emanations, high-frequency currents, static, faradic, and galvanic electricity, and vibratory massage. They offer by way of an excuse for this procedure that they "are anxious to recoup themselves for the many expenses incidental to the maintenance of this large department in which poor cases are treated free, but they are desirous that paying patients should only attend upon the recommendation of a general practitioner." In his comments the editor says that this "action of Guy's Hospital surely raises the vexed question of unfair competition on the part of the charitable institution with the practitioner. There are many medical men who are proficient in this work and have adequate apparatus who would be glad to take patients on the terms proposed in the circular. ...... Moreover, if this principle is admitted it is equally logical to have surgical consultations followed if necessary by operation at an arranged fee, on the plea that the furnishing of the operating theatre has cost the institution so much that some return for the money expended must be sought. ...... It is much to be hoped that the governors will find it expedient to withdraw this scheme which, though promulgated doubtless with good intent, does not redound to the credit of an institution with such noble traditions as Guy's and which cannot but be regarded as a reflection on a body of medical men who are no less willing to adapt their fees to suit the less fortunate of their fellow creatures than their medical or surgical colleagues." Dr. Lewis Jones contributes a valuable paper on Interrupted Currents in Medical Work. The characteristics of the currents given by induction coils and commutators under varying conditions are illustrated by means of tracings obtained with a Duddell's oscillograph. These tracings, taken with certain observed effects of the various currents on the tissues, have given knowledge not attainable by any other means. It would appear from this paper that the induction coil will for some purposes be displaced by a constant current interrupted and reversed by a commutator driven by mechanical means. The paper should be studied by those interested in medical electricity. Dr. W. Ironside Bruce contributes the notes of a fatal case of cerebral hæmorrhage occurring while under electrical treatment. The technique of Sabouraud and Noiré in the treatment of tinea tonsurans by the x rays is given as an abstract from *Annales d'Electrobiologie et de Radiologie.* There is also an interesting digest of American electro-medical literature by the American editor. The number concludes with an account of the proceedings of the British Electro-therapeutic Society's meeting in April, giving the discussion on the paper by Dr. Lewis Jones already referred to and also a paper by Dr. W. F. Somerville on High Frequency in Insomnia.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

OPHTHALMIC CAPSULES.

(DUNCAN, FLOCKHART, AND CO., EDINBURGH; AND 143, FARRINGDON-ROAD, LONDON, E.C.)

THESE capsules are made of fine gelatin and are pear-shaped. Their long tapering neck distinguishes them from the ordinary capsules used in medicine. On account of the soft nature of the gelatin the capsule may be used directly for administering an ointment to the eye without risk of injuring it. In order to release the ointment it is only necessary to cut off the extreme end of the long neck with scissors and to press the capsule gently. Ointments are prepared having for their base a neutral white paraffin jelly containing atropine, cocaine, or the yellow oxide of mercury. Any other suitable ophthalmic formula may be made up.

"ARTOX" WHOLEMEAL FLOUR AND BREAD.

(APPLEYARDS, LIMITED, ICKLES AND MASBRO' MILLS, ROTHERHAM.)

By a careful process of manufacture "artox" wholemeal flour has been specially adapted for dietetic requirements. As is well known, one of the objections to wholemeal wheat flour is the presence in it of more or less coarse particles of bran which are apt to irritate the intestinal canal. On this account it is probable that though wholemeal flour contains a greater proportion of nourishing constituents than does ordinary white flour, yet this additional proportion of nourishing constituents is not completely available owing to the action of the coarse branny particles in hurrying the partially digested mass out of the bowel. According to microscopical examination the fibrous particles in "artox" wholemeal flour are very finely divided, so that the otherwise irritating properties of the wholemeal is reduced to a minimum and at the same time certain valuable food constituents are released from the cuticle. The chemical composition of "artox" flour indicates a nutritive value superior to that of ordinary white flour since the former contains the entire constituents of the wheat berry. Our analysis gave the following results: moisture, 13·10 per cent.; mineral matter, 1·10 per cent.; proteid, 13·05 per cent.; fat, 2·60 per cent.; fibre, 2·90 per cent.; and starch, 67·25 per cent. A really excellent bread may be prepared from the flour and it has the peculiar attractive flavour and texture of a loaf made from the entire constituents of wheat. A sample of the bread gave the following results on analysis: moisture, 46·09 per cent.; mineral matter, 1·37 per cent.; proteid, 7·56 per cent.; fat, 1·40 per cent.; fibre, 1·50 per cent.; and starch, 42·08 per cent. Here again analysis shows a maximum proportion of the food constituents of wheat. The bread has the advantage also of keeping its moistness and its "nutty" flavour for a comparatively long time. It is a pity that the tendency of modern milling methods is to deprive flour of part of its nutritive as well as appetising qualities. There can be no reproach of this kind in the case of "artox" flour and bread.

THERAPEUTIC YEAST.

(AGENCY: COOPER AND CO., 80, GLOUCESTER-ROAD, LONDON, S.W.)

Beer yeast has long been employed in therapeutics but hitherto in a more or less unscientific way, and it is desirable that, in medicine at any rate, a pure culture should be employed. Moreover, under the conditions in which ordinary beer yeast is produced it is doubtful whether it would continue to serve as an active agent; in the stomach, for example, an acid fluid is encountered and there is a relatively high temperature, both of which are calculated to operate against the energies of the ferment. Recently a grape ferment has been employed for the purpose which is grown in grape sugar solution at a temperature of from 95° to 100° F. It is argued that in this case the ferment is educated to both an acid and a warm environment, so that it will live in the gastric organ, where it is assumed that it elaborates a substance which is antagonistic to the germs, for example, of furunculosis. It is even stated that the administration of an active culture of grape ferment has been of benefit in diabetes. It has also been used in general disorders of nutrition. We have examined the liquid supplied for the growth of the ferment and that containing the ferment itself. The ferment appears to consist of saccharomyces ellipsoidens. On adding the ferment to the grape juice a brisk fermentation ensues in a few days and the yeast multiplies rapidly. At this stage the fermenting fluid is given to the patient. The method of treatment is reported upon very favourably on the continent, and especially in France, and partly on this account and partly because it presents a means of exhibiting a pure ferment in an active condition a trial seems to be called for in this country.

ROBB'S MILK FOOD.

(A. ROBB AND CO., 79, ST. MARTIN'S-LANE, LONDON, W.C.)

Whilst admitting the dietetic merits of the soluble milk foods of this firm in an analytical notice in THE LANCET of Feb. 11th, 1905, we suggested that in the case of food No. 2 the proportion of carbohydrates might be reduced with advantage and that of the fat and the proteid correspondingly increased. According to the analysis of a further sample we have received this has been done, for the proteid now amounts to 15·87 per cent. instead of 7·60 per cent. and the fat to 12·80 per cent. instead of 4·80 per cent. We regard this as an earnest endeavour on the manufacturer's part to make this preparation conform to the particular physiological requirements of an infant's food.

GARCON COFFEE.

(W. FORSTER AND SON, 9, PHILPOT-LANE, LONDON, E.C.)

We have carefully examined this coffee and the results are in perfect accordance with the statement that the coffee is pure and contains no chicory. In our experiments we obtained from it 0·84 per cent. of caffeine, while the soluble extract amounted to 27·04 per cent. It is rarely, in this country at any rate, that coffee is found which yields such a strong and agreeable aromatic infusion as does this sample. The reason for this is that it has been roasted by the French method—that is to say, a small quantity of sugar is thrown into the roasting cylinder just before the process is finished. This small addition is quite harmless and improves the coffee both in regard to its aromatic quality and its intensity of colour. After trying coffee roasted in this way few people, we imagine, would resort to the use of chicory which thickens, it is true, the infusion but spoils its flavour.

HANSEN'S JUNKET TABLETS.

(MR. C. G. SORENSEN: 77, ST. THOMAS'S-STREET, LONDON BRIDGE, S.E.)

We placed these tablets under practical test and were able to prepare a very satisfactory junket. Emanating as these preparations do from the Hansen laboratory at Copenhagen, Denmark, in which so much excellent work has been done on the cultivation of yeast and enzymes, such a result might have been anticipated.

(1) SWEDISH FISH BALLS; AND (2) BATH AND HOME AMMONIA.

(THE CROWN AND LILY GUARANTEE CO., 85, GRACECHURCH-STREET, LONDON, E.C.)

1. The fish balls so adroitly and appetisingly prepared in Sweden are well known by those who have visited that country. We have received a sample of tinned specimens and it is stated that the preserving process is conducted under scientific and hygienic supervision. This we can quite believe, for the fish balls were in an excellent state of preservation, there were no signs of corrosion of the tin, and there was no evidence of metallic contamination having taken place. As a matter of fact, the contents were slightly alkaline in reaction which would account for the surface of the tin keeping bright and clean. The balls are composed of fish and bread and have a good flavour when suitably prepared. 2. The above agency has also submitted to us a sample of fluid ammonia intended for home use. We have no novelty to remark in regard to this preparation but we may call attention to the fact that ammonia is a poison and therefore some precautions in regard to its handling should be printed on the label of the bottle. On the present label we can find no such warning.

SKIPPER SARDINES.

(ANGUS WATSON AND CO., 30, CLOTH MARKET, NEWCASTLE-UPON-TYNE.)

These sardines are stated to be caught, cured, and packed in Norway and they are certainly very good. The fishes are evidently packed in genuine olive oil; they are quite small in size. The flavour is delicately "smoky" and decidedly appetising.

MANHU DIABETIC FOODS.

(THE MANHU FOOD CO., LIMITED, LIVERPOOL, AND 23, MOUNT PLEASANT, GRAY'S INN-ROAD, W.C.)

The question as to whether carbohydrates may be added with safety to the diet of the diabetic patient depends so much upon individual response that it does not seem possible to generalise in this matter. In the Goulstonian lectures recently delivered before the Royal College of Physicians of London Dr. W. Cecil Bosanquet stated that "nothing seems more certain with regard to the treatment of diabetes than that each patient must be a law to himself and that no general rule can be laid down for guidance. In some cases more than in others less carbohydrate food can be tolerated." Of the Manhu Diabetic Foods it is said that the carbohydrates are so modified in the process of preparation that they are easily digested and easily assimilated and in fact yield their oxidation products without aggravating the disease. The proportion of carbohydrate is, however, according to our analysis, the same as that contained in wheat flour but owing to a special mode of treatment the cells yield more readily to the action of diastase and of acids. All that can be said therefore is that the starch has been made more easy of digestion. The foods comprise, besides flour, diabetic biscuits, diabetic macaroni, and some preparations of barley.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XVI [1]

THE PRESENT STATE OF MEDICAL EDUCATION (*Continued*)

The Multiplicity of Examinations —Mr. T Pridgin Teale s Views —Professor F Y. Edgeworth on Chance in Examinations —Sir William Stokes s Views —The Faults of the Examination System.—Centralisation or Decentralisation —The Lightening of the Curriculum

THE medical education of the London student has been treated separately at some length because his circumstances are not only so peculiar but also so gravely important to the community That the clinical material supplied by the metropolis should be properly utilised is of national, and more than national, importance, and that the teaching of London, possessing such material, should not be recognised by students as among the best teaching of the world is lamentable But there is reason to hope that the London schools have "touched bottom" and that we may soon see them restored to their former proud position and aiding as they should in the educational developments that are imminent in the near future For the medical curriculum, as it at present exists, does not defy criticism, it does not even escape reprobation, even though it be to all intents and purposes uniformly arranged at the different centres and be watched over with undeniable vigilance by the General Medical Council The Council itself has now become restless in respect of its educational duties, for it has become manifest that the demands made upon the students at their examinations are *seriously interfering* with their clinical studies As we have seen, the fifth year of the student s curriculum was designed to be devoted entirely to the study of hospital practice Bookwork of all sorts, whether general (mainly preliminary) like the literature of physics, or special (mainly professional) like that of anatomy and physiology, was to be put behind the student's back This was the project of the General Medical Council when the [illegible] had not time in a four years' curriculum to make himself acquainted with all the bookwork imposed upon him by the range of his subjects if he was to give proper attention to the clinical and practical side of his training—that is to say, the side of his training which, as far as the public goes is the only one that counts All his hours were spent in grounding himself for the reception of professional learning, hardly any time was left for the actual *acquisition of* that learning, and none for its practical application Therefore the extra year of study was given him, or imposed upon him, to be devoted to clinical work But the extension of the curriculum has not answered the expected purpose Indeed in the opinion of many people—and not the least observant among those who have studied the subject—the veritable position has again been arrived at to meet which the five years' curriculum was devised

At the session of the General Medical Council last winter this was so far admitted that when a motion was debated with regard to the arrangement of the student s work the speeches of the members showed a general belief that some modification of existing arrangements is wanted It was made clear that owing to the increased demands made upon medical students in the earlier part of the curriculum many of them do not pass their examinations in the preliminary subjects—physics, chemistry, and biology—until after they have made a beginning of the professional section of the curriculum This precludes the undivided attention which the study of such subjects as anatomy and physiology requires, while the fifth year of the curriculum becomes overloaded, bookwork intruding upon the practical routine Some authorities think that the passing of the preliminary scientific examination should be made compulsory before the admission of students to the study of anatomy and physiology, others that the student before presenting himself for his final examination should show that he has devoted at least one year to clinical work alone A third way out of the difficulty would be to increase the curriculum by one more year and this, it may be said would be an increase in name only, for the average duration of time taken by the medical student to get his entry on the Medical Register happens to be six years and one month Against increasing the length of the curriculum there is so much to be said from the economical point that it hardly needs the saying [2] The medical profession is now a very difficult one to enter and if the curriculum were increased to six years duration the education of the student for his difficult career would cost at least £1000, while the majority of medical men would be 25 years old upon becoming qualified Undoubtedly few men earn much money in practice before that time, but as the six years' curriculum would probably lead to a multiplication of examinations and a further increase in the average period of studentship above the statutory period, the General Medical Council, whatever it may feel obliged to say in debate, out of a consensus of feeling that the student must progress with the times, will probably not sanction, at any rate for some time, any extension

The multiplication of examinations is particularly to be dreaded and this is already being foreshadowed There *are a certain number of educational authorities* who would have the student's time so divided off that at the end of each year he is examined in some one series of subjects This puts a premium on bookwork and on the employment of "coaches," and leaves the student to consider the time wasted which is spent in the out patient department and the wards of a hospital Ten years ago Mr T Pridgin Teale, who was at that time one of the Crown representatives upon the General Medical Council, called pointed attention to the danger of over-examination, and his words certainly seem now to be coming true He suggested that the time had arrived when the General Medical Council should consider how far it could reduce the examinations of medical students in number and limit the schedule of subjects Mr Teale showed that during the 20 years that he had sat upon the General Medical Council the examinations had steadily increased in numbers, while he quoted manifold evidence to prove that the element of chance played too large a part in these tests, telling disastrously on some of the best, because some of the most finely organised, candidates He based his conclusions upon statistics of various examinations as actually reported to the Council by Mr J C Miller the late registrar of the Council Mr Miller s figures showed that the percentage of rejections in examinations among medical students amounted to 37 1 in the primary, 47 1 in the intermediary, and 38 9 in the final In 1876 the percentage of rejections in the final examinations only amounted to 22, the figures showing that the more examinations are multiplied the more fatal they become This is certainly a poor result of education and would tend to show either that a good deal of the teaching received by the medical student is not much to the point or that the element of chance that must always exist in any examination, becomes unfairly aggravated when every student has to pass a complicated series of examinations For education and examination are not interchangeable terms, the examination is the test of the education, and if nearly half the students fail in an examination the education is demonstrably at fa[illegible] cannot be attributed to [illegible] ie influence of chance in [illegible]

One of the best things ever said about examinations in illustration of their value and their limitations occurs in a paper read by Professor Edgeworth, Professor of Political Economy at Oxford before the Royal Statistical Society [3] Here test examinations are compared to "the barometer an instrument which directly measures the pressure of the atmosphere, but only inferentially, and as one sign among others, indicates that about which it is mostly consulted the weather The successful negotiation of an examination proves a student to have acquired some temporary knowledge and to possess some ability for exposing that knowledge, it is only one sign among many that he has been well educated or has any real efficiency. But a well constructed barometer is a better weather guide than a bad one, and in the same way a capricious examination is less a test of permanent worth than an examination where the element of chance plays no part. There is no such rigidly perfect examination, and the question of how far the workings of chance play a part in the results of examinations must always be considered. Professor Edgeworth appraises the possibility that an error of assigned extent will be committed by a competent examiner in marking a piece of work of any given sort in a most instructive and ingenious manner. Assuming that the mean of a great number of judgments constitutes a true standard of taste—and the marking of an examiner must be a matter of taste—he shows that the same hesitation which the conscientious examiner must have in assigning marks comes over the man who is asked to estimate simple objective quantities, such as the height of an acquaintance or the number of five pound notes which will balance a sovereign. And just as by observing the estimates made by a number of persons as to the weight or height of the same body the law of error can be discovered proper to similar species of estimates, so by observing the marks given by a number of competent examiners to the same piece of work an empirical law can be ascertained the working of which may be extended to similar cases. He records a number of experiments in the marking of mathematical, classical, and historical papers and shows that there are plenty of data upon which to found assumptions as to the part played by chance in the results. Referring to examinations for the Indian Civil Service, the Home Civil Service, and the Army he finds the element of chance to be such that in any given examination the chances of displacement upon re-examination would amount to one-seventh. Judging by this figure it is clear that we must not look to chance to account for the grave number of rejections in medical examinations, but rather to the errors of the system of training, and sometimes undoubtedly to the faults of the examiners. A rejected candidate often thinks that his examiners are very silly fellows, and is often mistaken, but a study of the questions that have on some occasions been asked by examiners leads to the view that medical students have here now and again had a genuine grievance. What is the use of asking medical students in their early examinations elaborate questions as to the comparative action of drugs when they have never seen a sick man? And what is the use of asking men in a pass examination in surgery for descriptions of rare and elaborate operations? The fact that the candidates can describe, and presumably perform, all the operations that they might be called upon to carry out *in any emergency* must be elicited, but it is unnecessary to expect more of a man who has had no experience. Naturally, when in practice some grave procedure lies before him, where immediate action is not the only chance of success, he will revise his knowledge and will try to supplement it before operating; why, then, should he be rejected in an examination for not having this class of surgery at his fingers' ends?

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[1] Chapters I II III, IV, V VI, VII, VIII, IX X XI XII, XIII XIV, and XV were published in THE LANCET of Feb 18th (p 447) and 25th (p 517) March 4th (p 593) 18th (p 736), and 25th (p 817), April 1st (p 877) 15th (p. 1017) 22nd (p 1089) and 29th (p 1151), May 6th (p 1218) 13th (p 1287) 20th (p 1375) and 27th (p. 1449), June 3rd (p 1533) and 10th (p 1584), 1905, respectively

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[3] Journal of the Royal Statistical Society, 1890, vol liii.

In England, Scotland, and Ireland alike the same feeling of dissatisfaction at the examination system as applied to medical education has at different times prevailed and has found voice among some of the best known teachers, among whom may be mentioned the late Sir George Humphry, Professor Pettigrew, and the late Sir William Stokes. Sir George Humphry, one of the best clinical teachers that England has ever seen, said in a memorandum addressed to the General Medical Council upon the subject of the numerous rejections of candidates for medical examinations: "The burdening of the memory with mere facts which have no direct or obvious connexion with science or practice—with facts, that is, unassociated with ideas of practical utility—is, on the whole, of little value educationally or otherwise, and such facts make but a transient impression on the memory. Laboriously crammed together, with efforts worthy of a better purpose, they are with difficulty held until the examination crisis and then quickly escape with little regret at their departure. Indeed, examination in each subject of professional study should be restricted to the general principles and the more important facts of the science, and should be of such a character as to induce students in their preparation for it to observe and think for themselves more than is now commonly the case. The examinations should be regarded from an educational point of view, with reference, that is, to the influence which they are likely to exert upon the character, the education, and the mental training of the students, as well as with reference to their being a test of fitness for admission to the Medical Register."

Sir William Stokes, in opening the medical session at Meath Hospital in the same year that Mr. Teale made his remarkable appeal to the General Medical Council that they should guard against an abuse of examinations, gave as follows the result of his long experience as a teacher and as an examiner: "The student, wearied and weighed down by an accumulation of courses and with the sword of Damocles in the shape of an annual examination ever hanging over his head, has neither time nor inclination to do anything that, in student parlance, will not 'pay' in the examination. It seems to me that the outcome of most modern changes in the medical education is in the direction of making students read, not few books well, but many books badly, and that the brain has been looked upon too much as an organ with an unlimited capacity for retaining, digesting, and absorbing in a given time every ascertained fact, not only of medicine and surgery, but also of all the sciences auxiliary to medicine. The attempt to carry out the arrangement is fraught with real injury to many, with disaster to some."

The gist of the words of these authorities was the same. They found that the extension of the medical curriculum in 1890 had by 1895 failed in its object. The extra year had been designed to be used for clinical work in the hospitals, the student, presumably clear of bookwork, learning the practice of his profession—either "walking the hospitals," to use the old-fashioned phrase, or gaining experience otherwise in practice. So much was this the intention that the Council had sanctioned a term of pupilage at the end of the curriculum to count as part of the five years and in a measure to take the place of the old system of apprenticeship. As a matter of fact, the fifth year is almost always spent by the student with his nose in his books. Everyone sees it now and five years ago it had become clear to observant teachers. The student cannot afford the time to do clinical work or to record impressions and experiences in the ward when there is so much bookwork to be got through. The position forms a strong indictment against the habit of multiplying examinations and of splitting the subjects of the curriculum into a number of groups, and a no less strong indictment against the educational methods employed. Too much stress must not be laid upon the fallibility of examiners who in the minds of many are responsible for a part of the failure of the existing system of medical education. At some of the centres of education the examiners are chosen by the General Medical Council with great care and at all the examinations are inspected by the central authority, mainly with the object of seeing that the student obtains fair play. The arrangement by which the questions are selected is at many examination boards an elaborate one, aiming at securing a fair and commonsense test, while the student is always subjected *vivâ voce* to the attention of two examiners simultaneously, that there may be a witness, and possibly a supporter, in case he is rudely handled. Granted, however, that examinations are conducted with as much fairness as possible, the fact still remains that the medical student's career is too much embarrassed by them. He spends time that could be spent in a better way, learning by rote things that he believes will secure a safe passage through his next examination; he spends his parent's money trying again when previous endeavours have been futile; he spends his energies and his spirits, and when he gets through the examination he has swallowed, in the desperate intention of avoiding all possible chances of failure, lumps of information that he cannot digest.

There are two really substantial reasons for examining a medical student, or any other professional student, and these should always be held in view by those who have charge of his education. The first of these is to see that he is sufficiently well acquainted with the subjects of preliminary education to enable him with advantage to pass on to the study of the technical requirements necessary for him to practise the daily work of his profession. The second is, of course, to see that he has learned his work sufficiently well to enable him to practise with benefit to the public. With regard to the first, it is doubtful if the present guarantee in preliminary education in the medical profession is a sufficient one. The standard has been much improved in recent years but it could be raised with advantage. It is at this end that the unfit should be stopped. The student who is bound to extend a five years' professional education into one of seven, or even more, years because his general education has been neglected should be peremptorily barred at the outset instead of being allowed to struggle on, passing his subjects piecemeal, and attacking each stage of his career with all the disabilities attending an imperfect knowledge of what he has put behind him To turn out practical medical men is, or should be, the aim of medical education This result is not achieved by admitting all and every to the professional examinations From such crowding comes hurry, the ever-present element of chance is unduly increased, good men meet with undue disaster, and ineffective work is done by examinee and examiner The remedy for a multiplicity of examinations is to start with a test of proper stringency, one which insures that the persons who would inevitably have fallen somewhere by the wayside should fall at the start, and one which also insures that the man who passes has acquired a grounding that should make future professional tests easier.

Certain subjects are given the medical student to learn and five years are given him in which to learn them theoretically and practically, after passing an entrance examination of varying stiffness He takes on the average over six years to satisfy the examiners of the different qualifying boards that he is up to their standard, and their standard is regulated by the General Medical Council up to a certain point The lengthening of a nominal five years' curriculum into a virtual six years' curriculum cannot be considered satisfactory—all the economical arguments against the statutory retention of the medical student in the pupillary state for six years can be employed with double force against a condition of things which retains him there by providing him with no proper chances of getting through his work in the allotted spell But the direction in which to look for a remedy is not so clear as is the necessity of looking To lower the standard of medical knowledge at a time when all around the standard of other professional knowledge is being raised would be quite unthinkable To multiply examinations so that the student can take his subjects in many small parts and put them behind him bit by bit is a vicious plan—the percentage of failures is

their own students in the ancillary sciences "We must decentralise," he said, in the address from which I have already quoted, "we must unload our public examinations We must relegate to the schools not only to teach but to examine and to certify in all secondary subjects, such as elementary biology, materia medica, pharmacy, hygiene, perhaps even chemistry, and certainly forensic medicine Then let *all the rest* be covered by three public examinations—one in anatomy and physiology, presumably at the end of the second year of professional study, one in pathology and therapeutics at the end of the fourth year, and the clinical examination in medicine and surgery,
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logy), at the end of the fifth
be able to afford to examine
more thoroughly and less hurriedly, to find out what a student really knows, and to re examine those on the border line of pluck or pass Then, when plucking examinations are reduced from nine to three and become less matters of chance, there will be some room for calm clinical study, for self training, for learning something during studentship of that very important and terribly neglected better half of the training of a true medical man, the knowledge and observation of the human being "

Mr Teale's indictment of over examination was thoroughly sound and justified by facts, but his remedy is not convincing To permit the different medical schools to examine and pass their students in the preliminary subjects would be to court incalculable trouble, for the stress of circumstances might at any time lead to a down grade competition between the schools The General Medical Council could never resign to all the medical schools between Belfast and London, between Aberdeen and Bristol, so much of its discretion and authority as would be implied by allowing the schools to examine their own students in half the subjects of a medical curriculum Centralisation rather than decentralisation is the remedy

First, it is necessary to secure a sound preliminary education for the medical student, as a certain percentage of rejections certainly come from the fact that a large number of candidates have not been taught how to learn. Here the General Medical Council might well insist upon more stringent tests than are yet employed, while it is greatly to be hoped that all the lads in the kingdom intending to enter a profession will soon be submitted to one form of test before entering upon their special studies As has been recently pointed out in the columns of THE LANCET,[4] it is a fact familiar to all who have entered professions and more painfully, perhaps, to those who have desired to place sons in them, that there is a multiplicity of examinations which qualify for entrance Many bodies hold examinations of this kind which, although identical in standard, are yet altogether diverse in the details of their requirements The effects of this diversity are serious not only to schools by rendering it impossible for boys working for the different examinations to be taught together but also to the education of the boys preparing for the examinations by depriving them of the regular class instruction during their preparation It would therefore be a great gain if there were a recognised standard examination the exact requirements for which could be taught in schools all over the country and the successful passing of which would qualify a boy in the eyes of such bodies as the General Medical Council, the Institution of Civil Engineers, and so on, to enter upon the particular studies required by the examining bodies for the different professions The Board of Education, through a consultative committee, has recently proposed to inaugurate such a scheme and in doing so has been assisted in its efforts by the General Medical Council The consultative committee of the Board of Education considers that the general system of school certificates which is desirable should be granted upon examinations controlled "by a university, by a combination of universities, or by an examining board representative of a university or universities and of the local bodies prepared to cooperate with them" The more generally representative this authority is made the better will it serve the purpose of the medical profession If practically all medical students enter upon their special studies after passing the same preliminary examination, and that one of proper stringency, the teaching in classes corresponding to years of entry would be much easier, and the percentage of rejections would fall at once considerably The examination of medical men by the State for a State licence to practise is not a revolution that is outside the range of practical politics, but such a reform—for reform I hold that it would be even now, though all the circumstances are altered since THE LANCET first started a powerful movement in this direction—will take time to accomplish

Centralisation of medical education as far as the provision of an adequate entrance examination for all candidates would be a thoroughly useful reform Centralisation again as implied for common classes of instruction for London medical students is very desirable But when centralisation comes to be taken as far as the institution of a State examination for a State licence to practise, opinion is not so solid in its favour For the pressing trouble some immediate relief should be found and it will consist in lightening the curriculum wherever possible without lowering the professional standard If the curriculum cannot be lengthened upon economical grounds, if the standard cannot be lowered for equally cogent reasons, and if a multiplicity of examinations appears to mean simply an increased percentage of failures, but one course is left open The curriculum must be weeded Without in the least lowering the standard of knowledge demanded of the student upon essential points and without relaxing any effort to make his knowledge of the more important subjects sound all that is not absolutely necessary in the secondary subjects should be excised from the schedule The amount of botany demanded of the student might be decreased and schedules should limit the study of chemistry and biology in certain directions so that teaching could be employed directly upon the lines indicated Outside these lines examiners should be instructed to attribute the greatest importance to practical work. In this way, given a sensible preliminary examination all students of good capacity should be able to obtain their qualifications in five years, and students not so favourably dowered had better try another walk of life.

(To be continued.)

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[4] THE LANCET, Dec 10th, 1904, p 1666.

THE LANCET.

LONDON: SATURDAY, JUNE 17, 1905.

The Metropolitan Hospital Sunday Fund.

This is the one occasion in the whole year when we address the public directly and every year, when we do so, we say the same thing—that the Metropolitan Hospital Sunday Fund and its sister institution, King Edward's Hospital Fund for London, are, of all the charities which have ever been devised, the most fitting for general public support. They have the greatest right to expect an enthusiastic backing from those who understand their objects, and they appeal alike to the rich and the poor, to the virtuous and the frail, to the sick and the sound. Nor is there any difficulty in understanding the aim of these funds; they desire to introduce order into charity, to support those noble institutions, the London hospitals, in an openhanded but economical manner by dowering what is best in them and by assisting them to deal in a well-regulated fashion with the awkward problems of hospital administration.

We find typified in these funds the working of charity combined with organisation, two things which—despite the excellent record of the society which is inevitably called to mind by the conjunction of the words—most would think to be in complete antagonism to each other. Charity, the charity of the Epistle signifies love and cannot, many will be found to say, be confined by rules. Love knows nothing of rules, and it cannot be truly charitable to give so much money to one cause and so much to another, and to have reasons for not giving so much more money to yet a third. Generosity of spirit goes on to suggest that it is not truly charitable to wonder whether the object of our ministrations is a worthy object. It may be that unworthiness constitutes the most essential part of the claim upon our purse and our attention. It is just because the hospitals of London are administered in this spirit that no one need ever hesitate about subscribing to their support, and the Metropolitan Hospital Sunday Fund, the subject of these reflections, true to the religious tone which underlies it and pervades it, desires no regulations whatever tending to confine the benefits of the hospitals to so-called deserving persons. The order that it desires to introduce into charity implies merely the business principles of administration, and this because the good work of the hospitals can be enormously increased if the available funds are spent in a proper manner—in a manner conformable with the theory that a hospital is a charitable institution for the relief of the sick and injured poor and is not a rate-supported infirmary or a centre for the *cliniques* of distinguished medical men, or a convalescent home. Regarding the matter in this way we see that a certain amount of order in charity is necessary or the uses of the charity may be curtailed, though the necessity may be due to the imperfection of this world—a world of compromises where continually the best has to be done in unpromising circumstances and by imperfect methods. There is not a system of religion which has been devised which does not find war wicked and stupid, but, on the other hand, there is not a system of government which has been devised that does not find recourse to arms in behalf of the right a necessity. In the same way if this were Utopia no order in charity would be required because the supply of charity would exceed the demand and the struggle would be not to obtain support for this or that good object but to be the first to subscribe to this or that good object. When this position is achieved, when the supply of practical charity equals the demand, the necessity for economy will be gone, but until that day arrives it seems to us that every effort will have to be made by practical lovers of their fellow-men not only to raise funds for charity but to husband them, so that they may be employed only to the best advantage and only in behalf of those for whom they were intended.

At the present time all civilised nations have upon their hands a number of poor, of used-up, of incompetent, and of criminal persons, for whom assistance has to be found in sickness and in health, and especially in sickness. In their behalf charity should always be active but for their relief only inadequate means can as yet be found. Selection must therefore be made among the many claimants for our charity, and the moment the principle of selection is put into play the person who is poor and sick at the same time is seen to be by far the most urgent candidate for protection. Timely ministry to his physical needs may restore him to society as a useful and valuable citizen. His plight is in most cases due to no fault of his own, while his sufferings are accentuated by the fact that only too often all his family have to suffer with him; and not to suffer in their feelings only. The sick parent may mean the hungry child and the ruined home, unless the breadwinner can be promptly restored to health. There is little need to elaborate the points that have been thus briefly set down and which will serve, like the Rev. C. H. Grundy's practical little homily, which we publish in another column, to elaborate the message of our usual Hospital Sunday Fund Supplement. That Supplement will be in the hands of a large section of the public by next Sunday and it is our earnest hope that it may arouse in some of them the desire to make the Fund a success. Through Mr. George Herring's noble generosity every pound given to the Fund automatically becomes 25*s.*, while his decision to rank the City of London as a place of worship within the meaning of his benevolent act increases the liability upon him. We trust that we may have in subsequent issues of The Lancet to chronicle a splendid list of subscriptions, and that the total may this year attain to the coveted figure of £100,000, the sum which imagination, for no very good reason, appears to fix as the maximum to which it can attain.

Vicarious Excretion.

ONE of the most remarkable facts in connexion with the physiology of the animal body is the power by which the function of one organ can be performed by another. In the lowest organisms this power is most marked. The hydra consists for the most part of two layers of cells, the superficial layer serving as a cutaneous envelope while the deeper layer incloses the primitive alimentary canal and performs digestive functions. By the use of extreme care it is possible to turn the hydra *inside out*, so that the lower formerly digestive inner layer now is superficial and serves to protect the animal, while the former cutaneous layer surrounds the new digestive cavity and, what is more, it secretes a digestive liquid which, acting on the food, suffices for the nourishment of the hydra. Such exchange of functions is not very surprising in so low a creature, for the cells in the hydra are not very far removed from the unicellular amœba, where the same mass of protoplasm can undertake in turn, or even simultaneously, the most varied functions. As we ascend the animal scale the actions of cells become more differentiated and with the increase of differentiation there is diminution of the power of undertaking many functions in turn. The cells become specialised and have to sacrifice a number of their powers in order to attain to greater perfection in the remainder. Yet even in the higher animals we find evidence that the same function can be exercised by more than one organ. A dog from which the spleen has been removed may be as healthy and as normal as a dog provided with a spleen, and though we may not be fully acquainted with the functions of this organ yet from the well-being of the animal after splenectomy we may be assured that the functions of the spleen are being exercised by some other organ or organs. In some cases it is possible that there have been accessory spleens (lienculi) which have hypertrophied and thus replaced the organ which had been removed; but this explanation will not suffice for all cases, for necropsies have in some instances shown that there have been none of these accessory spleens present.

Exactly the same observations have been made on human beings. Many times the spleen has been successfully removed, especially after injury, and yet by no symptom could it have been diagnosed that the spleen was not there. The functions of the spleen have been undertaken by some other tissues or organs. When one kidney has been removed the other undergoes a true vicarious hypertrophy, growing obviously larger and becoming capable of fulfilling completely the duties of its lost fellow, in addition to its own. These well-known facts perhaps prompted Mr. F. ROWLAND HUMPHREYS in the choice of the subject of his oration at the annual meeting of the Hunterian Society. For he discoursed in an interesting address on the Vicarious Excretion in Bright's Disease. The excretory function of the kidney is of the first importance and Mr. HUMPHREYS'S paper was in the main an examination of the question as to how far other organs are capable of undertaking the functions of the kidney when it is diseased. The skin and the bowel are the organs which can endeavour to replace the kidney but the extent to which the skin does so is much exaggerated in common opinion. In health the skin does excrete some urea and other nitrogenous products; it is true that the quantity is small but in health the skin does not appear to replace the kidney at all, for, according to LEUBE, the nitrogen of the sweat is greatest in amount when it is greatest in the urine. In disease, however, it has been found that with small urinary excretion of urea the skin may excrete a greatly increased amount; in some cases it would appear that the epithelial cells are capable of allowing the passage of nitrogenous matter by dialysis *in proportion to their loss of vitality.*

Mr. HUMPHREYS suggests that it might be possible to make use of an artificial diminution of vitality in the epithelium to increase its dialysing powers. The bowel has only recently received full recognition as an excreting agent of nitrogenous matters, for KRUGER and SCHITTENHELM have shown that even in health four times as much of those substances classed as purin bodies pass out by the bowel as are excreted by the kidneys. It is also true of many other substances that excretion by the bowel is by no means negligible and in disease the value of the intestinal excretion may be greater still. Mr. HUMPHREYS points out that if sodium and magnesium salts are administered in Bright's disease in order to carry off some of the accumulated toxins a large amount of the salts passes into the blood and this will induce by osmosis the passage of a large amount of tissue waste and toxins from the tissues, and as the kidneys are incapable of dealing with even the normal quantity of such substances they will set up a toxic condition. The subject of vicarious excretion, whether considered only in connexion with Bright's disease or not, is extremely complex; the chemical and physiological problems are far more elaborate than used to be thought and our increasing knowledge has hitherto only served to show how little we know. We know that the vicarious action of the skin and the bowel in renal disease is of vast importance and really that is about all that we do know. But astute theoretical and pathological surmises are all the more welcome because at present an exact knowledge is small. The practical chemist and the observant *clinician can keep* the theorist from obtaining a hearing for theories only, while they are the first to allow that imagination has ever played a great part in the discovery of the truth.

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Glanders in London and Elsewhere.

A QUESTION of considerable importance was addressed by Mr. F. A. CHANNING to the President of the Board of Agriculture in the House of Commons on May 31st, in reference to the circumstances disclosed at the recent inquest on a fatal case of acute glanders in man. The case illustrates the danger of the spread of the disease from infected horses to man and the difficulty of diagnosis of the human cases. The deceased was a horsekeeper in the employ of the Andrew Star Omnibus Company at Fulham, in whose stables cases of glanders have occurred from time to time. He complained of pain in the left side and was feverish on May 1st and his condition was regarded as due to pleurisy. Two days later he was sweating profusely and complained of pain in various joints. On admission to St. George's Hospital on May 8th

Association (Dr. W. Collier), and Mr. Plowden, the well-known police magistrate. The toasts of "The Coroners' Society," given by Mr. T. H. Openshaw, C.M.G., F.R.C.S., and responded to by Mr. Butcher in an interesting speech, and "The Officers" were duly pledged, the President eulogising the honorary secretary, Mr. Walter Schröder, for his invaluable assistance to the council and to the many members who wrote to him for his opinion in cases of emergency and difficulty. Mr. G. P. Wyatt and Mr. Schröder replied. The Arcadian glee singers gave a very good musical programme and a most agreeable evening was spent, the company dispersing about 11 P.M.

THE METHODS OF DISTRIBUTION OF ICE.

THE approach of warmer weather calls attention to the unsatisfactory methods under which ice is distributed in this country. The purity of ice has frequently been referred to in THE LANCET. Everyone is familiar with the method of handling huge blocks of ice from an open lorry to, as is usually the case, an underground cellar. A sack, more often than not filthy by constant dragging along the pavement on which it is placed, is used not so much to keep the ice clean as to break the fall. The blocks of ice are lowered down a ladder or board to the sacking. The ice is then pushed along the pavement to its destination, either a shed at the back of the premises or a cellar. This method of handling ice may be seen every day in any large town. Huge quantities of ice are used nowadays, especially by butchers and fishmongers, in hotels and restaurants, and for the preparation of "ices" and iced drinks. Bacterial contamination due to ice is bad enough in the case of meat and fish, though the cooking of these foods probably destroys the micro-organisms. In the case of "ices" and iced drinks, however, any bacteria introduced by impure ice remain unaffected until they reach the mouth and alimentary tract of the consumer where their activity may be aroused. It is therefore of the highest importance that care should be taken not only to obtain ice from pure sources but to maintain it by all possible means in a state of purity. As to the source of ice, there can be no doubt that the purest ice is obtainable from pure water that has been boiled, cooled, and then artificially frozen, but on the whole the natural ice obtained from the Norwegian fields is excellent in quality and any superficial impurity can easily be removed by rinsing. But the use of stout wooden tubs fitted with linings of pure tin and mounted on runners would form a distinct advance on the rude method of its distribution at present in vogue.

THE NECESSITY OF ATTENDING TO AURAL DISCHARGES.

PERSISTENT discharge from the ear has not until comparatively recent years been recognised in its true significance by the profession and it is only amongst the more cultured and intelligent of the laity that any real appreciation of its potential dangers exists. The reasons for this are not hard to find, for although Sir William Wilde, the famous Irish aural surgeon, in 1840 pointed out the dangers accruing from neglected aural discharge, yet unfortunately his words did not make a due impression upon the medical profession. Wilde lamented the fact that it was considered dangerous to check the discharge of otorrhœa as being a fruitful source of trouble but we find that this idea persists even now amongst the public, while until recently many practitioners of medicine failed to see the possible dangers implied in an aural discharge. An aural discharge frequently ceases at the onset of intracranial complications, so that the symptom no longer exists just as the seriousness of the condition becomes manifest. Another circumstance which has rendered the laity blind to the dangers of otorrhœa and slow to seek medical advice is that the patient frequently gets well without treatment. This is the origin of the belief that a child "will grow out of the discharge." The by no means infrequent cases of spontaneous cure have also had another result—quacks have seen in ear diseases a likely malady for cultivation. Quacks, in fact, at all times have reaped a rich harvest from the "treatment" of aural diseases, and in England we have witnessed the immense scale upon which the Drouet Institute, assisted by a complacent press, conducted its operations. Even the Drouet Institute, however, hardly achieved the superlative wickedness of a French aurist who killed a large number of people by filling their ears with plaster of Paris in order to "cure the discharge." We have read that this person "received the deserts" but we cannot believe it—the age is too humanitarian. To return, however, to the undoubted neglect of aural disease by medical men in times gone by, the scanty attention given to the teaching of the subject has been responsible in this country for the disregard of aural discharges. We are awake now in the matter and there is one important fact also which has worked in a very practical way for the due recognition by the lay mind of the latent dangers of otorrhœa. This is the fact that life assurance companies with but few exceptions are now declining lives where this condition exists. The public can appreciate the significance of this and see that it means a simple assertion that a discharge of the ear is a danger to life. Careful and skilled attention is necessary for the treatment of these conditions, but this skill and care are no more beyond the range and abilities of the averagely endowed practitioner than are the necessities of midwifery. Happen what will, a large proportion of cases will require operation, either a minor operation, such as removing the ossicles with the remains of the drum, or the more extensive radical operation. Both these are extremely satisfactory in skilled hands and the former finds its chief use in soon enabling the busy man to resume his labours. But it cannot be too firmly impressed on sufferers from suppurative otitis media or those responsible for the well-being of such persons that a chronic otorrhœa is a constant danger.

DANGEROUS PERFORMANCES.

AT Hastings, on the Saturday before the recent bank holiday, a man named Davidson gave an exhibition at a public recreation ground, consisting in balancing feats of a not unfamiliar character, executed on a rope or cable stretched 40 feet above the ground. In the midst of his performance the pole with the help of which he was maintaining his equilibrium slipped from him and as he failed in an attempt to grasp the rope he fell to the ground and was killed. A large crowd had assembled to see him and some of these, no doubt, went home sobered and saddened by the catastrophe. At the same time, of others of those present it must be said that they were influenced to a large extent by a morbid desire to see a dangerous performance and on this occasion the dangerous element produced a fatal result before their eyes. Tight-rope performances are not particularly attractive in themselves and if Davidson had advertised his feats as about to take place three feet above the ground or as rendered perfectly safe by means of a net he would have been without an audience, although the skill exhibited would have been the same. Some of those who flock to exhibitions such as his may say in their own defence that it is the exhibition of courage displayed by the performer that they go to see but they must be perfectly aware that the performance is to the chief actor in it a work of routine and that he has long ago lost the nervous feeling which affects some of us when we look down from what is known as a "giddy height' Davidson was no more likely to be affected by the fact that he was 40 feet above the ground than an ordinary person is alarmed when he looks out of a second floor window Nor was his loss of the pole in any way due to it The element of danger, however, was necessary in order that he might be able to attract a crowd and so to earn his living and he pursued his calling to its fatal end The *Daily Telegraph* in an interesting note appended to the report of his death reminds us of some of his more famous predecessors in this particular form of exhibition Of these, Mademoiselle Saqui lived to be 80 years old, dying in 1866, and Blondin, who also died in his bed in 1897, was 73 years of age Many others whose names are not chronicled have perished in attempting to attain the skill necessary to become renowned public performers, but our contemporary mentions two women Miss Young, who died a cripple from injuries sustained at a public performance, and the "Female Blondin who was killed on the Aston Park recreation ground at Birmingham in August 1863 It was on this occasion that Her late Majesty Queen Victoria evinced that sympathy with her subjects which always distinguished her, combined with the sterling good sense no less conspicuous in her character for she wrote to the Mayor of Birmingham expressing her horror that one of her subjects, and a woman should have been "sacrificed to the gratification of a demoralising taste in a public playground which she and the Prince Consort had opened in the hope that it might be for "the healthy exercise and rational recreation of the people' As a matter of fact, the ground in question was outside the jurisdiction of the official to whom Her Majesty s letter was addressed and the stopping of a performance of a grown up person on the score of danger is not easy to effect The best safeguard for the performer is in a healthy public opinion when it can be roused, and of performances upon the tight or slack wire it may also be said that they are so dull and monotonous, even with the element of danger, that their season of popularity, at its height in the days of Blondin, has long been over

THE PROPER WAY TO EAT

THE two articles which we published[1] dealing with the manner in which swallowing is effected by the human being touch on a subject of constant interest and importance Dietetics and all that relates thereto form a branch of medical science that appeals to the general mind as perhaps no other branch can hope to do Every man be he gourmand or ascetic, must eat to live and to the one even as much as to the other, there is an interest and an importance about the details of the way in which this feeding process is accomplished that few other natural processes entail to an equal extent Whether because he wishes to get the largest amount of pleasure at a minimum risk of dyspepsia in the case of the gourmand, or because he wishes to get a maximum amount of nutrition with a minimum expenditure of time and energy, as with the ascetic man in either case wishes to know how he eats, what becomes of his food, and why these things are just as they are and not otherwise Mr Hubert Higgins has opened up an interesting side of the question in his discussion of the poltophagic and psomophagic capabilities of mankind He has shown how both anatomically and functionally man can choose at will which method of swallowing he will employ and we believe with Mr Higgins that much would be gained if all could resolve upon and adhere to, the more troublesome but more hygienic method. No medical man doubts that if all his patients took longer over the mastication and insalivation of their food his labours in safeguarding their bodily health would be lightened in a large degree Unfortunately the constant tendency of civilisation and of social arrangements is to minimise the time given to mastication and to insalivation The cook and the conversationalist are allied against mastication The one prepares food that hardly calls for mastication and that offers little or no resistance to the grindings of the teeth, the other employs his art to stimulate movements of the tongue entirely unconcerned with the preparation for deglutition of food A man cannot in polite circles at once talk and eat Whereas dinner time should be devoted to eating we constantly sacrifice the precious moments to speech and risk a dyspepsia rather than fail to let loose a *bon mot* The labours of Mr Horace Fletcher and of Mr F H van Someren may effect a permanent change in our table customs Perhaps we shall see started a "society for the propagation of poltophagy and shall recognise its adherents when we see a silent but healthy looking dinner party of quietly chewing folk We do not maintain that the more spiritual side of conviviality will be enhanced but there can be no question of the desirability of chewing or poltophagy from a purely physical and gastronomic aspect

VACCINATION THE DURATION OF IMMUNITY

AT the meeting of the Société Médicale des Hopitaux of Paris on May 5th M Sevestre brought forward some evidence showing that the duration of the immunity after vaccination is shorter than is generally supposed A child, aged three years was admitted to the measles pavilion of the Bretonneau Hospital with an eruption which was supposed to be of that disease but which turned out to be a prodromal rash of variola All the patients in the pavilion, who numbered 27 were immediately vaccinated Three left two days later before the result of the vaccination could be ascertained Of the 24 others two, aged 11 and 13 years, showed two and three well developed vaccination vesicles respectively The former child had no vaccination scar and the latter had been unsuccessfully vaccinated in infancy In addition well-developed vesicles were obtained in two children who had well marked vaccination scars and whose ages were two and four years respectively The child who suffered from variola was only three years old and showed one vaccination cicatrix Thus out of the 25 children one who showed a vaccination scar, was attacked with variola at the age of three years and in two others aged two and four years respectively, vaccination was successfully performed in spite of the existence of well marked vaccination scars M Sevestre, therefore, concludes that in the case of an epidemic of variola or of exposure to infection from a sporadic case children should be vaccinated, even though only a few years old and showing well marked vaccination scars In the discussion that followed cases were mentioned in which recruits were successfully vaccinated although the same result had been achieved a short time before M Roger stated that he had successfully vaccinated in 1897 six children at ages varying from 16 months to five years who bore the scars sometimes multiple of primary vaccination M Joseph Belin mentioned the case of a woman who was successfully vaccinated in infancy and had confluent variola in 1868 at the age of 28 years In 1870 she had discrete variola From 1871 to 1881 Professor Brouardel vaccinated her every year successfully The allied but distinct question of the duration of the protection against variola conferred by vaccination does not seem to have engaged the attention of the society We may point out that the Registrar General s statistics of the small pox epidemic in London in 1901 02 showed that vaccination affords complete protection against death from small-pox for ten years. But all practitioners will agree as to the wisdom of the advice to revaccinate even young children who have been successfully vaccinated if they are exposed to the infection of variola. Exceptional cases occur and it is by representing them as the rule that a large part of the antivaccinationist propaganda is carried on. It is noteworthy that the child referred to above who had variola showed only one vaccination scar and therefore was imperfectly vaccinated.

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[1] THE LANCET May 20th (p 1334) and 27th (p 1417) 1905.

THE NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM.

A MEETING of the Neurological Society of the United Kingdom will be held at the National Hospital for the Paralysed and Epileptic, Queen-square, London, W.C., on Saturday, June 24th, at 10 A.M. The morning will be devoted to the exhibition and the discussion of clinical cases and the afternoon to pathological demonstrations. Lunch will be provided for all members of the Neurological Society at the Hotel Russell. In the evening the metropolitan members will entertain the extra-metropolitan members at dinner at the Imperial Restaurant, Regent-street, at 7.45.

A PLEA FOR THE SUPPLY OF NATURAL MILK.

WE should be wrong probably in saying that there was not a pint of milk sold in London exactly as it comes from the cow, but we should not be far out if we said that at least, and probably more than, nine-tenths of the supply is not in its perfectly pure, natural condition. When it is not watered it is deprived of part of its fat or preserved with a chemical substance. The law provides a remedy against these forms of tampering and offenders are frequently brought to book, but no attempt appears to be made to check the enormously increasing practice of adding a dye to milk to make it look rich and creamy. Surely the phrase "to make it look rich and creamy" implies deceit and fraud. At all events, no milk can be called natural that contains an added dye. The fact is that the eye is trusted too much by the public nowadays as a guide to quality and the unscrupulous tradesman is not slow to take advantage of the adoption of this frequently false criterion. It is the same story in regard to the white loaf; as white is an emblem of purity itself it must follow that the whiter the loaf the purer must the bread be. From one point of view that may be true but only when the essential nutritious and appetising constituents are regarded as impurities. With milk the case is reversed; it must not be white but a creamy yellow or brown. The addition of annatto or of methyl-orange to milk does not augment, it is needless to state, its creamy constituents. They remain just the same but the colour is heightened in order to create the impression that more cream is present than is really the case. Surely the intention here is to deceive, to convey a false impression to the consumer that the milk is rich. The public would be far wiser if it would entertain always a strong suspicion about milk which presents a decided brown coffee-like colour. The milkseller in his anxiety to impress the public with the excellent "creamy" quality of the milk which he supplies invariably overdoes the trick and the result is a milk having a colour more like that of pure cream than that of milk. But it is possible to find pure cream and pure milk which are nearly white. After all it is only the cream of certain breeds of cows that is decidedly brownish in colour. Brown is no more normal to cream than it is to a new-laid egg. There are many people by the way who choose the brown-coloured egg in preference to the white one because the former looks "richer." Here again this preference is met by staining the white egg a coffee colour. It is time that this tampering with the normal appearance of milk by adding dye to it should be stopped. The practice is very extensively pursued judging from several samples of milk which we have recently had occasion to examine; indeed, some of the samples proved to be dyed very heavily with an aniline dye. We hope the public will exercise its commonsense in this matter and abandon the silly criterion of colour in regard to a number of articles of food, more particularly in regard to milk, and will demand this natural food in its natural condition. The infant should be spared the aniline dye and his guardians should see that such is the case. An Act of Parliament is needed which besides providing against the addition of water and the abstraction of fat shall prohibit under severe penalty the addition of any foreign substance whatever to milk.

THE MEDICAL SUPERVISION OF NURSLINGS IN FRANCE.

THE serious political problem presented by the stationary condition of the population of France has directed attention to the best means of checking the great infantile mortality. Hence has arisen the regular medical supervision of infants, termed "*Consultations de Nourrissons.*" In the *Archives Générales de Médecine* of May 16th Professor Budin has given an interesting account of the origin, organisation, and results of this system. When "*chef de service*" at the Charité Maternity he was struck with the high mortality of the infants after they they left hospital. When the mothers returned home they had no proper guidance and made mistakes in nursing with disastrous results. In 1892 Professor Budin asked the director of the Assistance Publique for permission to see once a week the infants who had been born in his hospital in order that he might direct the mothers as to their nursing and when suckling was insufficient supply good sterilised milk. After some opposition on the grounds of expense permission was granted and the "*Consultation de Nourrissons*" was founded. It is organised as follows. The mothers leave the hospital trained to suckle their infants and receive a card on which are marked the date of birth and the weight of the infant. Children entirely nourished at the breast are brought for inspection once a fortnight, but those dependent, partially or entirely, on sterilised milk are brought once a week. The infant is weighed each time and the result is marked on the card. Any necessary advice is given and the mother is encouraged to continue to suckle. This clinic Dr. Henri de Rothschild has aptly termed the "*école des mères.*" If the maternal milk is insufficient sterilised milk is prescribed on the card in definite quantities. The infants attend the "*Consultation*" until the age of two years. Each card shows at a glance the life-history of the child—the curve of increase of weight, the quantity of sterilised milk taken, and particulars as to dentition, difficulties of weaning, and illnesses. Professor Budin's "*Consultations*" have proved such a success that similar ones have been founded all over France. Dr. Dufour, who founded one at Fécamp in 1894, gave it the name of "*Goutte de Lait,*" which has become general. The results obtained are certainly remarkable. In France infantile mortality is high. In the years 1896 to 1900 from 160 to 170 per 1000 of the infants born died in the first year of life. The causes of the deaths in the first year of life in the towns of France are distributed as follows per 1000: gastro-intestinal affections, 385; affections of the respiratory system, 147; congenital debility, 171; tuberculosis, 25; contagious diseases, 49; and other causes, 223. Thus the most important causes are gastro-intestinal affections. Now at Professor Budin's "*Consultation*" the extraordinary result has been achieved of reducing mortality from these last affections to zero. In the years 1892 to 1898 only a single death occurred from gastro-enteritis and even this was a further proof of the value of the system. The mother left the child at a *crèche* where he received bad milk and contracted diarrhœa. He recovered but he was sent a second time to the *crèche* where in the same way he contracted "infantile cholera," which proved fatal. Subsequently to 1898 only one other death from diarrhœa has occurred and in that case too it was due to disobedience. In cases of congenitally feeble children special directions were given as to diet and to clothing. Since the year 1898 there have died only 93 (10·8 per cent.) out of 859 such children who weighed at birth less than 2500 grammes. The mortality of the children brought for consultation is much lower than the general mortality. Thus in the years 1898, 1899, and 1900 the former for the first year of life was only 46 per 1000, while that of Paris generally was 178. For pulmonary diseases the mortality was 17 while that of Paris was 32. In the towns of France "*Consultations de Nourrissons*" have also given excellent results. For example, in Saint-Pol-sur-Mer the deaths of infants in the first year of life per 1000 births was for the five years ending 1902 288; in 1903, after the establishment of a "*Consultation*," it fell to 209; and in 1904 to 151, in spite of the very hot summer. In Arques there was a similar diminution from 190 to 101 and 112 for the years 1903 and 1904 respectively. In the latter year the mortality in the neighbouring communes of Blendecques, Wizernes, and Longuenesse, where no "*Consultation*" existed, was respectively 136, 190, and 200. Moreover, in Arques, while the general mortality in the years 1903 and 1904 was that stated above, that of the infants brought for consultation was still lower—only nine and 34 respectively. Professor Budin attributes these surprising results largely to the enjoining of suckling. At the Clinque Tarnier 95 per cent. of the children are nourished at the breast, partly or entirely. In the feeding of infants Professor Budin regards the weighing machine as the great guide as to whether sufficient milk is being taken or not. If the infant is not gaining weight normally and there is nothing pathological to account for this the quantity of milk must be insufficient. Weighing the child before and after taking the breast may show that the quantity yielded is too small. Then sterilised milk must be used to supplement the maternal milk. On the other hand, it is important to avoid giving too much milk, which is a greater evil than giving too little for a short period. The former mistake will cause digestive disturbances but the latter only a temporary arrest of growth. As to the quantity of cows' milk required daily by a normal infant Professor Budin's extensive experience has led him to formulate the useful rule that the amount corresponds accurately to a tenth of the weight of the body. He uses milk sterilised in a water-bath at 100° C. In a dozen years he has had at his "*Consultation*" only a single case of rickets, and that slight, when the mother had not followed his advice; one case of eczema; and not one of scurvy.

THE subject of Tuberculosis of the Kidney was chosen by Dr. Howard A. Kelly, Professor of Gynæcological Surgery in the Johns Hopkins University, Baltimore, for his address delivered on June 8th before the British Gynæcological Society and published in abstract at p. 1630 of our present issue. There was a good attendance, about 80 members of the society and their friends being present, and subsequently a conversazione was held. Before the delivery of the address Dr. Howard Kelly was entertained to dinner at the Café Monico by Dr. H. Macnaughton-Jones. Amongst those present at this dinner were Dr. W. Alexander of Liverpool, Sir W. J. Sinclair of Manchester, Mr. Watson Cheyne, Dr. W. Duncan, Dr. J. H. Swanton, and Professor J. W. Taylor of Birmingham.

THE Cavendish lecture of the West London Medico-Chirurgical Society will be delivered on Friday, June 23rd, at 8.30 P.M., in the town hall, Hammersmith, by Dr. J. F. Goodhart, who has taken as his subject, Disease of the Heart. The usual conversazione, with surgical exhibits and a smoking concert, will be held by the West London Medico-Chirurgical Society upon the occasion.

DR. Clement Godson has been elected a corresponding member of the Società Italiana di Ostetricia e Ginecologia. Professor Pasquali, the President, in making the announcement refers to "the first successful Cæsarean operation performed in Great Britain after the Porro method which helped so much to render this form of operation acceptable in England."

AT the meeting of the weekly board of the Royal Free Hospital held on June 14th Mr. Charles Burt tendered his resignation of the post of chairman, which he has held for the past ten years. Mr. C. W. Blackman was appointed as his successor, Mr. Burt retaining the post of treasurer.

THE annual banquet of the Association of British Postal Medical Officers will be held in the Whitehall Rooms of the Hôtel Métropole, London, on Thursday, July 13th, at 7 for 7.30 P.M. The President, Dr. John Brown, will occupy the chair.

THE NEW KING'S COLLEGE HOSPITAL.

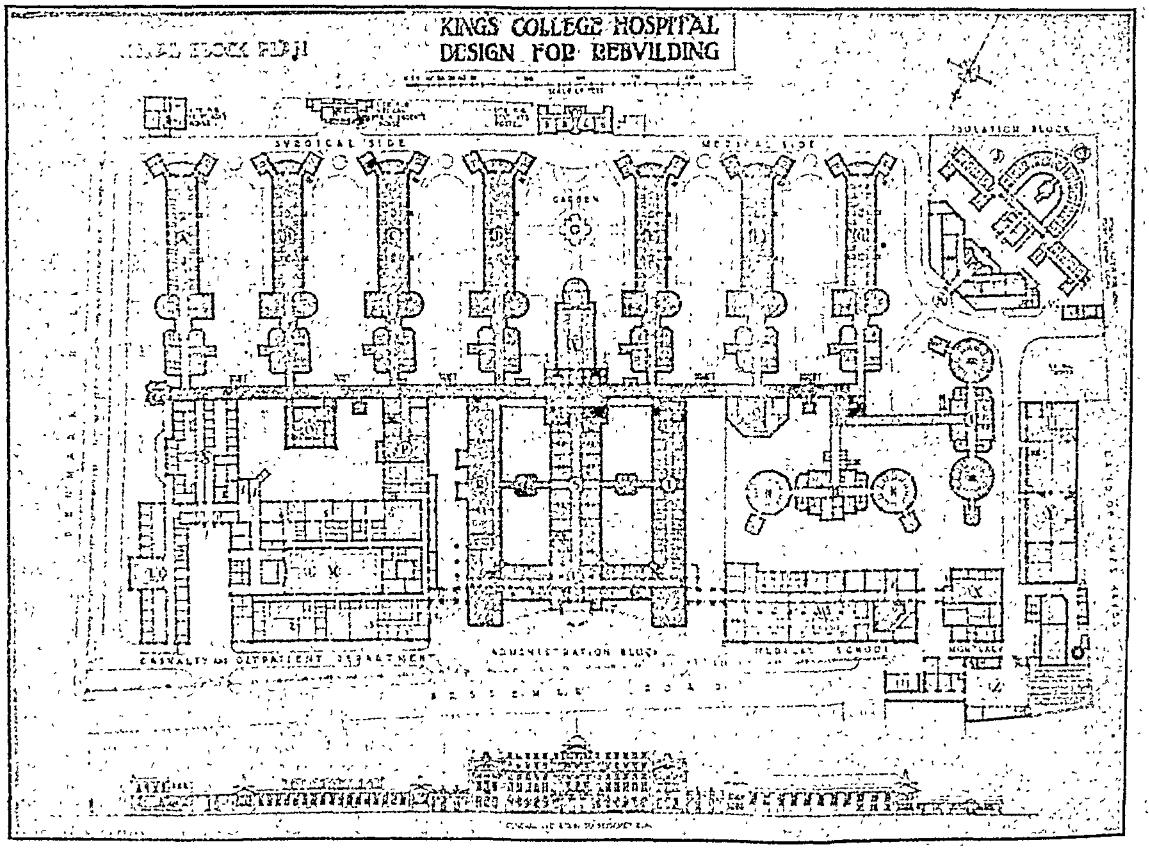
WE append an illustration of the plan of the new buildings of King's College Hospital. The idea which the architect set himself to carry out is described in his official report as aiming at unifying the nursing and general administration of the hospital, while reducing to a minimum the labour attendant on such services:—

> The vertical axis of the hospital, from north to south, upon the lower floor of the sick wards, suggested by the contour of the site (which rises rapidly towards the south) is occupied by the official nursing staff. That is to say, the sister matron's apart- [illegible] expenditure of [illegible]

The architect calls particular attention to the segmental form of plan for the isolation block, which he describes as the result of the study of Paris examples. He says:—

> First, the position on the site lends itself in a peculiarly appropriate way to this form, presenting the following advantages: (A) as taking up the least amount of site space; (B) of securing absolute privacy; (C) securing direct *cross ventilation* to each cell; (D) it procures for each cell a due amount of available sunlight; (E) complete supervision and nursing from both sides. In fact, the proposal,

which can only be considered as tentative, is full of suggestive possibilities—not the least practical being that one-half of the wards might be built in the first instance. Direct cross ventilation is secured by keeping the nursing corridor at a lower level than the wards, thus securing an open space above, while on the upper floor the ceiling of the corridor becomes a flat with no intervening space. Friends can visit the patients by an outside access and see them from the balconies, which are also available for outside nursing and for the removal of evacuations. Some of the cells have been arranged to communicate when it may become necessary to isolate the nurse as well as the patient, or where it may be necessary to isolate a whole family. We observed in Paris with interest the custom of taking in a mother with a sick child, the former, of course, having to conform to regulations. By the arrangement of this plan ducts and their cleaning can be avoided and unfettered ventilation secured under control by louvres, according to the directions of the wind. The heating would be by hot-water radiators or, if thought desirable, in the case of the cells by electric radiators. The system of cells is doubled so that every pair are parted by a cross wall, the remaining part being metal glazed screens; the doors and windows are of metal construction and glazed; the patients cannot open these doors, which are operated only by the nurses. The blinds are outside, as also are the blind cords. Each cell will have its own sink, water-supply, gas-jet, and electricity for sterilisation, as well as steam jets also available for a like purpose. The dado around the cells and corridors will be of fire-clay glazed both sides, measuring 4 feet × 2 feet × 1 foot 6 inches. The duty room and sick room are centrally placed and here the nickel plates, cups, &c., are sterilised after use. The patient is bathed in his cell and the dirty linen is put into a cylindrical box and removed for disinfection. The arrangements for convalescents are located as before described in circular rooms and isolated from the ward block, with their own sanitary conveniences. The centre part is occupied by the entrance and the receiving and robing rooms and bed lift, while on the upper floor an operation room has been provided, with the annexes. The economy of the isolation hospital is complete in itself and it is cut off from the general hospital by surrounding walls and gates with a complete zone.



It will be seen that the great novelty of the new hospital is the isolation block (J) which has been modelled, with important modifications, upon the Pasteur Hospital, Paris. It is unnecessary to give in detail the features of the new building because the appended illustration so clearly conveys both the conception of the architect and his achievement. The whole building has been most carefully thought out so as to combine economy with efficiency and, so far as human forethought can provide, the new hospital ought to be a model. The architect is Mr. W. A. Pite, F.R.I.B.A., and we congratulate him upon the happy combination of the æsthetic with the useful which is displayed in his design.

The following is the reference table to the block plan :—

SURGICAL SIDE.

Block A.—Lower, middle, and upper floors: Future extension.

Block B.—Lower, middle, and upper floors: Men.

Block C.—Lower and middle floors: Women. Upper floor: Gy cology.

Block D.—Lower floor: Children. Middle floor: Women. Up floor: Maternity.

MEDICAL SIDE.

Block E.—Lower floor: Children. Middle and upper floors: Wome

Block F.—Lower, middle, and upper floors: Men.

Block G.—Lower, middle, and upper floors: Future extension.

Block H.—Lower floor: Eyes. Upper floor: Ears, throats, a skins.

Block I.—Lower and upper floors: Future extension.

Block J.—Isolation block.

Block K.—Isolation block, administration, and nurses' home.

Block L.—Casualty department.

Block M.—Out-patient department: 1. Waiting hall. 2. Surg section. 3. Ophthalmic out-patient section. 4. Gynæcological a Children's section. 5. Medical section. 6. Ear and throat secti *Note.*—The Dental section is over Nos. 4, 5, and 6, and the electri section of out-patients' department is over Block N.

Block N.—Bathing establishment. Electrical section of out-patie department over.

Block O.—Three operation theatres.

Block P.—Dispensary; surgical clinical theatre over; gynæcologi operation theatre over.

Block Q.—Medical clinical theatre.

ADMINISTRATION BLOCK.

Block R.—Ground floor: Nurses' dining rooms. First floor: Nurse recreation rooms. Second and third floors: Nurses' bedrooms.

Block S.—Ground floor: Common rooms, resident medical officers common rooms, hospital clerks and dressers. First floor: Matron department. Second floor: Servants' bedrooms.

Block T.—Ground floor: Resident medical officers. First, entreso second, and third floors: nurses' bedrooms.

Block U.—Ground floor: Secretary's department and staff room First floor: Sister, matron, &c. Second and third floors: Nurse bedrooms. Fourth floor: Nurses' bedrooms (extension).

Block V.—Linen department: future chapel over; future roof garde over. *Note.*—The kitchen a and the servant living rooms occupy the base U, and the court between same. The porter's [illegible] Block T.

Block W.—Pathological department, medical school buildings, an students' clubs.

Block X.—Post-mortem department.

Block Y.—Laundry department.

Block Z.—Out-buildings.

Mr. Gordon Hooper, L.D.S. Eng., of Khartoum has been appointed Dental Surgeon to the Egyptian Arm and the Soudan Government.

THE INDIAN MEDICAL SERVICE ANNUAL DINNER

THE officers of the Indian Medical Service held their annual dinner on June 8th at the New Gaiety Restaurant Surgeon General JAMES CLEGHORN, C S I, being in the chair In addition to the usual loyal toasts the toast list was as follows "The Sister Services," proposed by Surgeon General Sir A C C DE RENZY, K C B and responded to by Inspector General HERBERT M ELLIS R N, Director General of the Royal Navy Medical Service Surgeon General A H Keogh, C B, Director General of the Army Medical Service, was also to have responded but at the last moment was unavoidably prevented from being present "The Guests," proposed by Surgeon General A M BRANFOOT, C I E, and responded to by Sir RICHARD DOUGLAS POWELL, Bart, K C V O, President of the Royal College of Physicians of London "The Indian Medical Service,' proposed by Mr JOHN LANGTON, F R C S was responded to by the CHAIRMAN who said "I have much pleasure, on behalf of the service, in thanking Mr Langton for the [illegible] proposed the toast [illegible] permission, to say a f[illegible] e in which I have passed the best years of my life, but before doing so I would explain that this is the first occasion on which I have had the opportunity of being present at the annual dinner and when the committee, through Lieutenant Colonel Freyer, asked me to preside I felt that as a late Director-General of the service it was my duty, as it was a pleasure, for me to accept the honour As you are aware, we have learned many things in India, but the art of public speaking is not, as a rule, one of those we have acquired—perhaps we are better without it—particularly on an occasion of this kind, when I take it we meet more to revive the memories and renew the friendships of the past than to make speeches These meetings also help us to realise that although we are divided into many departments, both officially and geographically, we are one service with common interests and all aiming to maintain and continue the honourable traditions of that service, and as a consequence the prestige of our nation and government among the different races of India Those traditions carry us back to the time of the Emperor Shah Jehan, when as I have read, the first concessions granted to the Honourable East India Company were obtained through the influence of one of the Company's medical officers named Boughton who, after his successful treatment of a daughter of the Emperor, was asked to name his own reward, when he replied that the only remuneration he would accept was an order granting to the Company the privilege of trading in Bengal free of duty and of planting factories in the interior of the country Since then the service by its influence on the people, through its medical work, has been [illegible] government and a long roll of [illegible] themselves in the various pos[illegible] have held One occasionally hears or reads uncomplimentary remarks with regard to our work in the field of original research and of the slow development of a complete sanitary organisation, but we who know the local conditions and circumstances understand the difficulties which surround the path of progress in particular directions Laboratories are, I understand being established by the Government and other facilities are now available for the pursuit of original investigations and I have no doubt that in due course good results will follow Hitherto we have been making bricks without straw—we early mastered that art—and though the products may not have been equal to the finished article we have been able to meet [illegible] government [illegible] the number [illegible], hospitals [illegible] unknown out of India, they are certainly not realised, and our work in connexion with the establishment and supervision of the institutions associated with the revered name of Lady Dufferin has been eminently successful All this medical work has overspread the whole of India and Burmah, it has exercised a more beneficial influence over the people than any other agency at present in operation and it has developed a sympathetic and kindly feeling between the members of the service and the natives of India, a feeling, moreover, that the British Government is a beneficent one On the other hand, we have become the guardians and reformers of the criminal class The connexion between medical work and the administration of jails is not quite apparent to the ordinary observer—but India is full of anomalies and I suppose as the civil surgeon was there it was considered to be economical and advantageous to utilise his services as superintendent of the district jail—and practically the whole of the jail department has grown up and developed under selected officers of the service Our ordinary duties are occasionally varied by a call to meet the requirements and exigencies of war, famine, and pestilence and, as occurred lately, all three may come at once Our resources were then strained and assistance, in the case of plague, had to be obtained from England As we make bricks without straw it is needless to say that all the institutions we manage are worked on economical lines—and the various duties are discharged without any ostentation or particular fuss—things are taken as a matter of course and whether we are employed on military or civil duties we try to do the work set before us to the best of our ability The manifold duties and responsibilities which devolve on the service and the unique opportunities which occasionally offer to the man with special talents or capabilities, these, combined with the pay and pension, are the main inducements which attract men to the service—but there are others not so apparent We enter the service at an impressionable age—in a land full of mysteries, with customs and beliefs different from our own Life in such a land modifies our ideas broadens our views, and deepens our sympathies The responsibilities we have to face develop the character and tend to make men of us There are of course, drawbacks, with them we are well acquainted, but, on the whole, I think we made a wise choice in selecting the Indian Medical Service as a career '

Lieutenant Colonel P J FREYER to whom the organisation of these dinners is due, being called upon made some remarks which he humorously characterised as "proposing his own health ' He received musical honours

The following officers were present —*Surgeon Generals* A M Branfoot C I E, J Cleghorn, C S I, Sir A C C De Renzy, K.C B, C Sibthorpe C B, and P W Sutherland *Colonels* W E Oates, W Gray D E Hughes, C H Joubert, G S Sutherland J S Wilkins, and W A S Wynne *Lieutenant Colonels* J Anderson, W H Cadge, G W P. Dennys P J Freyer I B Lyon C I E, D P MacDonald, J Moorhead, W Owen W H Thornhill, J F Tuohy, H G L Wortabet and P A Weir *Majors* R Bird, W S Caldwell, J T Calvert, B H Deare, F J Drury, G F W Ewens G H Fink, F A Hugo J G Jordan R C MacWatt, W H B Robinson H A Smith and L Wilkinson *Captains* S Anderson F L Blenkinsop H R Brown, T H Foulkes E D W Greig, W A Justice C A Lane A E H Pinch, R Selby J Stephenson, and A W C Young

An excellent dinner and after dinner speeches of a reasonable length combined to make the occasion as pleasant and as successful as its predecessors

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ELECTION OF MEMBERS OF COUNCIL

ON Thursday, July 6th, an election of four members of Council will be held by the Fellows of the Royal College of Surgeons of England Three of these vacancies will be occasioned by the retirement in rotation of Sir Henry G Howse Mr Edmund Owen, and Mr Rickman J Godlee, and the fourth by the resignation of Sir Alfred Cooper The following list of the members of the Council gives the date at which each member will retire The date of the first election is given in every case in which the member has been elected to the Council more than once Mr J Tweedy having been re elected President in 1904 will have another year of office

Retire in 1912 Mr H Gilbert Barling, Birmingham General Hospital, Mr Anthony A Bowlby, St Bartholomew's Hospital, and Mr Frederic S Eve, London Hospital

Retire in 1911: Mr. H. T. Butlin, St. Bartholomew's Hospital (first elected 1895); Mr. G. H. Makins, St. Thomas's Hospital; and Mr. C. T. Dent, St. George's Hospital.

Retire in 1910: Professor Howard Marsh, St. Bartholomew's Hospital (first elected 1892); Mr. J. H. Morgan, Charing Cross Hospital; and Mr. H. H. Clutton, St. Thomas's Hospital.

Retire in 1909: Mr. A. W. Mayo Robson, Leeds Infirmary (first elected 1893); Mr. W. Watson Cheyne, King's College Hospital; and Mr. R. Clement Lucas, Guy's Hospital.

Retire in 1908: Dr. J. Ward Cousins, Royal Portsmouth Hospital (first elected 1895); and Mr. A. Pearce Gould, Middlesex Hospital.

Retire in 1907: Mr. H. W. Page, St. Mary's Hospital; and Mr. C. W. Mansell Moullin, London Hospital.

Retire in 1906: Mr. J. Tweedy, President, University College Hospital (first elected 1892); Mr. F. Richardson Cross, Bristol Royal Infirmary; Mr. Henry Morris, Middlesex Hospital (first elected 1893); and Mr. John Langton, St. Bartholomew's Hospital (first elected 1890).

Retire in 1905: Sir Henry G. Howse, Guy's Hospital (first elected 1889); Mr. Edmund Owen, St Mary's Hospital; and Mr. Rickman J. Godlee, University College Hospital.

Monday, June 12th, was the last day for receiving nominations and we understand that there are only six candidates for the four vacant seats. They are: Mr. Owen and Mr. Godlee, who are applying for reappointment; Mr. C. H. Golding-Bird, Mr. Andrew Clark, Mr. W. Bruce Clarke, and Mr. W. Harrison Cripps. It is a long time since there have been so few candidates for four vacant places. There can be only two unsuccessful candidates.

The Fellows' dinner held in 1904 was very successful and it has therefore been decided to hold a Fellows' dinner again this year. As the space available is limited it may be necessary to ballot for places but all applications for tickets should be made before June 22nd.

HOSPITAL SERMON.

By REV. C. H. GRUNDY, M.A.,

VICAR OF ST. PETER'S, BROCKLEY.

"Gifts of healing"—I. Cor. xii. 9.

ONCE a year all party strife ceases in the religious world of London. No word of bitterness issues from the pulpits of London to-day. The question is not "What body of Christians do I belong to?" but "What can each one do to relieve the mass of suffering humanity in this great metropolis, larger in its population than Babylon, Thebes, or Rome ever was?" Hushed is the voice of controversy in the presence of disease and pain. The "deep sighing of the poor" in their anguish reaches all our ears, as from thousands of pulpits the call goes out to help men, women, and children in their need, struck down by accident or visited by disease. Their extremity is the measure of our sympathy and their weakness the strength of their claim upon us. There are countless opportunities for pain in the human body, so that the wonder is that health is sustained at all. Huxley says: "The human body is an army. Each cell is a soldier. An organ is a brigade. The central nervous system is the headquarters and field telegraph. The alimentary canal and circulatory system are the commissariat. Each cell has its life, duties, waste, repair, growth, and decay."

What complex beings we are! The phrase "*being ill*"—who does not know what that means, in himself, in loved ones, in the tender work of nursing, in the hours of agony when the doctor whispers "Nothing more can be done"? People in rude health joke sometimes about "not believing in doctors," but what a panic there is in the house the moment someone is smitten down by illness. The sudden stroke, the epidemic, the collapse from overwork, the wasting disease, the young wife hovering between life and death that another soul may enter upon earth, the little child at school one week and at death's door the next, the stranger calling to break the sad news at home that the husband has met with an accident in the street and is now in hospital; how familiar all these are to us, yet what anxiety, sorrow, and dread they represent. A serious illness taxes to the utmost all the capacities of even a well-to-do household. Things to be bought, thought of, borrowed, attempted; th nights of watching, the days of consultation, the vis of the specialist, the tension of the climax, the j of hope, and the weary convalescence—what an exper ence for the members of the comfortable home. Wh gratitude afterwards to the patient doctor whose sk has saved your darling! But where did he learn it al What training made him calm and resourceful and read with the best and latest treatment in that hour of miser when all else seemed to fail? You owe the life of your love one to the hospital. It was *there* that the rescuer of your dea one was taught what to do, and when to do it, and how to d it. You owe ransom money to the hospitals, for withou them there would have been the empty chair beside you hearth. Year by year they supply men able, qualified experts in their work, devoted to their duty, responsive t the call of suffering, and quick to diagnose and to act.

There is no band of men more unselfish, more untiring more thoughtful, more capable than the brotherhood of th medical profession in London. Often—very often—no fe is received by them after weeks of tender, assiduous attentio to some critical case. These are the saviours of humanit and their success is due to the schools of the hospitals fo which I plead to-day. Among the noble army of medicin and surgery some names are remembered. They have struc the popular imagination. What recollections are recalled b names like Paget, Lister, Horrocks, Jenner, Gull, Treves, an many others which could be mentioned. If the Church ha its saints the hospitals have noble benefactors of mankind If the Church points out salvation for the souls of men let u not forget what the hospitals have done for their bodies Christ was the healer of the body as well as the soul and th hospitals in His name undertake the care of their bodies. Th hospital is the sick room and the invalids' shelter amongs the poor. It would do you good to go to a children' hospital, say, the one in Great Ormond-street, and see patient, sweet, clean child in its dainty cot, suffering from say, hip disease, and then go and see the dirty squalid hom from which the child came.

What would Whitechapel do without the 840 beds of tha splendidly managed hospital—the London Hospital—willin to receive the crowds of sick from one-roomed homes? Ho many lives have been saved at Guy's of railway men hal killed on the shuntings of two great railway companies What an awful thing for Westminster or the locality roun St. Thomas's if there were *no hospitals*! You woul double your subscription if you realised the boon t the masses of this great metropolis. The scientifi gifts of healing are the glory of England and the inestim able blessing of the poor. London with its wealt should not be content with a paltry £60,000 as its respons to the annual appeal. £100,000 would be an easy and willing gift on a day like this did men and women realis *their duty to the poor* and the Christ-like work done by th hospitals in this city of suffering.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 16, 1827.

As the opinion which we form of the nature of a disease must be true or untrue, and as the treatment is founded upon that opinion, hence arises the absolute necessity o possessing correct principles of pathology, that dogmatism may be avoided on the one hand and empiricism on the other; or rather, that we may avoid a series of hazardous experiments on the health and lives of confiding patients, ignorant of the imperfections of the professors of an art, which has been too long concealed under a language almost as incomprehensible, to common minds, as the hieroglyphics of the ancient Egyptians; yet all that is really known, in modern medicine, might be expressed in a few plain English words, the rest being merely verbiage, a part of the mummery and mystery of scholastic and collegiate sophistry. Indeed, no part of human knowledge has been till recently kept so completely concealed from the public view as medicine, and this is the reason why some of its professors have risen to the highest distinctions without substantial attainments. The public can judge of the abilities of a barrister, but their ignorance of the elements of physic utterly prevents them from forming anything like a right estimate of the powers of a physician, as far as the exercise of his art is concerned. Dr. Johnson remarked, that the history of the means by which some physicians became extensively popular, would be extremely amusing; but it might be more truly said that it would be a most lamentable exposure of the frailties of the human mind and heart, by showing that men had held responsible and even sacred situations, without the practical acquirements necessary for the discharge of those duties which relate to the lives of patients and the happiness of their friends, and which, indeed, in some cases, involve the very best interests of society; for example, where the health of public characters is at stake. It would be highly advantageous to the public, and likewise to the best part of the medical profession, if the elements of modern medicine were made a portion of the liberal education of every gentleman, for then medical men and medical measures would be under the wholesome control of public opinion, so that practitioners would be estimated by their merit, and some of our corporate institutions would undergo those salutary changes which are imperatively demanded by the increased intelligence of the age. If any thing requires to be narrowly watched, it is the corporate spirit which is so apt to make men, in pursuing their own advantages, lose sight of the general welfare. One cause of much of the evil existing in society, is the selfishness with which we attempt to compass our ends, not duly considering what we owe to the interests of others; and another cause of evil, is the indifference or indisposition to maintain those strict rules of justice, by which the rights of public institutions are upheld against the encroachments of sinister designs.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8528 births and 4051 deaths were registered during the week ending June 10th. The annual rate of mortality in these towns, which had been 14·4, 14·6, and 14·7 per 1000 in the three preceding weeks, declined again to 13·5 per 1000 last week. In London the death-rate was 13·8 per 1000, while it averaged 13·4 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 3·5 in Barrow-in-Furness, 5·0 in Great Yarmouth, 5·9 in Leyton, 6·2 in Hornsey, 6·7 in Reading, 6·8 in Handsworth (Staffs), 7·7 in Grimsby, and 7·8 in Rotherham; the highest rates were 17·5 in Plymouth, in West Hartlepool, and in Tynemouth, 20·0 in Smethwick, 20·2 in Hanley, 20·3 in Salford, 22·8 in Middlesbrough, 23·1 in Oldham, and 23·3 in Merthyr Tydfil. The 4051 deaths in these towns last week included 413 which were referred to the principal infectious diseases, against 442, 414, and 410 in the three preceding weeks; of these 413 deaths, 144 resulted from measles, 109 from whooping-cough, 60 from diarrhœa, 42 from diphtheria, 26 from scarlet fever, 25 from "fever" (principally enteric), and one from small-pox. No death from any of these infectious diseases was registered last week in Leyton, Brighton, Bournemouth, Southampton, Northampton, Great Yarmouth, Burton-on-Trent, King's Norton, Aston Manor, Leicester, York, or Tynemouth; while they caused the highest death-rates in West Bromwich, Smethwick, Coventry, Derby, St. Helens, Middlesbrough, West Hartlepool, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in West Bromwich, Smethwick, Coventry, Derby, St. Helens, Sheffield, Middlesbrough, and Merthyr Tydfil; from scarlet fever in Oldham; from diphtheria in Rochdale and West Hartlepool; and from whooping-cough in Tottenham, East Ham, Walthamstow, Hanley, Preston, Middlesbrough, and Sunderland. The mortality from "fever" and from diarrhœa showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Derby, but none in any other of the large towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been 15, 10, and nine on the three preceding Saturdays, was again nine on Saturday, June 10th; three new cases were admitted during the week, against three, none, and one in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of last week was 2285; against 2211, 2200, and 2267 at the end of the three preceding weeks; 269 new cases were admitted during the week, against 319, 312, and 351 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 226, 218, and 235 in the three preceding weeks, declined again last week to 191, but were 34 above the number in the corresponding period of the preceding year. The causes of 33, or 0·8 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Salford, Bradford, Leeds, Hull, Newcastle-on-Tyne, and in 50 other smaller towns; while the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Sheffield, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 16·7, 18·1, and 16·9 per 1000 in the three preceding weeks, declined again to 16·4 per 1000 during the week ending June 10th, but was 2·9 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·8 in Leith and 14·9 in Aberdeen to 20·1 in Paisley and 21·3 in Perth. The 551 deaths in these towns included 23 which were referred to whooping-cough, 17 to measles, 14 to diarrhœa, four to diphtheria, three to "fever," and one to scarlet fever. In all 62 deaths resulted from these principal infectious diseases last week, against 76, 76, and 80 in the three preceding weeks. These 62 deaths were equal to an annual rate of 1·8 per 1000, which was 0·4 per 1000 above the death-rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 24 in each of the two preceding weeks, declined last week to 23, of which 16 occurred in Glasgow, four in Edinburgh, and two in Paisley. The deaths from measles, which had been 26, 30, and 33 in the three preceding weeks, fell to 17 last week, and included 14 in Glasgow, and three in Edinburgh. The fatal cases of diarrhœa, which had been seven and 16 in the two preceding weeks, declined again last week to 14, of which seven were registered in Glasgow, three in Edinburgh, and three in Dundee. The deaths from diphtheria, which had been three, seven, and one in the three preceding weeks, rose again to four last week, and included three in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 83, 107, and 88 in the three preceding weeks, were 89 last week, and were 21 in excess of the number in the corresponding period of last year. The causes of 22, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·5, 19·0, and 19·4 per 1000 in the three preceding weeks, declined again to 19·3 per 1000 during the week ending June 10th. During the past four weeks the death-rate has averaged 19·3 per 1000, the rates during the same period being 14·3 in London and 16·0 in Edinburgh. The 140 deaths of persons belonging to Dublin registered during the week under notice were slightly below the number in the preceding week and included five which were referred to the principal infectious diseases, against six, four, and eight in the three preceding weeks; of these, three resulted from measles and two from whooping-cough, but not any from small-pox, scarlet fever, diphtheria, "fever," or diarrhœa. These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates last week from the principal infectious diseases being 1·5 in London and 2·0 in Edinburgh. The fatal cases of measles, which had been one and three in the two preceding weeks, were again three last week; the deaths from whooping-cough, which had also been one and three in the two preceding weeks, declined again last week to two. The 140 deaths in Dublin last week included 22 of children under one year of age and 51 of persons aged 60 years and upwards; the deaths of infants showed a decline, but those of elderly persons were considerably in excess of the number in the preceding week. Eight inquest cases and five deaths from violence were registered; and 60, or

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[1] Excerpt from Dr. Armstrong's Introductory Address to a Course of Lectures on Morbid Anatomy, and on the Nature and Treatment of Acute and Chronic Diseases, delivered on Friday, the 1st of June, at the Medical School, Webb-street, Maze-Pond.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1905.

(*Specially compiled for* THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1905.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,684,794	11	1686	547	—	123	—	31	388	—	2786	6·2	2	228	38	36	212	—	19	—	86	621	1·4	6304	14·0	102
West Districts.																										
Paddington	147,935	—	17	8	—	1	—	—	6	—	32	2·3	—	18	—	2	6	—	—	—	3	29	2·0	199	14·0	111
Kensington	180,083	—	59	13	—	11	—	—	14	—	97	5·6	—	9	1	1	11	—	2	—	5	29	1·7	232	13·4	136
Hammersmith	119,037	—	27	22	—	4	—	1	14	—	68	6·0	—	4	—	1	9	—	—	—	—	14	1·2	157	13·8	118
Fulham	157,210	—	71	22	—	4	—	1	12	—	110	7·3	—	13	2	3	9	—	1	—	7	35	2·3	223	14·8	104
Chelsea	74,496	—	22	2	—	1	—	2	11	—	38	5·3	—	—	—	—	3	—	1	—	—	4	0·6	89	12·5	135
City of Westminster	175,606	—	22	11	—	3	—	2	11	—	49	2·9	—	2	—	—	3	—	—	—	5	10	0·6	214	12·7	99
North Districts.																										
St. Marylebone	129,453	—	35	14	—	6	—	2	12	—	69	5·6	—	8	1	—	6	—	—	—	3	18	1·4	199	16·0	75
Hampstead	88,142	—	24	7	—	3	—	—	5	—	39	4·6	—	1	2	—	4	—	—	—	1	8	0·9	56	6·6	64
St. Pancras	236,183	—	75	29	—	6	—	—	14	—	124	5·5	—	6	4	4	7	—	—	—	7	28	1·2	302	13·3	101
Islington	342,994	—	107	25	—	10	—	4	14	—	160	4·9	—	5	—	—	22	—	3	—	6	36	1·1	457	13·9	133
Stoke Newington	52,828	—	15	1	—	1	—	—	2	—	19	3·8	—	2	1	—	2	—	—	—	—	5	1·0	73	14·4	79
Hackney	228,479	1	89	29	—	16	—	1	26	—	162	7·4	—	14	2	2	8	—	2	—	4	32	1·5	296	13·5	97
Central Districts.																										
Holborn	56,481	—	18	8	—	1	—	—	4	—	31	5·7	—	4	1	—	1	—	—	—	2	8	1·5	91	16·8	98
Finsbury	93,207	—	43	12	—	1	—	2	10	—	68	7·2	—	6	2	1	8	—	—	—	3	20	2·1	166	17·6	122
City of London	22,425	—	2	4	—	—	—	—	2	—	8	3·7	—	—	—	—	—	—	—	—	—	—	—	42	19·5	31
East Districts																										
Shoreditch	116,565	—	63	25	—	3	—	—	12	—	103	9·2	—	8	4	1	14	—	—	—	1	28	2·5	206	18·4	139
Bethnal Green	130,401	—	70	26	—	5	—	1	20	—	122	9·8	—	7	1	4	5	—	1	—	4	22	1·8	217	17·4	117
Stepney	305,466	—	120	62	—	13	—	1	28	—	224	7·6	—	24	5	2	11	—	2	—	10	54	1·8	409	16·0	96
Poplar	170,280	—	83	33	—	2	—	1	12	—	131	8·0	—	18	2	—	15	—	—	—	5	40	2·4	270	16·5	122
South Districts.																										
Southwark	208,528	—	53	24	—	2	—	2	24	—	105	5·3	—	4	3	2	14	—	2	—	3	28	1·4	345	17·3	109
Bermondsey	129,006	—	49	14	—	5	—	—	15	—	83	6·7	—	6	—	2	2	—	—	—	4	14	1·1	194	15·7	117
Lambeth	313,045	—	125	41	—	3	—	—	34	—	203	6·8	—	3	3	2	16	—	—	—	2	26	0·9	409	13·6	91
Battersea	177,532	—	71	16	—	4	—	—	14	—	105	6·2	—	48	—	1	4	—	1	—	—	54	3·2	254	14·9	108
Wandsworth	265,392	1	153	22	—	4	—	1	20	—	201	7·9	—	1	—	1	10	—	—	—	3	15	0·6	258	10·1	59
Camberwell	271,240	4	112	27	—	7	—	3	24	—	177	6·8	—	9	2	3	7	—	—	—	2	23	0·9	328	12·6	112
Deptford	114,495	1	48	9	—	1	—	2	12	—	73	6·6	—	2	—	—	5	—	—	—	2	9	0·8	134	12·2	61
Greenwich	103,493	—	25	7	—	—	—	3	6	—	41	4·1	—	4	—	2	3	—	1	—	2	12	1·2	124	12·5	71
Lewisham	144,420	2	45	14	—	2	—	1	5	—	69	5·0	2	2	2	1	7	—	—	—	1	15	1·1	145	10·5	50
Woolwich	125,372	2	43	20	—	3	—	1	5	—	74	6·2	—	—	—	1	—	—	3	—	1	5	0·4	155	12·9	68
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

more than 40 per cent., of the deaths occurred in public institutions. The causes of five, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING MAY, 1905.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·2 per 1000 of the population, estimated at 4,684,794 persons in the middle of the year. In the three preceding months the rates had been 5·9, 6·0, and 5·6 per 1000 respectively. The lowest rates last month were recorded in Paddington, City of Westminster, Hampstead, Stoke Newington, the City of London, and Greenwich; while the highest rates occurred in Shoreditch, Bethnal Green, Stepney, Poplar, and Wandsworth. Small-pox was rather less prevalent than it had been during the preceding month; of the 11 cases notified during May, four belonged to Camberwell, two to Lewisham, two to Woolwich, and one each to Hackney, Wandsworth, and Deptford. The Metropolitan Asylums hospitals contained nine small-pox patients at the end of last month, against 15, 20, and 16 at the end of the three preceding months; the weekly admissions averaged two, against four in each of the two preceding months. There was a considerable increase in the prevalence of scarlet fever last month; this disease was proportionally most prevalent in Fulham, Finsbury, Shoreditch, Bethnal Green, Poplar, and Wandsworth. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 1941, 1997, and 2152 at the end of the three preceding months, had further risen to 2236 at the end of last month; the weekly admissions averaged 302, against 231, 272, and 266 in the three preceding months. The prevalence of diphtheria showed no appreciable variation from that recorded in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hammersmith, the City of London, Shoreditch, Bethnal Green, Stepney, and Poplar. The Metropolitan Asylums hospitals contained 684 diphtheria patients at the end of last month, against 837, 788, and 719 at the end of the three preceding months; the weekly admissions averaged 89, against 118, 98, and 83 in the three preceding months. Enteric fever was slightly more prevalent than it had been in the preceding month; this disease showed the greatest proportional prevalence in Kensington, St. Marylebone, Hackney, Bethnal Green, Stepney, and Bermondsey. The number of enteric fever patients remaining under treatment in the Metropolitan Asylums hospitals at the end of last month was 80, against 105, 68, and 65 at the end of the three preceding months; the weekly [illegible] the two [illegible] ally most [illegible] Bethnal [illegible] cases of [illegible] ed four in Islington, three in Camberwell, three in Greenwich, and two each in Chelsea, City of Westminster, St. Marylebone, Finsbury, Southwark, and Deptford.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending June 3rd the [illegible] were register[illegible] in the three [illegible] 15·5, and 15[illegible] 6·6 in Hampstead, 10·1 in Wandsworth, 10·5 in Lewisham, 12·2 in Deptford, and 12·5 in Chelsea and in Greenwich, to 16·8 in Holborn, 17·3 in Southwark, 17·4 in Bethnal Green, 17·6 in Finsbury, 18·4 in Shoreditch, and 19·5 in the City of London. The 6304 deaths from all causes in London last month included 621 which were referred to the principal infectious diseases; of these, two resulted from small-pox, 228 from measles, 38 from scarlet fever, 36 from diphtheria, 212 from whooping-cough, 19 from enteric fever, and 86 from diarrhœa, but not any from typhus or from ill-defined forms of continued fever. No death from any of these diseases was recorded in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Chelsea, City of Westminster, Wandsworth, Deptford, and Woolwich; and the highest rates in Paddington, Fulham, Finsbury, Shoreditch, Poplar, and Battersea. The two fatal cases of small-pox both belonged to Lewisham. The 228 deaths from measles were 86 below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Fulham, Holborn, Shoreditch, Stepney, Poplar, and Battersea. The 38 deaths from scarlet fever showed a decline of 14 from the average number in the corresponding periods of the ten preceding years; the greatest proportional mortality from this disease occurred in Hampstead, St. Pancras, Finsbury, Shoreditch, Stepney, and Lewisham. The 36 fatal cases of diphtheria were only a little more than a quarter of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, St. Pancras, Bethnal Green, Bermondsey, and Greenwich. The 212 deaths from whooping-cough were 23 fewer than the average number in the corresponding periods of the ten preceding years; this disease showed the greatest proportional mortality in Hammersmith, Finsbury, Shoreditch, Poplar, and Southwark. The 19 fatal cases of "fever" showed a decline of 11 from the corrected average number; three of the deaths belonged to Islington, three to Woolwich, and two each to Kensington, Hackney, Stepney, and Southwark. The 86 deaths from diarrhœa were 13 in excess of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Fulham, City of Westminster, Holborn, Bethnal Green, and Stepney. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 27 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 102 per 1000. The lowest rates of infant mortality were recorded in Hampstead, the City of London, Wandsworth, Deptford, Greenwich, Lewisham, and Woolwich; and the highest rates in Kensington, Chelsea, Islington, Finsbury, Shoreditch, and Poplar.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon J. Lowney to the *Dominion*, temporary. Surgeons: C. M. Woods to the *Pembroke*; J. G. Peebles to the *Victory*; T. W. Myles to the *Vivid*, additional, for disposal; F. F. Lobb to the *Albemarle*; and H. C. Woodyatt to Royal Marines, Plymouth.

ROYAL ARMY MEDICAL CORPS.

Major J. D. Ferguson, D.S.O., is appointed Instructor and second-in-command of the Depôt Training School at Aldershot, vice Major F. J. Greig, who is posted to Stirling for duty. Major H. J. Parry, D.S.O., Assistant Instructor and commanding A Company, is to be succeeded by Captain J. D. G. Macpherson, now under orders for Aldershot. Captain F. Ashe is appointed for duty with the 5th Division at Dover. Captain G. G. Delap, from Poona, and Lieutenant G. W. Heron are appointed to the London District for duty.

Lieutenant-Colonel J. G. MacNeece to be Colonel, vice W. O. Wolseley, deceased (dated June 4th, 1905). Lieutenant-Colonel D. Semple retires on retired pay (dated June 14th, 1905). Lieutenant G. W. Heron, from the Seconded List, to be Lieutenant (dated June 2nd, 1905).

ARMY MEDICAL RESERVE OF OFFICERS.

[illegible] (dated [illegible] to be [illegible]

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Ayrshire and Galloway: Surgeon-Lieutenant A. Young resigns his commission (dated June 10th, 1905). 1st Fifeshire: Honorary Assistant Surgeon J. Welsh resigns his appointment and is granted the honorary rank of Surgeon-Captain with permission to wear the prescribed uniform (dated June 10th, 1905). 1st Lancashire: Surgeon-Major T. M. Dawson to be Surgeon-Lieutenant-Colonel (dated June 10th, 1905).

Rifle: 1st Volunteer Battalion the Royal Fusiliers (City of London Regiment): Surgeon-Captain H. G. Thompson (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, 1st London Volunteer Infantry Brigade), to be Surgeon-Major (dated Sept. 4th, 1901). 1st (City of Dundee) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Major D. Lennox is appointed Brigade-Surgeon-Lieutenant-Colonel, and is borne as Supernumerary whilst holding the appointment of Senior Medical Officer of the 34th Field Army Brigade (dated June 10th, 1905). 1st (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Captain J. N. Marshall resigns his commission (dated June 10th, 1905).

DEATHS IN THE SERVICES.

Surgeon-Major-General John Warren, A.M.S., on June 4th, in his seventy-first year. He entered the service as assistant surgeon in 1857, was promoted surgeon in 1873, surgeon-major in 1873, deputy surgeon-general in 1883, and surgeon-major-general in 1893. He was in medical charge of the 15th Hussars in the Afghan War of 1878–80, including the advance to Khelat-i-Ghilzie and with the Thull Chotiali Field Force under Major-General Biddulph (medal). In the Egyptian War of 1882 he was in charge of No. 5 Moveable Field Hospital (medal and Khedive's star). He also took part in the Soudan Campaign in 1885 (mentioned in despatches and clasp). He retired in 1896.

Colonel William Owen Wolseley, R.A.M.C., on June 3rd. He joined the service as surgeon in 1880, became surgeon-major in 1892, brigade-surgeon in 1898, and surgeon-colonel in 1903. He served in the expedition to Ashanti under Sir Francis Scott in 1895 (promoted, bronze star). In the operations on the North-West Frontier of India, 1897–98, he was present with the Kurram Moveable Column, Tirah Expeditionary Force (medal with two clasps).

LORD ROBERTS'S APPEAL.

Lord Roberts has recently addressed an appeal to the nation for funds for providing a large extension of the system of rifle clubs. Why should not rifle-shooting and the use of the rifle be made a national pursuit and accomplishment? Indeed, being a matter of national importance, why should not the Government do its best to aid such an undertaking? Lord Roberts very pertinently points out that the independence of a State must rest not only on the willingness but on the ability of a nation to defend itself. He cites in illustration of this position his experience of what occurred in our late war in South Africa; and we may also call attention to the achievements of the Japanese in the present war in the Far East. The hatred of so-called "militarism" in this country, which is in itself perhaps a wholesome feeling, may be easily turned into an excuse for shirking an obvious duty. For ourselves we venture to think that it is not only right that there should be some system of obligatory military training on the part of the youth and young manhood of this country, but as medical journalists we hold that it would prove very beneficial from a hygienic and moral point of view. Little or nothing is done for the physical training of the young in this country, and there can be no doubt that a military training of some sort improves the health and physical vigour, while the discipline tends to develop the intelligence and to strengthen the manhood and character of a people.

PATHOLOGICAL EFFECT OF SHELL FUMES.

Dr. Ignatius Much, in a description of a *sauve qui peut* at the battle of Mukden, which he contributes to the *Kurj Warsz*, speaks of an intelligent soldier who was brought down by the fumes of a shell that exploded near him. When picked up he was found to have lost his sight, hearing, and speech. He is now partially restored to health. He sees, hears, and feels, but cannot speak.

THE WAR IN THE FAR EAST.

That Russia is willing to open negotiations with Japan is the great and absorbing news at the present time. It is, of course, quite premature to say that these negotiations will be the prelude to peace, but it is, at any rate, of hopeful augury that such may be the case. The continuance of a war marked by such recurring massacres and involving such wholesale suffering and financial losses as have attended the naval and military operations in the Far East has been growing more and more repugnant to the human conscience. The possible dawn of peace is consequently hailed on all sides as an event most devoutly to be desired. President Roosevelt has, by his able and tactful diplomacy, earned the gratitude of the civilised world by having initiated a hopeful movement in this direction. As regards the terms of any proposed settlement, there is in the meantime room enough for all kinds of conjectures and we may be sure that many will be put forward on which little or no reliance can be placed. All the world knows, however, what the defeats and losses have been on the side of Russia and the great successes which have attended the efforts of the Japanese to attain their end. We do not know how far the Czar and his Government may be influenced at the present time by the internal state of Russia, her finances, and the amount of sickness in her army in Manchuria, but that in any case Russia will have to face and to deal with the facts as they now stand is obvious. It is only fair to say that the Japanese policy has not hitherto been one of bluff and aggression but the Mikado's Government is nevertheless bound to secure as far as practicable a durable peace and to recuperate itself in some measure for the enormous sacrifices of life and money which it has incurred in this war. Beyond the fact that Admiral Rojdestvensky is progressing satisfactorily there is no medical news to record, nor is there likely to be any so long as everything is dominated and overshadowed by the hoped-for news regarding a prospect of peace.

Correspondence.

"Audi alteram partem."

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

To the Editors of THE LANCET.

SIRS,—In both the medical and lay press there has been lately much discussion concerning the practice introduced by a certain coroner of giving all medico-legal post-mortem examinations to a special pathologist. The Government of India has for many years recognised the value of this method and in Bombay and Calcutta the police surgeon does all post-mortem examinations of cases reported to the coroner. It is upon this report that, as a rule, the coroner decides whether it is necessary to hold an inquest. He sends in a written report of the post-mortem examination to the coroner which forms the basis of his evidence subsequently given on oath in the coroner's court. There is no question of fees as the coroner's surgeon receives a fixed salary. He is also lecturer on forensic medicine at the Calcutta Medical College, and the bodies sent to the morgue are used for the practical instruction of the senior students. I have held the post of coroner's surgeon during the past two years and during that time have made something like 400 post-mortem examinations, including numerous cases which were of great medico-legal interest. I am convinced that the ordinary practitioner would have found great difficulty in dealing with many of these cases which required not only knowledge of medical jurisprudence but also experience. To apply a phrase originally used in connexion with a totally different branch of human energy: a man is not necessarily making a post-mortem examination because he is cutting up a body. I will not go into details but will give one instance to explain what I mean. In cases of injury to the head it is better to examine the skull and brain before the thorax has been opened and the large veins severed. Those who only work from book knowledge would begin the body incisions under the usual directions given for making a post-mortem examination. Another important point concerning which the ordinary practitioner has little or no experience is the effect produced on the tissues by various poisons. The coroner's surgeon will, of course, have the assistance of an analyst in such cases, but in many cases he has to decide whether the appearances presented in the body before him point to poisoning and whether he ought at once to seal up the stomach, &c., ready to be sent to the analyst. Upon the post-mortem report many serious issues depend; often it is a matter of life or death to an accused. It stands to reason, therefore, that it is safer to employ a special pathologist with experience of many cases than to allow each post-mortem examination to be made by a different medical man and often, of necessity, by a medical man who has only made one or two such examinations in his lifetime. Another reason for employing a special pathologist is the experience which he gets in the matter of giving medical evidence in simple language so that it can be easily understood by the laymen composing the coroner s jury Many men who can explain the results of a post mortem examination in technical medical terms often fail to convey a clear idea of the important points to the jurymen This point is of even greater importance when the case passes *from the coroner s court to one of the higher courts of* justice

A third reason which I think is in favour of the new plan is the protection it offers to the public Many of the bodies upon which post mortem examinations are made are in a state of decomposition and highly septic As the coroner s surgeon in Calcutta is not allowed to engage in private practice there is no danger of his carrying infection to anyone else—a danger by no means absent when the post-mortem examination is made by a general practitioner who goes from the mortuary to visit his patients The question of fees or expense is not one that should be allowed to enter into a discussion of such general and scientific importance and a general practitioner ought not to feel hurt because special work is given to a man who is willing to devote himself to what, after all, *is not a very pleasant occupation*

I am, Sirs yours faithfully
J H Tull Walsh,
Lieutenant Colonel I M S

Old Catton Norwich June 12th, 1905

To the Editors of The Lancet

Sirs,—As a spectator at a recent inquest held by Mr Troutbeck at Wandsworth I was painfully impressed by observing the feeling that has arisen in South London between the coroner and the local profession A crowded court, the presence of two solicitors two counsel, numerous medical practitioners, and an adjourned inquiry, which lasted nearly three hours, would seem to point to a matter of grave public importance The inquest was, on the face of it, to find out whether a child had died from pneumonia or whether the death had been accelerated by an overdose of morphiæ in the medicine prescribed but the coroner suggested that his own conduct in not ordering the practitioner in attendance on the deceased to assist in making the necropsy was not the least of the matters imported into the case The medical interest lies entirely in the attitude assumed by Mr Coroner Troutbeck He asserted he was not fighting the medical profession though the presence of counsel instructed by the British Medical Association, the honorary secretary of the Medical Defence Union, and many medical practitioners in sympathy with Dr Miller hardly supported his statement But this was explained by him as due to the action of certain medical societies whose paid officials found it necessary to find something to show a reason for their existence He never refused to summon a medical witness if he thought his evidence would be of any use but he could not often ascertain its value before the opening of the inquest Might this not be in consequence of the attitude Mr Troutbeck has assumed? In other parts of the county of London coroners

observer of the latest phase of the deceased s illness should so assist, but Mr Troutbeck thinks otherwise His views of the capacity of the ordinary medical practitioner are, to say the least, not flattering As clinical evidence can only be furnished by his class clinical evidence is to be depreciated as much as possible For what other reason could such evidence be preferred second hand? In putting to the jury the one important question, viz, the cause of death, Mr Troutbeck laid down that the jury were to take the evidence of Dr L Freyberger that the clinical symptoms observed by Dr Miller were consistent with natural death rather than that of the latter that they were inconsistent Why were the jury necessarily to take Dr Freyberger s opinion on this subject? Dr Freyberger had previously stated that if the deceased had actually taken the quantity of medicine sworn to by the mother he could not "dissociate' that fact from the cause of death The coroner had himself said he did not believe the later statement of the mother, that no more than five teaspoonfuls had been administered It would have been thought that this opinion of Dr Freyberger was strongly confirmatory of Dr Miller s clinical observations

Anyway to put to the jury the opinion of a medical witness touching clinical phenomena when he had not been present in preference to that of one who had is treating clinical observations with scant respect and in this particular case the question the jury had to try rested almost entirely on what might have been observed during the last few hours of life The post mortem results were bound to be negative, as the quantity of morphine taken was admittedly small The most important points for the jury, in my opinion, were these A child had died who, in the opinion of the medical attendant, was suffering from narcotic poisoning, that attendant noticed at the bedside a bottle of medicine which was proved to contain morphine and out of which at least 20 teaspoonfuls had disappeared, instead of two or three, as had been ordered The mother swore that she had administered practically this quantity The pathologist stated that if these 20 teaspoonfuls had been given he could not "dissociate it from the cause of death Dr Miller gave evidence that in his opinion the latest condition of the deceased was only consistent with narcotic poisoning On these facts the jury found that the death was entirely due to *natural causes It might surely be argued by some that* the verdict was against the weight of evidence and that there had been misdirection on the part of the coroner

I am, Sirs, yours faithfully,
June 13th 1905 Barrister at Law

⁂ Colonel Tull Walsh hardly realises the situation which has prompted him to write an interesting letter No sensible people object to the employment of a special pathologist in suitable cases at a proper fee But the pathologist should be a proved expert, the public should not be *made to pay for him when his services are quite unnecessary,* and his evidence should not be regarded as replacing the clinical evidence of the medical practitioner last in attendance upon the case, a point well brought out in 'A Barrister at Law s letter —Ed L

THE PRINCIPLES OF HEREDITY

To the Editors of The Lancet

Sirs,—Interesting as is Dr Archdall Reid s new work I *cannot but think* it would have been more convincing had he refrained from divulging the data and reasons upon which he bases his theory Arguments like the following are too frequent 'It—i e the neo Darwinian theory of evolution by natural selection—infers that *as a rule* individuals who survive and have offspring are those which are better fitted to the environment in which they are placed than those which perish Now the sole criterion we have as to the fitness of an organism for its environment is by its continued existence Hence the statement amounts to this that as a rule individuals who have the best chance of surviving survive and those with the least chance perish

Dr Reid s views on alcohol are generally known, Landor well anticipated them in the words he puts in the mouth of Sergius in his conversation with Mahomet Forbid wine, indeed! God himself if he descended on earth and commanded it in a louder and clearer voice than that at which the creation sprang forth unless first he altered the composition both of body and soul would utterly fail in this commandment Many of Dr Reid s observations in so far as they relate to Jews and some other races are I believe, incorrect Briefly put, he contends that the Jews are, with impunity, moderate drinkers because all those likely *to suffer* have been eliminated by natural selection It is true that a Jewish abstainer is quite the exception and that among the older generation drunkenness is rare, however among the younger generation of English born Jews, at any rate it is by no means uncommon and its effects are precisely the same as among other persons I have had under my care Jev
delirium tremens and other
alcohol When exposed to mc
avoid controversy, I shall not say because of them—the Jew quite readily assimilates to his Gentile surroundings in this and other respects In other words, so far as the Jew is concerned he *has* been sober by acquirement" and can at any time "acquire' alcoholism There is no question here of elimination nor indeed, of any transmitted effects of

saying, "Litera scripta manet." Death certification is a thankless and generally a wholly unremunerative duty.

I am, Sirs, yours faithfully,
June 9th, 1905. A PROVINCIAL SURGEON.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

THE EXCURSION TO EVIAN-LES-BAINS.

(BY ONE OF OUR SPECIAL COMMISSIONERS.)

IT is a long journey from Vichy to Evian. We had a special train, an express train, that only stopped on rare occasions and was not delayed by the taking up or setting down of passengers. We started shortly after 3 P.M. and yet it was close upon 11 at night before we reached Geneva. The time nevertheless passed pleasantly and therefore quickly. Also, there was tea served in the train and later a very excellent dinner, so that it was no great hardship to be confined with agreeable company under such hospitable conditions. At Geneva there was only just time to drive to the hotels allotted to each of us and to seek much-needed rest. Next morning we had to be up early, for a special and large steamer, gaily bedecked with innumerable flags, was waiting and announced to start at 9 o'clock. The weather was cold and the sky was cloudy, but fortunately it did not rain, so that the visitors were able to stay on deck. Though Mont Blanc and the snow-clad Alps were hidden from view, still the nearer scenery and the lake itself were very beautiful. It was also a good idea to convey us to Evian by water, for this thermal station is seen to much greater advantage from the lake. Indeed, the principal impression is that of the favoured site occupied by the little town. It is situated on the edge of a vast amphitheatre formed by mountains and bordered by the lake. The old town itself is very small. Savoy is the poorest department of France, so that the old houses of Evian are picturesque rather than prosperous in appearance, but they are to a large extent hidden by the great and luxurious buildings connected with the springs. There still remain, however, six towers that formed part of the mediæval fortifications and these add greatly to the picturesque aspect of the place. Even from those times records have been preserved that show the waters were drunk as a cure for gravel and, further back in history, that they were appreciated by the ancient Romans. Nevertheless, it is only of late years that Evian has become a great international station attracting patients from all parts of the world. The modern growth and development of Evian may best be realised by glancing at the statistics. Thus in 1891 the number of bottles of Evian water sold amounted to 761,909; in 1895 this had increased to 1,478 477; in 1900 to 3,725,000; and in 1903 to 4,917,584. Every year new buildings are erected or old ones are enlarged. The great hotel and the vast bathing establishment still gleam and shine with their newness. Indeed, it is a relief to find that there are also close at hand some ancient tumble-down houses and cottages the walls of which are grey and mellowed by age and where all trace of polish had long since been worn away.

On landing our first visit was to the bathing establishment which, having been built quite recently, contains the very latest improvements. One special feature is that each bath room is divided into two compartments. The outer compartment is the dressing room and each dressing room has its own closet, so that there is no need to go down long corridors in a state of deshabille. Except for douches the patient undresses by the side of his bath. Provision is made for every sort of hydropathic treatment and there are also the necessary appliances for Dowsing and other light baths, and an x ray department. Then there is a staff of experienced masseurs and there is a room for mechano therapy as at Vichy.

After visiting all the baths and the pump room where the patients go to drink the waters the visitors ascended the hill-side to the Hôtel Splendide where a banquet had been prepared which was followed by many speeches and toasts. Among the first to speak was Sir JOHN W. TYLER who responded to the official toasts and then called upon Mr. G. A. BERRY to speak at greater length as he had a good command of the French language. Among other observations Mr. Berry said that there had been many international congresses but this gathering would become historic. They had enjoyed all the advantages of a congress and none of the disadvantages. They had exchanged ideas, they had talked over matters of mutual interest, but there had been no wearisome and formal debates.

Sir JOHN W. MOORE, on behalf of the Irish medical men, wished to express his thanks. He was particularly grateful to the ladies who had acted as hostesses. The success of the journey had exceeded all their hopes. They would never forget the days they had spent in beautiful France and the grace and the charm of their French sisters.

This speech brought up another Irish orator in the person of Mr. ARTHUR CHANCE, President of the Royal College of Surgeons in Ireland. It was on behalf of the Irish surgeons that he was anxious to express his thanks, and this not merely for the reception which they had had but more especially for what they had been able to see of the work done by the French surgeons in the French hospitals. Here they had admired and learnt much. Altogether the reception given was worthy of the nation and he could not say more. The French had taught them the significance of one of the words on their proud device. The British visitors now understood what was meant by "Fraternity." He raised his glass to that incarnation of hospitality, the general secretary of the receiving committee, Dr. Triboulet. Though the Irish were divided from France by two stormy seas a love founded on historical facts united them. Strong and ancient ties of affection subsisted and he hoped that French medical men would frequently visit Ireland. The whole heart of the Irish people would go out to greet them.

The MAYOR of EVIAN, M. RICHAT, expressed the hope that those whom he had the pleasure of welcoming on the present occasion would come back again to Evian and at no distant day. They would then see by the improvements effected year after year that the municipality and inhabitants of Evian did not tire in the endeavour to do good.

Dr. DUMUR, on behalf of the medical practitioners of Evian, drank to the British medical men and Dr. GAUTIER repeated the same toast on behalf of the medical practitioners of Geneva. Then, amid general applause,

Dr. TRIBOULET rose to reply and complained that too much had been said in his honour, and time did not allow him to explain in detail how all this honour, all these praises, should be divided among various different persons and different periods. It did not all come about spontaneously and simultaneously. There were modest beginnings and early efforts that should not be forgotten in the glow of the after success. What would have become of the idea if it had not been taken up in England by an English committee which gave them all an admirable lesson in discipline and in business-like qualities. It was the British organisers of the reception of the French medical men in London who had revealed the secret of success. The joy expressed by the British visitors to-day was the best recompense of the French organisers for having well learnt their lesson. He was aware that on all sides the satisfaction had been great and one of the reasons for this was that they had realised that for such undertakings it was essential to be not too young nor yet too old. Thus on the present occasion they had united the buoyant energy of Sir William Broadbent with that glorious example of perpetual youth presented by Professor Bouchard. But all these efforts on the part of individual members of the medical profession would not have met with the general support that had made their strength if they had not been seconded at every step by widespread publicity. The medical press had not only made known their desires and their invitations to all whom it might concern, but they could not forget the brilliant reception given to the French medical men in London by THE LANCET. He was glad to see present a representative of that great journal. He raised his glass in gratitude to the medical press.

Mr. ADOLPHE SMITH, who responded, said that he was pleased that the services of the press had been acknowledged. It was very easy and pleasant to-day to speak of *l'entente cordiale*, but there had been times when this cause was not so popular. There were unhappy moments when the political press was rendering but poor service to the cause of humanity by venomous comments on whatever misunderstanding or disagreement had arisen between nations. During these dark periods the scientific press continued as usual, speaking of the scientific attainments of their neighbours just as if there were no quarrel or disagreement in existence. This calm superiority of science in its love and devotion to humanity—a devotion that no political squabbling could disturb—served to steady the ships of State, storm tossed by the fleeting passions of peoples and politicians This internationalism of science occupied a large space in the columns of THE LANCET and it had done more than promote scientific knowledge, for it had helped to maintain peace

The whole party then proceeded to visit the model works recently constructed for bottling the Evian water Here the most ingenious and the latest mechanical devices have been introduced The bottles are washed and cleaned by machinery and it is so arranged that there is no risk of any sort of dust or dirt entering. Once the inside of the bottle has been washed no hand touches the neck until after the bottle has been filled and corked The man who handles the corks wears india rubber and sterilised gloves and is very carefully watched to see that he does not remove these gloves To get such machinery as will prevent all necessity of handling the bottles was a very difficult matter and the present perfection in the process was only attained three years ago Now it is possible to fill 17,000 bottles in a day S on a duplicate set of machines will be obtained and thus it will be easy to double the output By such means it will no longer be necessary to keep the work going through the night as is at present the case during the summer months

The party then returned to the steamer and spent the rest of the afternoon visiting the other and farther end of the lake They passed in front of Montreux, then close under the grey walls of Chillon, duly recalled Byron's homage to Bonnivard, and subsequently saw the arrowy Rhone flow placidly into the lake It was a very enjoyable afternoon On returning to Evian dinner was awaiting and soon afterwards it was necessary to rejoin the special train which had come from Geneva to fetch us A little after eight we started on the uninterrupted run to Paris, which was reached a little before eight the next morning Thus on Wedne day morning, May 17th the party, after spending precisely a week together, finally dispersed

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

The Medical Benevolent Society

THE annual meeting of the above society took place on May 30th under the presidency of Dr E Malins The eighty third annual report was read and adopted The funds of the society now amount to £15,695 19*s* 5*d* 22 annuitants were on the books at the beginning of 1904, two died during the year, one made no further application owing to his improved financial position, and four new annuitants were added The sum disbursed during the year was £797 10*s* , in grants ranging from £20 to £40 In order to meet the heavy demands upon the funds of the society the directors decided to make a reduction of 10 per cent on all annuities This reduction comes into force in 1905 Complaint was made that the society is not supported as it should be by the practitioners of the district for whose benefit the society was originated, that whereas there are about 4000 practitioners in the district there are only 414 benefit members There can be no doubt that considering the good work the society is doing and the quiet help which is given in cases where it is deeply needed the society is deserving of much more general support Dr Arthur S Underhill was elected president for the ensuing year

Birmingham and the Housing Question

A provincial sessional meeting of the Royal Sanitary Institute was held in Birmingham on May 27th to consider the housing question Dr J Robertson, the medical officer of health of the city, read a paper dealing with the problem, in which he recommended the building of workmen's dwellings in suburban areas and the provision of better transit Alderman Cook the chairman of the health committee, was of opinion that the solution of the housing question would mean a reduction in the infantile mortality and a limitation of the spread of tuberculosis Other speakers recommended the institution of a black list containing the names of those tenants who did not observe the ordinary decency of life The German method of buying up belts of land in the surrounding district and laying down the lines on which a city should be developed found many advocates The Birmingham housing committee has decided to send a deputation to Germany to study the method and it is thought that Stuttgart, Frankfort, and Dusseldorf will be visited for this purpose Birmingham has already made a commencement on these lines by the purchase of the Bordesley Green site for workmen's dwellings There is also at present a proposal that Lightwoods Park, which has an area of 18 acres, should be extended to include in all 45 acres, by the acquirement of the historic and picturesque Warley Woods and 12 acres of adjoining pasture land, the latter to serve as playing fields Lightwoods Park being situated in a rapidly growing portion of the city its extension would afford adequate recreation and pleasure grounds for the inhabitants now and in the future The amount required to cover the extension is £13,000 and several donations of £1000 each have already been made

The Proposed Labour Colony

At the last meeting of the conference which was called together to consider Mr Fels s offer of land for a labour colony it was decided that Mr Fels should be thanked for his kind offer and informed that no definite action in the matter could be taken until Parliament has dealt with the Unemployed Workmen s Bill

The Education of the Blind

A new kindergarten school for blind children, the first of the kind in the kingdom, has been opened at Harborne It comprises class rooms, play rooms, dining rooms, dormitories, sick and convalescent wards, cloak rooms and boot rooms, lavatories, bath room, and linen rooms It has been built at a cost of £18,750, of which £15,300 have already been subscribed It is proposed to confine it to children under 12 years of age To show how much could be done in educating the blind it was pointed out that last year 634 persons were benefited, £3351 were paid in wages to blind teachers and workers, and goods were sold to the amount of £8441

The Birmingham Health Committee and Midwives

Four women reported under the Midwives Act by the medical officer of health appeared at the last meeting of the above committee to answer charges of various breaches of the rules of the Central Midwives Board In one case the committee took so serious a view of the matter that it decided to report the woman to the Board In another case the committee suspended for a time the woman concerned , the other two women were severely reprimanded

Hospital News

. Unite of Blackwall Court, bequeathed towards the Birmingham and Midland Hospital for Women Although the hospital is almost rebuilt and will shortly be reopened, and although the money required has been largely subscribed, still much additional equipment will doubtless be necessary from time to time The generous bequest further insures the hospital being opened free from all debt —The Coventry and Warwickshire Hospital is shortly to undergo an extension The existing portion is to be modernised and certain parts are to be demolished The scheme embraces the provision of a new two storey three block building, a new operating theatre, kitchens, stores, mess room nurses' home, an out patient and dispensary department, laundries, mortuary, and isolation block There is to be a new ward pavilion of two storeys, each ward accommodating 24 beds Cross ventilated lobbies and sheltered balconies will also be provided The operating theatre will be equipped with all the latest improvements and will include an x ray and Finsen light room Although the out patients' department will be close to the main hospital the patients will be kept entirely separate from the main block It is estimated that the cost will be £35,000 At the last meeting of the general committee of the hospital a communication was received from the solicitors of the late Mr John Rotherham, for many years senior trustee of the hospital funds, stating that the deceased gentleman had left them a legacy of £1000 A letter was also read from Mr E T Pierson, inclosing a cheque for £50 towards the extension fund "in memoriam of his late son, Captain A E Pierson," and promising a further donation of £100 —The governing body of the Guest Hospital at Dudley has decided to establish an ophthalmic branch and to appoint an additional honorary surgeon

June 13th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Bequests to Medical Charities.

THE trustees of the late Mr. James Holden of Rochdale have made large grants to the following charities: The Rochdale Infirmary, for the Holden Wing, £18,000; the Manchester Children's Hospital, Pendlebury, £10,000; Ashton District Infirmary, £10,000; St. Mary's Hospital, Manchester, £10,000; Stockport Infirmary, £5000; Rochdale Children's Convalescent Homes, St. Anne's-on-Sea, £3000; Rochdale District Nurses' Homes, £5000; and Southport Convalescent Home, £5000. In addition to this large sum of £66,000, Henshaw's Blind Asylum is to receive £10,000; the Children's Sanatoriums at Southport, £1500; and a grant of £5000 is to be made to the Warehousemen and Clerks' Orphanage Home and Schools at Cheadle Hulme. Some other charitable bequests also were, it is understood, made in the will.

Small-pox.

The district is not yet free from small-pox. Two cases were notified to the Oldham sanitary authorities on June 5th. The medical officer at Accrington has reported, however, that that town is now free from the disease. Instead of allowing the small-pox hospital to remain idle he advised that it should be used for cases of advanced consumption, "as the patients would be better nursed and the chances [illegible] would be lessened." The health [illegible] the council to take legal proceedings against a medical gentleman and the father of his patient, for having failed to notify a case of small-pox. This was agreed to.

High Death-rate at Accrington.

The medical officer reported that the death-rate for the year was one of the highest since 1897, while, with the exception of that for the previous year, the birth-rate was the lowest on record.

June 13th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Action against a Medical Man at the Assizes.

AT the recent Liverpool assizes, before Mr. Justice Walton and a special jury, George Hobson, formerly porter at the Royal Liverpool Golf Club, Hoylake, sued Dr. Arthur Bicknell for alleged negligence and breach of duty as a medical man, and for slander. The defendant pleaded that he was not negligent nor was he guilty of any breach of duty; that he never uttered the words alleged; that if he did they were true; and, in the alternative, that they were privileged. Evidence having been given, the judge, in summing up, pointed out that the plaintiff claimed damages under three heads: negligent treatment, breach of confidence, and slander. It was for him (the judge) to say, in regard to the last, whether or not the occasion was privileged, and if it was, and there being no evidence of malice, the jury need not trouble about the claim for slander, except that he would ask them whether or not the plaintiff was suffering as alleged. With reference to the alleged negligence, a mistake was not necessarily negligence. From the expert evidence it appeared that there were often cases in which a medical man could not be absolutely sure of his diagnosis and he might be acting prudently in treating a patient for what it might afterwards be found he had not got. Unless the jury thought that there was not only a mistake but a careless mistake which an ordinary skilful medical man would not make, and ought not to make, they ought not to find Dr. Bicknell guilty of negligence. On the question of breach of confidence his lordship said that apparently the plaintiff told the club steward what the medical man was treating him for and the steward communicated the information to the secretary. Where there was no secret there could be no confidence and he would leave it to the jury to say, having regard to the relations between the plaintiff, the medical man, and the club, whether the defendant had been guilty of a breach of confidence by failing to keep the secret. His lordship put the following questions to the jury, which, after an absence of four hours, they answered as follows: Was there negligence on the part of the defendant in the treatment of the plaintiff?—Yes, inasmuch as he accepted Dr. Moss's diagnosis without sufficient examination, but subsequently he used all reasonable care. Was the plaintiff on August 19th suffering from the disease stated?—No. Was there any breach of confidence by the defendant in telling Mr. Janion that the plaintiff, in his opinion, was suffering from the disease?—No. Did the defendant tell Mrs. Hobson at the interview before Sept. 28th, before the dismissal, that her husband was suffering from the disease?—No. His lordship: You find there was some negligence?—The foreman: Yes. His lordship: Would you tell me what damages the plaintiff has suffered from that? The jury assessed the damages at £71 16*s*., for which amount the judge subsequently entered judgment, with costs, for the plaintiff on the issue of negligence; while, with regard to the slander and breach of duty, he gave judgment for the defendant, with such costs as were attributable to those issues. Notice of appeal has been given and the case will be taken to a higher court.

Runcorn Hospital Extension.

At the monthly meeting of the Runcorn council the health committee reported in regard to the application for a loan of £4000 for hospital extension that the Local Government Board had asked the council to give an undertaking that cases of small-pox would not be treated on the site or within a quarter of a mile of it. The committee had replied, declining to do so on the ground that there would be no place in which to isolate cases of small-pox pending the erection of a small-pox hospital. The Local Government Board had sent a further letter stating that consideration of the council's application would be deferred until the undertaking was given. The committee recommended that a communication should be addressed to the Runcorn rural council to ascertain whether arrangements could be made for a joint small-pox hospital. Mr. Dean, in moving the adoption of the minutes, said the council was not anxious to spend this £4000, as it thought it had ample accommodation. The scheme of extension had been forced on the council and if the Local Government Board did not choose to give it power to borrow the money it would not trouble it. The minutes were approved.

Hospital Saturday Fund: Ladies' Street Collection.

The street collection made by the ladies on Saturday, June 3rd, show [illegible] ff on last year's collection, only [illegible]. The decrease is accounted for by the rapid increase in the workshop and office collections, by the large number of street collections taking place at this period of the year, and by the continued depression in trade.

June 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Diet in Scarlet Fever.

AT a meeting of the Société Médicale des Hôpitaux held on June 2nd M. Dufour read a paper on the subject of Diet in Scarlet Fever, including the suckling of infants. He said that during the present year he had followed a new system in the dieting of scarlet fever patients by allowing them to follow their own inclinations during the first few days (from the third to the sixth day) of the disease without any restriction to particular kinds of food. According to current medical opinion this ought to increase the risk of renal complications, but it had not been followed by albuminuria in the case of any of his patients. Fever is not a contra-indication of feeding a patient. Albuminuria at the outset requires restriction to milk or to a chloride-free dietary and yet there is room for difference of opinion as to the necessity of this, for the resumption of ordinary food on the very day when the albuminuria disappeared was never followed by a return of the symptom. This method of dieting is not of merely theoretical interest but has a useful practical application when a woman has an infant at the breast and the supply of milk has to be kept up. Mothers and infants ought not to be separated in hospital treatment, for this would imply weaning with its attendant disadvantages. Suckling infants appear to be comparatively immune to scarlet fever. M. Dufour believed that solid food might be given without danger to scarlet fever patients from the beginning of the illness if the state of the urine were systematically observed. The results obtained in this way were encouraging, for in 1904 he treated 268 cases of scarlet fever with only four deaths, the mortality being therefore about 1·5 per cent. It ought, moreover, to be remarked that these four deaths were due to extraneous complications, for two of the deceased were greatly addicted to alcohol, one suffered from lead poisoning, and one was a woman who had recently been delivered of a child under very unfavourable conditions. In conclusion M. Dufour said that he could not too strongly recommend bleeding in toxic dyspnœa without renal lesions.

Treatment of Obstinate Facial Neuralgia

At a meeting of the Academy of Medicine held on May 30th Professor Raymond communicated a paper by Dr. Ostwalt relative to the treatment of severe forms of facial neuralgia for which various therapeutic measures had been employed without success. Dr. Ostwalt had made use of his method in about 30 cases, of which 14 had been seen by Professor Raymond or his assistants (*chefs de clinique*), four by M. Marie, and one by M. Dupré. It consists of deep injections of an alcoholic solution of cocaine or stovaine directed towards the principal branches of the trigeminal nerve at their points of issue on a level with the base of the skull. These injections were serviceable not only in facial neuralgia but also in neuralgia of the sciatic, the ulnar, and other nerves.

Miners' Anæmia.

At the same meeting of the Academy of Medicine M. Manouvrier described some new investigations which he had made on miners' anæmia. Like Blanchard, Boycott, and Haldane, [illegible] ible immunity [illegible] wn, is caused [illegible] in the under[illegible] in which there is an infiltration of salt water, such as those of Wieliczka in Galicia, those of St. Just in Cornwall which extends below the sea, and some of those in Anzin adjoining vast subterranean collections of salt water. It has been ascertained that the larvæ of the ankylostomum die in salt water of 1 per cent. strength and these infiltrations often contain as much as 1·8 or 2 per cent. of chloride of sodium. These results have led M. Manouvrier to recommend, if not the addition of salt to the water in mines, at least the use of salt water for sprinkling and for laying the dust which is sometimes a cause of explosions.

June 12th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

An Unusual Case of Hereditary Syphilis.

AT a recent meeting of the Vienna Clinical Society Dr. Hochsinger, director of a dispensary for diseases of children, showed a male patient, 20 years of age, who measured only 110 centimetres (three and a half feet) in height. His genital organs were imperfectly developed, and his face had a drowsy expression on account of paresis of the eyelids. The interesting features of this case were the gradual onset and steady development of symptoms due to congenital syphilis. The father of the patient had contracted syphilis four years previously to his marriage. The patient was the fifth child and the first surviving one. When four weeks old he showed syphilitic symptoms on the skin of the face and legs and in the mucosa nasi. Treatment was continued for only six weeks. In his fifth year he had attacks of paroxysmal hæmoglobin[illegible] liver. Both ailments yi[illegible] mercury. Five years lat[illegible] nerves became paralysed [illegible] After three years he was taken to a hospital on account [illegible] tract and were unlike in size and shape; the knee-jerk was also absent [illegible] present. Infantilism wa[illegible]th, absence of pubic hair, [illegible] the testicles. The disease [illegible] to congenital syphilis. D[illegible] the fact that paroxysmal hæmoglobinuria in children under five years of age was always associated with syphilis.

Radiological Examination of Joints.

Dr. Robinsohn has worked out a method of displaying in [illegible] this purpos[illegible] cautions. [illegible] under cont[illegible]t by the x rays. Radiograms obtained in this way show very clearly, for instance, in the knee-joint the outlines of the supra-patellar bursa, the condyles, the semilunar cartilages, the crucial ligaments, and the alar ligaments. Together with Dr. Werndorff he studied pathological joints in this way and they could distinguish cases of chronic arthritis with a serous effusion without changes in the bone, cases with disease of the synovial membrane, and the [illegible] ures, and chronic degenera[illegible] obliteration of the joint [illegible] e. These latter cases have [illegible] e x rays. The method will [illegible] he Vienna hospitals. It is necessary to have absolutely pure gas and to control the injection of it so that there may be no undue stretching of the tissues.

Vaccination under Red Light.

Dr. Paul, the director of the Vaccine Institute, has published the results of a series of experiments conducted with the view of ascertaining the value or otherwise of red light in vaccination. As vaccination is compulsory and gratuitous and as the above-mentioned State institute supplies all the material used the director was able to control the results. A room was specially fitted up for this purpose with red glass in the windows and the inoculation wounds were bandaged with red calico. It may here be mentioned that some vaccinators prefer the French method of vaccinating on the upper part of the thigh, thus avoiding scars on the arm, a point worth consideration amongst the better classes on account of the low dresses worn by ladies at balls, theatres, and the like. The results obtained under red light differed materially from those of ordinary vaccination. The pain and itching were sometimes less, the accompanying inflammation was certainly less marked, and lymphangitis was not very often seen. But the effect was most obvious in the formation of the scar which was very satisfactory from the cosmetic standpoint. In consequence of Dr. Paul's observations quite a number of practitioners in the country have followed his example and are sending in their observations to be used for statistics.

The Yearly Report of the Polyclinic.

The Vienna Polyclinic, the medical institution next in importance for teaching after the General Hospital, has just held its annual meeting, at which the director, Professor Monti, read the report for 1904. The number of in-patients amounted to 3208, comprising surgical, internal, pædiatric, and gynæcological cases. There were 689 major and 152 minor operations performed in the different wards. A new feature was the admission of 882 infants, a comparatively large number which was accounted for by the coöperation of the Polyclinic with the newly formed society for distributing milk to infants. The mortality from diphtheria was 3·89 per cent., being the lowest on record since the introduction of Behring's serum. The mortality from all diseases was 6 per cent., the proportion of recoveries was 82 per cent., and that of cases incurable or becoming worse was 12 per cent. The expenditure per patient per day was about three kronen, equal to 2*s.* 6*d.* The institute, which is under private ownership and management but coöperates with the University, inasmuch as the professors lecture for State students, is now self-supporting, and its income has even a tendency to increase. Amongst the members of the staff there are some very celebrated teachers, such as Professor Monti, Professor Urbantschitsch, and Professor Spiegler.

Radium in Mineral Waters.

M. P. Curie and M. Laborde discovered comparatively large quantities of radium emanation in the mineral waters of Gastein and [illegible] waters from the [illegible] effects which th[illegible] from the spring [illegible] found that all these materials were capable of stopping the development of the bacillus, especially the sediment, which actually had the strongest germicidal effects, killing the bacillus within a few hours. Mineral water bottled for longer than 48 hours had no effect whatever, not differing, in fact, from ordinary water. Dr. Kallmann therefore asserted at the meeting of the Graz Medical Society, where he read his paper, that the beneficial results of bathing in Gastein water are easily explained by the presence of a quickly evanescent radium constituent in the water.

June 12th.

NEW YORK.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Department of the St. Louis Exposition.

THE late Universal Exposition, held at St. Louis, Missouri, had a well organised medical department, the medical director of which has submitted his report. The duties of the department were to have jurisdiction over all cases of personal injury; to assume the care of the resident population and visitors and of such other cases as the Exposition Company might be responsible for, or which in their judgment should be cared for; and to exercise a supervision over all sanitary and hygienic matters connected with the grounds and buildings and over all matters pertaining to the health and physical well-being of the employés engaged in the conduct of the exposition. The officers of the department consisted of a medical director, five attending surgeons, one visiting physician, one bacteriologist, one sanitary officer, three ambulance surgeons, one sanitary expert, and one sanitary inspector. A permanent emergency hospital was erected, complete in all its appointments, for the accommodation of officers, nurses, and attendants and equipped with the most improved appliances. The total number of cases treated during the entire period was 29,045. There were 7 births and 40 deaths, of which 23 were from violence and 17 from natural causes. A number of workmen escaped fatal results in falling 50 feet or more and one was uninjured by a fall of 120 feet. There was but one fatal case of gunshot injury. During the exposition beri-beri appeared and there were 45 cases and 3 deaths The disease occurred among the tribe of Igorotes from the Philippine Islands.

The Department of Sanitation at the Isthmus of Panama.

The recent outbreak of yellow fever at Panama indicates that the rumours of defects in the measures taken to prevent that disease were too true. No one doubts the ability of Colonel Gorgas, the head of the sanitary service, to employ preventive measures to the best possible advantage, but there have been rumours that the commission has refused to allow many important requests which he has made, and that on this account the fever has gained a foothold which it could not have done had he had a free hand from the first. The new commission recently met at Washington and perfected the organisation of the department of sanitation on a scale commensurate with its importance. The salary of the chief sanitary officer has been fixed at $10,000, of the director of hospitals at $8000, of the chief quarantine officer at $7000, and the other officers have salaries according to their grade. In addition to the hospital at Ancon and at Colon the commission ordered the erection of another hospital at Colon at a cost of $40,000. The latest reports show that of the 7000 employés on the canal 350 are in hospital, or about 5 per cent.

Abolition of State Boards of Health.

There is a growing tendency in this country to abolish the State boards of health and substitute for them a health officer, or, as he is more often called, a commissioner of health. In the State of New York the substitution was made two years ago, a large and well organised board being summarily abolished and in its place a single general practitioner placed by appointment of the Governor. Now the State of Pennsylvania has followed the example and abolished its board of health and appointed a commissioner of health in its place. This change is in the interests of partisan politics and is destructive of the first principles of efficient sanitary administration. The true functions of the department of sanitation in a Government are the creation and enforcement of sanitary ordinances which have the force and sanctity of law. It should, therefore, have as its head a body having both legislative and administrative powers, an organisation that cannot exist when there is but a single official at its head. In the State of New York this change in the character of the head of the department has been followed by a distinct loss of prestige of that service and a marked deterioration in its power and efficiency. The United States has been developing a most complete and efficient system of sanitary administration, extending from the hamlet and municipality through the State Governments to the National Government. This recent change of the State boards is destined to work great harm by impairing the proper coördination of functions of the several parts of the system and on that account is greatly regretted by sanitary legislators. In this State the Governor has recently appointed a homœopathic physician to the position of commissioner of health, the effect of which will be to alienate the interest of the regular profession entirely from the department.

A Protest against Quarantining Cuba.

No single event in the history of municipal sanitation more strikingly illustrates the value of modern methods than the improvement in the public health of the cities of Cuba. Previously to the occupation of the island by the United States quarantines were early established, at all the Atlantic and Gulf sea ports, against Cuba and were rigidly maintained until very late in the season. Now such action on the part of the cities of the United States is promptly resented by the Cuban health authorities. The State health boards of the Gulf States recently issued a quarantine order against passengers from cities of Cuba other than Havana. As soon as this action became known in Cuba the Cuban national board of health sent a cable message to the Louisiana State board of health to the effect that the superior board of health protests against their action discriminating against territory of the Republic outside of Havana, and alleging that they are in constant touch with all districts, and they know that these districts are just as free from all quarantinable diseases as is Havana. Dr. Finlay, chief sanitary officer of Cuba, says that there is no justification for this discrimination against the island outside of Havana, for the entire country is under constant and effective control. When a case or a suspected case of a quarantinable disease occurs anywhere in Cuba the local officer is compelled to telegraph the fact at once to the chief sanitary officer at Havana. The latter then orders the provincial inspector of the corresponding province to investigate the case. The inspector telegraphs the result of his investigation; if the diagnosis is confirmed or the suspicions are maintained one or more experts are sent and every measure is taken to prevent the spread of the disease.

Prevention of Tuberculosis.

The first annual meeting of the United States National Association for the Study and Prevention of Tuberculosis commenced in Washington on May 18th; Dr. William Osler, vice-president of the association, delivered an eloquent address. He emphasised the need of educating the public with regard to tuberculosis. He said: "Education regarding tuberculosis is the thing to strive for. The public is awake but sitting on the edge of the bed and not yet dressed. In this awakening, however, much has been accomplished over past conditions. When the public gets dressed much activity will follow and much will be accomplished towards stamping out the disease." Dr. Osler also said that no greater mistake was possible in the treatment of tuberculosis than to keep from the patient in the early stages of the disease the full knowledge of its existence. Dr. Herman M. Biggs, chief medical officer of the New York board of health, laid especial stress upon the good results of compulsory notification. He showed what had been accomplished by these means in New York city which was still the only great city where it was practised. The discussion on May 19th brought out the fact that all efforts so far to establish self-supporting communities or settlements of tuberculous patients had proved a failure. The opinion was general that all cases of tuberculosis should be allowed to remain at large where proper care of the patient was maintained and proper sanitary requirements observed to protect members of the family in the house of which the patient resided. In November the first American tuberculosis exhibition will be held in New York city. It will be organised under the auspices of the United States National Association for the Study and Prevention of Tuberculosis and the committee for the prevention of tuberculosis of the New York Charity Organisation Society. Dr. Ernst J. Lederle, former commissioner of health of New York city, is chairman of the committee in charge.

June 3rd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

BUBONIC plague is spreading in New South Wales and Queensland. Cases have occurred in Sydney, Newcastle, Brisbane, and Ipswich, and the area from which they come and in which plague-infected rats have been found is extending. Several of the cases have proved fatal. Plague-infected rats are still found in the Richmond River district. Plague first appeared in Newcastle on March 27th and since then six cases have occurred, two fatal. One of the victims was a medical man, Dr. J. R. Leslie, who had been attending a plague patient and assisted at a post-mortem examination of his body. Dr. Leslie is a young graduate of the University of Sydney who succeeded to the practice of Dr. Andrew Nash who died in March last from blood poisoning. Dr. Leslie is improving. The Newcastle municipal council held a special meeting to deal with matters affecting public health. The model by-laws, drafted by the Board of Health as a means of helping to deal with bubonic plague, were adopted. House-to-house inspections were being made. At Ipswich in Queensland five cases of plague were reported in one day and sent to the Colmslie plague hospital.

Dengue Fever.

Dengue fever is still very prevalent in Brisbane. The sittings of the district court had to be postponed owing to the illness of the judges. The drain on the funds of the friendly societies for sick pay is becoming severely felt. A case of dengue has occurred at Wagga in New South Wales. A peculiar feature of some of the cases in Brisbane has been a tendency to somnolence for two or three days. In other cases the want of sleep has brought on mental conditions necessitating removal of patients to the reception house

Hospital Affairs.

There are two distinct institutions in Sydney for the treatment of women—viz., the Women's Hospital and the Royal Hospital for Women. The latter is conducted by the Benevolent Society of New South Wales. For about 87 years this body endeavoured to treat women in labour and gynæcological cases in an ancient building erected by Governor Macquarie. Here it also gave outdoor relief and cared for infants. This site and building were resumed by the Government for the new central railway station. With the funds, £62,000, given as compensation, the society has established two separate institutions—viz., a receiving house at Ultimo, with accommodation for infants and to provide for the administration of outdoor relief, which is now in full working order, and a separate hospital at Paddington, which was formally opened by Her Excellency Lady Northcote on May 3rd. The building erected is only a wing of the future hospital. It is thoroughly up to date and will provide 100 beds and the operating block.—The annual meeting of the subscribers to the Queen Victoria Homes for Consumptives was held on April 13th. The fund started with £1100 more to its credit than last year and the upkeep of the two homes was £3297 as against £3699 the previous year. Accommodation for 85 cases was now available.—It was formally announced some time ago that the Government institution at Broadmeadows, Victoria, for the treatment of consumptives would be opened on May 1st but it is not yet ready. Dr. Drake has been appointed medical superintendent. The buildings erected are eight tents for patients, quarters for the medical superintendent and matron, dining-hall, kitchen, and rooms for domestics. The tents each contain six beds. The cost so far is £2000. The water-supply has still to be arranged. For incurable cases nothing has been done, and the Kronheimer wing at the Austin Hospital is not yet opened. It was thought that some agreement had been arranged but the Premier subsequently altered the conditions in which he would permit the new wing to be opened and nothing was done.—The Melbourne Hospital will shortly have been erected 50 years. In view of this fact the committee has decided to ask the Governor General to request His Majesty the King for permission to call the institution the Royal Melbourne Hospital

Amputation under Spinal Anæsthesia with Eucaine.

In the *Intercolonial Medical Journal* for April Mr. J. Ramsay records a case of amputation for gangrene under anæsthesia produced by injection into the spinal canal of 50 minims of 1 per cent. solution of β eucaine in normal saline solution. In five minutes total analgesia of the lower extremities was produced and the limb was painlessly amputated at the knee-joint. Sensation returned in two and a half hours. The evening temperature reached 101·2° F. and the patient had hiccough and flatulence. He had no headache or vomiting. On the next morning his temperature was normal. Recovery was uninterrupted. The patient was considered unsuitable for a general anæsthetic, having a dilated heart, loud bruit, atheromatous vessels, and a large amount of sugar in the urine.

Case of Abdominal Pregnancy.

In the same journal Dr. F. Meyer records a case of what he regards as primary abdominal pregnancy. Both tubes were normal and intact, and the placenta was attached to the posterior surface of the uterus.

Obituary.

Dr. Thomas Cole Wright, who had been practising at Gulgong, New South Wales, for some years, died suddenly from cerebral hæmorrhage. He had apparently been in perfect health previously.

May 8th.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and having conformed to the by-laws and regulations, have been admitted Members of the College and have received their diplomas :—

[illegible] ; Frank Anderson Juler, [illegible] and St. Mary's Hos- [illegible] y's Hospital ; Frederick [illegible] y and St. Bartholomew's [illegible] Durham University and University College, Cardiff, [illegible], London Hospital; [illegible] and Royal Infirmary, Man- [illegible] S. Eng., Mason College and [illegible] homas William [illegible], [illegible] ital; Harold Philip Martin, [illegible] oronto, and Middlesex Hos- [illegible] ls, and Basil Eustace Moss, [illegible] m Miles, St. Mary's and Middlesex Hospitals; Percy Frank [illegible] inett and Arthur Boniface [illegible] Richard-Parkinson, [illegible] Hospital; Percival [illegible] College Hospital; [illegible] Royal Infirmary, [illegible] Robert Elliot Pitts, [illegible] Christopher Pounds and Arthur [illegible] le, Charing Cross Hospital; George [illegible] and St. Thomas's Hospital; James [illegible] x Hospital, Owens College, and Royal Infirmary, Manchester; Percy George Reilly, Robert Leslie Ridge, and George Fitzgerald Rudkin, London Hospital; Frank Melville Pitcairn Rice, Horace Hammond Rolfe, and Harold Edward Scoones, St. Bartholomew's Hospital; David Harold Richards, Guy's Hospital; John Chambers Lawton Roberts, Cambridge University and St. Thomas's Hospital; James Edmund Rutherford, Oxford University and St. George's Hospital; Emil Schwarz, Vienna University and Charing Cross Hospital; William Lochhead Scott, University College Hospital; Harold Munro Scott, London Hospital; Timothy William Sexton and Armstrong Smith, Middlesex Hospital; Cyril Aubrey Smallhorn, Oxford University and St. Bartholomew's Hospital; Thomas Stordy Charing Cross Hospital; Samuel Henry Sweet, University College, Cardiff, and London Hospital; A [illegible] versity College, Liverpool, and Universi [illegible] Edwin Charles Tatam, L.S.A. Lond., Ki [illegible] George Thom, King's College Hospital; [illegible] Guy's Hospital; Louis Clifford Thompson, [illegible] Bristol, and University College Hospital; Arthur Toulmin, Owens College and Royal Infirmary, Manchester; William Samson Tresawna, Cambridge University and St. George's Hospital; John Ronald Rigden Trist, Frank Edred Whitehead, and Augustus Scott Williams, St. Bartholomew's Hospital; Rawdon Augustus Veale, Yorkshire College and General Infirmary, Leeds; William Charles Augustus Ward and David Wilson, St. Thomas's Hospital, Walter John Weston, St. George's Hospital; Alfred Garth Whitaker, Charing Cross Hospital, William Percival Gould Williams, Cambridge University and St. Thomas's Hospital, and Ernest Douglass Welff, King's College Hospital.

The following gentlemen passed the first professional examination for the diploma of Fellow at the quarterly meeting of the examiners.—

James Johnston Abraham, M.B. Dub., Dublin, King's College, St. Bartholomew's and London Hospital; David Macrae Aitken, M.B. & F.R.C.S. Edin., Edinburgh University; David Thomas Barry, M.D., R.U.I., D.P.H., Queen's College, Cork, and Liverpool University; Thomas Herbert Cecil Benians, London Hospital; Wilfred Edward Brierley, M.B. Vict., Yorkshire College, Leeds, and King's College, London; Colin Clarke, St. Bartholomew's Hospital; Alfred John Couzens, London Hospital; Kenelm Hutchinson Digby, Guy's Hospital; Reginald Lionel Ernest Downer, St. Bartholomew's Hospital; George Greig Farquhar, M.B., Ch.B., Aberdeen University and London Hospital; William Stephen Fenwick, Charing Cross Hospital; Charles William Greene, B.A. Cantab., Guy's Hospital; Edgar Hartley Kettle, [illegible] Cantab., [illegible] Mary's [illegible] lomew's [illegible] gham; [illegible] sity and [illegible], M.B., [illegible] William [illegible] Henry Lewis Morgan, London Hospital; William Maxwell [illegible], M.B., Ch.B. Edin., Edinburgh University and London Hospital; Humphrey Nockolds, University and King's College, London; Charles Aubrey Pannett, B.Sc., St. Mary's Hospital; Robert Nuttall Porter, M.D., Ch.B., Owens College, Manchester; Harold Vernon Prynne, Middlesex Hospital; Harry Richardson Rawlings, University of Leeds; Rupert Lewis Rawlinson, B.A. Cantab., Cambridge University and King's College, London; James Ernest Helme Roberts, St. Bartholomew's Hospital; David Robertson, Edinburgh University; Alfred Basil Rooke, University [illegible] nald Whatley Roy, B.A. Cantab., S [illegible] bert Frank Shorney, M.D., B.S. Melb., [illegible] Middlesex Hospital; Walter Stansfield, Owens College, Manchester; Leonard Smith Talbot, M.B., Ch.B. New Zealand, King's College, London, and Otago Medical School, New Zealand; Henry Darby Thomas, London Hospital; Reginald Stephen Townsend, St. Bartholomew's Hospital; Harold Fitz-Vellacott, London Hospital; John Walker, St. Thomas's Hospital; Harry Gordon Webb, St. George's Hospital; and Carl Ernest Zunde, London Hospital.

122 candidates presented themselves, of whom 40 passed and 82 were referred. Of the 82 candidates who were referred, 42 failed to reach the required standard in both Anatomy and Physiology, 23 in Anatomy only, and 17 in Physiology only.

The following gentlemen having passed the necessary examination and having conformed to the by-laws and regulations have been admitted Fellows of the College in order of seniority as Members of the College:—

Frank Arthur Spreat, L.S.A. and D.P.H. Lond., St. Bartholomew's Hospital, Member July 30th, 1884; Frec [illegible] D.P.H., L.R.C.P. Lond., St. Barthol [illegible] April 28th, 1886; William Selby, D.S. [illegible] Lond., St. Bartholomew's Hospital [illegible] Thomas Howard Foulkes, Capt. I.M.S., L.R.C.P. Lond., St. Bartholomew's Hospital, Member Nov. 10th, 1892; James Midleton Graham Sw [illegible] August 4th [illegible] and London [illegible] M.B., D.P. [illegible] pitals, Mem [illegible] Lond., Guy's and London Hospital, Member July 27th 1899; Robert [illegible] Smith, M.A., M.B., B.Ch. Oxon., L.R.C.P. Lond., St. George's Hospital and Oxford University, Member Feb. 13th, 1902; Owen William Richards, M.D., B.Ch. Oxon., L.R.C.P. Lond., Oxford University and Guy's Hospital, Member May 8th, 1902; Harry Pierpoint, L.R.C.P. Lond., University College, Liverpool, Member July 31st, 1902; Bernard Joseph Ward, L.R.C.P. Lond., Birmingham University and London Hospital, Member July 31st, 1902; Moses Thomas Williams, M.B., L.R.C.P. Lond., London Hospital, Member July 31st, 1902; William Warwick James, L.R.C.P. Lond., L.D.S. Eng., Middlesex Hospital, Member Nov. 13th, 1902; Oliver Francis Haynes Atkey, M.B. Lond., King's College Hospital, Member Feb. 12th, 1903; Walter Leigh Mackinnon Goldie, L.R.C.P. Lond., Edinburgh University and St. Mary's Hospital, Member Feb. 12th, 1903; Thomas Guthrie, M.A., M.B., B.C. Cantab., L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital, Member Feb. 12th, 1903; Arthur Francis Hamilton, M.D. Lond., L.R.C.P. Lond., St. Bartholomew's Hospital, Member Feb. 12th, 1903; Henry Bailey Mylvaganam, L.R.C.P. Lond., St. Bartholomew's Hospital and Ceylon Medical College, Member Feb. 12th, 1903; Francis Seymour Kidd, M.B. Cantab., L.R.C.P. Lond., Cambridge University and London Hospital, Member May 14th, 1903; Leonard Noon, B.C. Cantab., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital, Member August 4th, 1903; James Douglas Cooke, M.B., B.S. Melb., L.R.C.P. Lond., Melbourne University and London Hospital, Member Nov. 12th, 1903; Arthur Cyril Hudson, M.A., M.B., B.C. Cantab., L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital, Member May 12th, 1904; Frederic William Daniels, L.R.C.P. Lond., London Hospital, Member July 28th, 1904; Tom Bates, L.R.C.P. Lond., St. Bartholomew's Hospital, Member Nov. 10th, 1904; Thomas Bonhôte Henderson, M.A., M.B. Oxon., L.R.C.P. Lond., Oxford University and St. Thomas's Hospital, Member Nov. 10th, 1904; Sydney Chalmers Allen, M.D., B.Sc. New Zealand, L.R.C.P. Lond., New Zealand University and London Hospital, Member May 11th, 1905, John Dun [illegible] Queen's College, Cork, not a member; [illegible] B., Ch.B. Aberd., Aberdeen University, [illegible] d King's College Hospital, not a member; Edgar Montague Pilcher, D.S.O., Major R.A.M.C., M.B., B.Ch. Cantab., Guy's Hospital, not a member.

UNIVERSITY OF CAMBRIDGE.—Dr. G. C. Low, superintendent of the London School of Tropical Medicine, has been appointed an examiner for the Diploma in Tropical Medicine and Hygiene in the place of Sir Patrick Manson who is unable to examine in August.—Dr. D. MacAlister has been re-appointed assessor to the Regius professor of physic.—At the Congregation on June 8th the following degrees were conferred:—

M.D.—F. A. S. Hutchinson, Trinity; J. W. Rob, St. John's; A. de W. Snowden, Christ's; and J. E. Molson and H. S. Willson, Emmanuel.

D.Sc.—Professor W. R. Sorley.

M.B.—H. H. Clarke and S. M. Mackenzie, Trinity; R. N. Poignand, Caius; J. A. A. Orlebar, Magdalene; and H. Wales, Sidney Sussex.

B.C.—S. M. Mackenzie, Trinity; R. N. Poignand, Caius; and J. A. A. Orlebar, Magdalene.

UNIVERSITY OF OXFORD.—The following scholarships are announced in natural science: June 20th, St. John's College; July 4th, Brasenose College; and Dec. 12th, University, Lincoln, and Magdalen Colleges.—Walter W. W. Fisher, M.A., Corpus Christi College, Aldrichian Demonstrator in Chemistry, has been appointed an examiner in preventive medicine for the examinations in 1905, 1906, and 1907.

THE ANNUAL DINNER OF THE CHELSEA CLINICAL SOCIETY.—Dr. T. Vincent Dickinson, the President, took the chair on June 8th at this dinner, which was held at the Criterion Restaurant, London. A large number of the members of the society and their friends attended and the proceedings were marked by much enthusiasm. The first speaker after the loyal toasts had been honoured was the President who proposed "The Chelsea Clinical Society." He commented with great satisfaction on the speech lately delivered by Sir Richard Douglas Powell in which that gentleman declared that the scheme for the amalgamation of the various medical societies in London was not intended to include local societies like the Chelsea Clinical Society. Sir Douglas Powell stated definitely that it would be a distinct loss if such local societies ceased to exist. Dr. J. Barry Ball was intrusted with the reply to this toast and after some music had been well rendered Mr. E. Noble Smith proposed "The Visitors and Kindred Societies." This was suitably replied to by Mr. W. Arbuthnot Lane and the Rev. Dr. Collison. More music and songs followed and an enjoyable evening was terminated by Dr. Seymour Taylor submitting the toast of "The President and Officers of the Society," which was acknowledged by the President.

ST. PETERSBURG CHILDREN'S HOSPITAL.—The opening of the St. Petersburg Town Children's Hospital, built in honour of the coronation of their Imperial Majesties the Russian Emperor and Empress, has taken place recently. The hospital consists of 18 separate buildings and contains 400 beds. The staff in permanent residence on the premises numbers 250. The cost of the institution amounts to about £170,000.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this [illegible] [illegible]esday, June 27th, at the [illegible] [illegible] M. At 7.30 the members [illegible], Surgeon-General G. J. H. Evatt, C.B., the President-elect, being in the chair. Any Poor-law medical officer desiring to be present should communicate with Dr. Major Greenwood, honorary secretary, 9, Copthall-avenue, London Wall, E.C.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—At the annual meeting on June 1st Dr A. Newsholme was elected President for the ensuing year: Mr. G. Morgan and Dr. F. J. Paley Vice-Presidents; Mr. O. J. Oldham treasurer; Dr. R. Sanderson honorary librarian; and Dr. E. Hobhouse and Dr. Walter Broadbent honorary secretaries. Mr. W. A. Bowring, Mr. A. H. Buck, Dr. W. C. Chaffey, Dr. F. Hinds, Dr. L. A. Parry, Dr. J. W. Pugh, Dr R. J. Ryle, and Mr. T. J. Verrall were elected members of the council.

CHÂTEL-GUYON AND MEDICAL MOTORISTS.—On account of the advantageous position of Châtel-Guyon as a starting point for excursions in Auvergne, as well as its proximity to the "*circuit*," the local Syndicat Médical offers various facilities to medical men who wish to be present either at the trial matches (*éliminatoires*) or at the "*coupe*." These facilities include a claim to a certain number of rooms in the best hotels, reserved garages, and seats in the tribune of the Société Sportive Riom-Châtel-Guyon. Application should be previously made to the Président du Syndicat Médical de Châtel-Guyon-les-Bains, Puy-de-Dôme, France.

DURHAM UNIVERSITY MEDICAL GRADUATES' ASSOCIATION.—The annual meeting of this association was held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, on June 9th, under the presidency of Dr. J. W. Hembrough of Newcastle-on-Tyne. There was a good attendance. The annual report and balance-sheet of the treasurer showed that the numerical strength of the association is steadily increasing and that its financial condition is highly satisfactory. The question of taking steps to obtain Parliamentary representation for the University was again brought forward and the result of the recent appeal made to the Senate on this subject was discussed. In view of the advanced stage of the session it was decided to postpone further action in the matter for the present. General regret was expressed at the retirement of Dr. T. Outterson Wood from the post of honorary secretary for the South and a resolution acknowledging the excellent work which he had done for some years in that capacity was unanimously passed. The following were elected as the officers and council for the year 1905-06. President: Dr. Herbert T. Herring. Vice-Presidents: Dr. Selby W. Plummer and Dr. C W Chapman. Council: Mr. H. B. Angus, Dr. John Clay, Dr. H. Smith, Dr. William Martin, Dr. T. Beattie, Dr. E. W. Diver, Dr John Cahill, Dr. F. H. Carter, Dr. F. E. Green, Dr. William Rawes, Dr. W. J. Hadley, and Dr. R. J. Probyn-Williams Honorary secretaries: Dr. J. W. Leech for the North and Dr. F. S. Pal[illegible] [illegible]reasurer Dr R. A Bolam. [illegible] T. M. Allison, and Dr. H. Sn[illegible] Dr. W. C. Beatley, Dr. M. Mitchell Bird, Dr. H. T. Herring, and Dr. S. W. Plummer. The members and guests (numbering 84) dined together in the evening at the Imperial Restaurant, Regent-street. Dr. Herring, the newly elected president, occupied the chair. After the usual loyal toasts had been given that of the University of Durham and its Medical Graduates' Association was proposed by Mr. Christopher Heath and responded to by Sir George Hare Philipson and Dr. Palmer. The toast of the visitors was proposed by Dr. Plummer and replied to by Sir Lauder Brunton. Dr G. A. Heron proposed the health of the President and Dr. Herring replied. Excellent music was provided under the direction of Mr. Arthur Godfrey and a most enjoyable evening was spent.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—The general meeting of this society was held at 20, Hanover-square, London, W., on May 31st, Dr. F. Bagshawe (St. Leonards) being in the chair.—The officers and council for the ensuing session were elected, Dr. G. W. Hamilton Cumming (Torquay) being chosen as president. Dr. William Murray (Newcastle-upon-Tyne) was unable to be present owing to an accident, but his address, entitled "The Limitations of Treatment," was read by Dr. Leonard Williams and was much appreciated by the Fellows. The address will be published in the *Journal of Balneology and Climatology*. Dr. E. Symes-Thompson proposed, and Dr. Bagshawe seconded, a vote of thanks to Dr. Murray, which was carried unanimously. On the same evening the annual dinner of the society was held at the Criterion Restaurant.

THE FERNLEY [illegible] on the work of the [illegible] at Southport for the ye[illegible] [illegible]ro-logist to the Southport corporation, states that the weather at that place during the year was very dry but, on the whole, sunless, with much fog and haze. There was no strikingly hot or cold month. The total duration of bright sunshine was *1473·5 hours, being 92·6 hours below the average, and* the total rainfall was 26·01 inches, or 7·41 inches below the average; in London for the same period the total duration of bright sunshine was 1327·6 hours. The mean amount of atmospheric ozone at the Fernley Observatory was less than in any previous year since it was established in 1871. The lowest temperature registered on the grass by a sensitive terrestrial radiation minimum thermometer was 13·4° F. on Feb. 29th. The greatest general thickness of the ice over the large lake in Hesketh Park was 1·7 inches on Nov. 27th. During the autumn and winter season the observatory was opened to the general public on three evenings weekly and celestial objects were viewed through the six-inch refracting telescope by 168 visitors.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE: ANNUAL DINNER.—Under the genial chairmanship [illegible] present students of the [illegible] London Hospital held thei[illegible] [illegible]staurant, London, on June 7th. The guests present included Sir R. Douglas Powell, Director-General H M. Ellis, Royal Navy Medical Service, Director-General A. H Keogh, Army Medical Service, and Mr G F. Marshall, member of the board of management of the West London Hospital. The loyal toasts having been duly honoured Mr. C. B. Keetley in an amusing speech proposed the toast of "The Imperial Forces" which was responded to by Director-General Ellis, who said that the Royal Navy Medical Service owed a deep debt of gratitude to the West London Hospital. A very considerable number of naval medical men had undergone their post-graduate course in that hospital. Director-General Keogh, who also replied to the toast, explained how arrangements had been made for the officers of the Army Medical Service to receive instruction in London. He, however, particularly addressed himself to the question of the position of the volunteer medical officer. In case of war the Director-General of the Army Medical Service would be the only officer of that service left in this country, the volunteer medical officers supplying the places of those who would have gone abroad. It was not sufficient for a medical officer to be able to take care of a regiment. What had to be done was to provide an organisation to take the place of the Army Medical Service in the case of need and he invited the attention of those who were interested in the post graduate movement to the necessity of something being done in that direction. The Chairman proposed the toast of "The West London Hospital and Post-Graduate College" and congratulated those present on the success of the institution. The Dean, Mr. L. A. [illegible] gave some interesting [illegible] the college. He con[illegible] it was that the college [illegible] adequate for the purposes which buildings should be made they were intended to serve. The toast of "The Visitors" was proposed by Mr. F. Swinford Edwards and was responded to by Sir R. Douglas Powell who observed how the wants of post-graduates were admirably met by the West London Hospital. After the toast of "The Chairman" had been duly submitted and suitably replied to the proceedings came to an end.

Insanitary Conditions in Bolivia.—Writing from Oruro, the chief mining district of the Bolivian Republic in South America, Mr. J. Ramsay Smith, British Vice-Consul, observes that miners are scarce and wages have doubled in the last few years. The pure-bred Indian does not work in the mines as a rule but lives on his small patch of land or brings native fuel, &c., on his llamas and donkeys for the mining establishments. The half-breed is the labourer of the country. During the present boom all kinds of labour-saving machinery and appliances have been introduced to render the work as automatic as possible but much remains to be done in this line. The climate of the district is good—a dry, bracing mountain climate—but mortality is very high (about 100 per 1000). Intemperance is general amongst the working classes. They are not particular about the quality of the drink provided it be alcoholic. Their food depends on themselves. Fresh beef, mutton, good bread, and potatoes are usually abundant and cheap. Their houses are mere hovels without windows or ventilation. Modern ideas of sanitation are nowhere practised. Drainage of the towns does not exist. In the yard of most houses there is a deep pit into which all the excrement is thrown without the addition of any disinfectant. It is not to be wondered at that typhoid fever, small-pox, and the exanthematous fevers are endemic and make frightful ravages in the population every year. However, the local authorities and the medical profession are at length taking some steps to remedy this. They propose to have an infectious diseases hospital, for example.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Sir John Batty Tuke and the Scotch Education Bill.

It is doubtful whether there will be time to carry the Scotch Education Bill through the committee stage, but should the necessary facilities be provided Sir John Batty Tuke will propose several amendments of medical interest. Two of these proposals may be quoted. One reads thus: "The school board of every district may, or where required by the education department shall, provide for the medical examination and supervision of the pupils attending schools under their charge to such extent and subject to such requirements as may from time to time be prescribed by any code or minute of the department, and, for the purposes of this section, the school board may appoint such medical inspectors, to be approved by the department, as may be necessary, or may arrange with any local authority acting under the Public Health (Scotland) Act, or with a medical corporation, or with any person or body of persons approved by the department, to conduct the examination and supervision on their behalf." Another is as follows: "The medical officer of health, or any medical officer duly authorised by the local authority for that purpose, may, *with the consent of the school board or board of managers of any* public or State-aided elementary school within the district, enter such school under the control of such school board or board of managers and if on examination he shall be of opinion that the person or clothing of any child attending such school is infected with vermin or is in a foul or filthy condition so as to be prejudicial to health he shall give notice in writing to the parent or guardian or other person who is liable to maintain or has the actual custody of such child requiring such parent, guardian, or other person to properly cleanse the person and clothing of such child within 24 hours after receipt of such notice. The local authority or the school board or the board of managers may give the use, free of charge, of any place or apparatus which the local authority or the school board or the board of managers possess for cleansing the person or clothing of such child. If the person to whom such notice is given fails to comply therewith within the prescribed time *the medical officer of health or* medical officer duly authorised as aforesaid shall cause the person and clothing of such child to be properly cleansed and, if necessary for that purpose, may instruct an officer of the local authority, without any warrant other than a certificate from the medical officer of health or medical officer aforesaid, to convey to a suitable place and therein detain such child until such cleansing is effected: always provided that in the case of a female child only a female officer shall be authorised to convey and detain the child for the purpose of cleansing. Any expenses incurred in carrying into effect the provisions of this section may be defrayed out of the public health general assessment. The school board or board of managers of any public or State aided elementary school may refuse to admit into any school under their control any child who shall be certified by the medical officer of health *or any medical officer acting* under the authority of this Act to be suffering from a contagious skin disorder, and the parent or guardian of any child so suffering who shall fail forthwith, on intimation in writing from the school board, to procure medical advice and treatment for such child shall be liable to a penalty not exceeding 10*s*. for every day during which he makes default."

HOUSE OF COMMONS.

Wednesday, June 7th.

The Plague in India.

Mr. Field asked the Secretary of State for India whether he was aware that in India in 1901 the total deaths from plague were returned at 273,679, in 1902 the number rose to 577,427, in 1903 it reached 851,263, and in 1904 it was 1,022,299; and what steps were taken by the Government for the prevention of the spread of plague.—Mr. Brodrick answered: I am aware of the lamentable mortality from plague indicated by the figures quoted by the honourable Member. The Government is endeavouring, while necessarily respecting the feelings and the prejudices of the people, to assist them by every possible means to help themselves and to bring within their reach all material means to that end. It is promoting, in the matter of prevention, the more efficient sanitation and cleansing of towns and villages, the destruction of rats and mice, and the means of inoculation. It is enlisting and organising unofficial help by the formation of health and charitable committees, and has defined the duties of municipalities and other similar bodies in respect of giving intelligence, of providing hospitals and free sites for camps, and of succouring homeless wayfarers. On the occasion of any outbreak of plague it encourages and, through its medical and administrative officers, assists the residents to disinfect their houses and property, to isolate the sick, to destroy infected materials, and to evacuate plague stricken dwellings and sites. It gives compensation for loss of property to the poor and assists them to rehouse themselves It maintains laboratories for the preparation of fluid for inoculation and for the systematic study and diagnosis of the disease; and it has placed at the disposal of an *advisory committee of* the highest authority in this country a grant of money for meeting the expenses of a scientific expedition, which is now carrying out further plague investigations in India.

Cases of Necrosis.

Sir Charles Dilke asked the Secretary of State for the Home Department whether, in addition to the case of necrosis reported in March, two other cases had occurred recently at the same factory.—Mr. Akers-Douglas replied: Yes, sir. Two other cases have been reported since from the same factory. One was the case of a woman employed as a boxer of thoroughly dried matches who had a tooth extracted and returned to work directly afterwards without informing the firm and obtaining a certificate of fitness as required by the special rules. The attack was a first attack. The other was the case of a man who had phosphorus poisoning some years ago and had been employed since in other work, latterly as a night watchman. In the latter employment, which is one lying outside the scope of the rules, it would be his duty to visit the dipping and other rooms at night but it is doubtful at present whether the case is one of phosphorus necrosis at all. I am now in possession of reports in all three cases, though the investigation of the third case is not yet complete and in view of the fact that they all occurred at one factory I have called for a special report on the circumstances in which they arose and on the working of the special rules in that factory.

In the Interests of Public Health.

Mr. Field asked the President of the Local Government Board whether he had authorised the issue of a circular by the medical officer of health of Tottenham district requesting meat traders to provide forks for the use of intending purchasers to hold and to examine meat; and, if so, what section of the Public Health Act or other statute empowered such action.—Mr. Gerald Balfour said: The circular was not authorised by me. I understand that it was not intended as a request which could be legally enforced but rather as a suggestion in the general interests of the public health.

BOOKS, ETC., RECEIVED.

A. R. Elliott Publishing Company, 66, West Broadway, New York.
 Tumours of the Cerebellum. By Charles K. Mills, M.D., Charles H. Frazier, M.D., George E. de Schweinitz, M.D., T. H. Weisenburg, M.D., and Edward Lodholz, M.D. Price not stated.

Baillière, Tindall, and Cox, 8, Henrietta street, Covent Garden, W.C.
 The Dental Annual and Directory. 1905. Price 7*s*. 6*d*. net.

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J. B. Lippincott Company, Philadelphia and London.
 International Clinics. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A., with Collaboration. Vol. I. Fifteenth Series, 1905. Price not stated.

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Appointments

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are
ected to the Sub
morning of each

L.R C.P. Lond., M R C S, has been
Officer for the Ditton District of the
ion.

Aberd, has been appointed Resident
d Medical Officer for the Children's

R C S, L S A, has been re appointed
for the Stratton (Cornwall) Rural District Council

COW, D V, B A, B C, Cantab, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

EARLE, REGINALD ANDERSON, L.S A Lond, has been appointed Medical Officer and Public Vaccinator for the Weston super Mare District of the Axbridge Union

as been

Edin, has been
and Workshop Act

HA
se Surgeon to the

HERION, J. H, Captain, I.M S, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

KINGSFORD, A. BERESFORD, M.R C S, L R C P Eng, D P H Cantab, has been appointed Second Assistant Anæsthetist at University College Hospital.

MYLES, W S, B A, M B, B Ch Dub, has been appointed District Medical Officer and Public Vaccinator, Moora, West Australia

ROY S CHAPMAN, M B, C M. Edin, has been appointed Resident Medical Officer to the Leicester Poor-law Infirmary.

SALISBURY, C R, M R C S, L.R C P. Lond, D P.H Lond, has been appointed Anæsthetist to the Metropolitan Hospital

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

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ed, for six months
, and washing.
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ne Office, S.W, gives notice of
der the Factory and Workshop
of Kildare, at Prescot, in the
the county of Durham, and
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Births, Marriages, and Deaths.

BIRTHS.

BENTL
J
he wife of

MYLES
M
S Myles,

NIX.—On the 6th June, at the wife of R. E Nix, M.B Cantab, a son

SMITH —On the 2nd June, 1905, at Sydney, N S W, to Aimée Guy Smith M B London, and Guy Smith, of Kalgoorlie, Western Australia, a son.

MARRIAGES

905, at Emanuel Church,
R C P. & S. Ed, L.F P A S
es, R E D, to May A
rne.

DEATHS.

CLARKE.—On June 11th, at Buckingham terrace, Edinburgh, James Ferguson Wallie Clarke, M A, F R C S Edin.

MACNUTT.—On June 12th, George Augustus Macnutt, M D, M R C S, &c., in his 69th year.

N.B —A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

KRUGERSDORP AS A HEALTH RESORT.

WE have received from Mr. W. Gem, the medical officer of health of Krugersdorp, the following interesting particulars:—

> Krugersdorp, so named after the late President of the Transvaal Republic, is the chief town on the West Rand. It is situated on the northern slope of the Witwatersrand, with an uninterrupted view of the Magiliesburg range of hills, and is about one hour's run from Johannesburg, a good train service affording easy intercommunication with that city. The town is divided by wide streets, macadamised throughout, and with a row of eucalyptus trees running down each side. In the centre of the town there is a large market square, also surrounded by gums. The town council is of a most progressive type. There is an efficient sanitary service and the pail system has been adopted and the excreta and refuse are removed daily and carted about two miles out of town and there disinfected and buried. The climate of Krugersdorp and the West Rand in general is second to none. The town lies in subtropical latitudes, yet its height above the sea level (6800 feet) insures for it invigorating and pure air at all seasons. The summer heat, at no time unendurable, is tempered with frequent and mild rains, the heat rarely exceeding 80° F., and the nights are cool and pleasant. In winter there is a still, cold, dry atmosphere, so that the bracing effects of the cold are felt without the irritation produced by too rapid evaporation from the respiratory surface. Snow seldom falls, while ice is only found in thin layers. The cloudless and azure skies are characteristic. The absence of violent winds which in other parts of the Transvaal and Cape Colony are a prevailing element enhances the value of the West Rand as a health resort. The water is obtained from gravel hillocks held up by underlying clay and is pure and wholesome. It has been tested and analysed on several occasions with a most favourable result. The town is shortly to be lighted by electricity, improvements are to be made all round, and further railway communications are anticipated in the near future. There are various places of interest in the locality. A sanatorium will be constructed in a short while just outside the town with a good approach road.
>
> Now that the agricultural department is placing farming on a scientific basis and importing stock there will be a supply of good fresh meat and milk which have been unobtainable up to the present. Several well-qualified medical men have settled in practice at Krugersdorp. The great feature of Krugersdorp is its low death-rate and more especially from chest complaints. Cases of phthisis in its earlier stages or consolidation of the apices of the lungs do remarkably well but when it has gone on to the cavernous stage it is highly undesirable for a medical man to send such patients out here, far away from home and friends and the luxuries of England. A few cases of cavernous phthisis have done well under various treatments, such as inhalations of creasote, guaiacol carb., cyllin, and other antiseptics, but such cases should not come out here, as the diet to be obtained is not suitable for them.

ENTERPRISE.

AN enterprising firm of tobacconists appears to be circularising the medical profession and making offers to let medical men have certain cigars at a low price if they will be so obliging as to recommend the brand to their patients. We hope that the firm will find medical men not readily seduced into recommending their wares. The cigars may be good enough, but either they are worth more money than is asked of the medical profession or they are not. If they are worth more the medical profession is being bribed; if they are worth less it is being exploited and neither position is to be coveted.

THE COUVADE.

To the Editors of THE LANCET.

SIRS,—Much curious information upon the subject of the "couvade" cognate to the inquiry of your correspondent may be found in "The Mystic Rose," by E. Cawley, M.A., London, Macmillan, 1902.

I am, Sirs, yours faithfully,
C. J. W.

AIR-BORNE INFECTION FROM SMALL POX HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Your leading article in THE LANCET of June 10th prompts me to ask whether the gases escaping from the ventilating pipes connected to "waste water," "soil pipes," and drains by means of the present universal (and in my judgment entirely wrong) system of open tops do not exert even a more powerful influence in spreading small-pox, fevers, &c., than the moving in and out of patients and those attending upon them?

I am, Sirs, yours faithfully,
SANITARY ENGINEER.
June 12th, 1905.

POSTAGE STAMPS AND CHARITY.

FOR a great many years [illegible] lon of a million used postage stamps would [illegible], has had almost universal acceptance. An arrangement has now been made, however, by which for the future for every million stamps collected two sick children will be admitted to the North-Eastern Hospital for Children, Bethnal Green, London, E., and the name of the collector of each million stamps will be inscribed on a special list placed in a prominent position on the walls of the hospital. Particulars of this scheme may be obtained of the hospital secretary, Mr. T. Glenton-Kerr, or of the Editor of the *Girl's Realm*, 7, New-court, Carey-street, London, W.C.

TO DEADEN SOUND.

To the Editors of THE LANCET.

SIRS,—Messrs. Clay and Abraham, chemists and druggists, of Liverpool, have a most effectual and comfortable ear stopper, made of rubber and priced 1*s.* a pair. As a night superintendent I wore them for two years and found them most useful.—I am, Sirs, yours faithfully,

June 9th, 1905. A. G.

To the Editors of THE LANCET.

SIRS,—Your correspondent might with advantage try plugging the ears with small ivory balls. These have been successfully used for the relief of insomnia and are, I believe, used in France by artillerymen during gun practice.

I am, Sirs, yours faithfully,
F. R. WALTERS.
June 10th, 1905.

◆

Dubious is advised not to place his diploma at the service of a company. Without entering into what might be his legal position we may say that the General Medical Council would view his conduct with disfavour.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M [illegible] Cross (3 P.M.), St. George's (1 P.M.), [illegible] (2 P.M.), Ophthalmic (10 A.M.), Canc [illegible] London Northern Central (2.30 P.M.), West London (2.30 P.M.), Throat, Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (24th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex [illegible] 2 P.M.), University College (9.15 A.M.), [illegible] George's (1 P.M.), St. Mary's (10 P.M.), [illegible] A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (21st).—Royal Microscopical Society (20, Hanover-square, W.).—8 p.m. Papers:—Mr. A. E. Conrady: Theories of Microscopical Vision.—Mr. E. M. Nelson: The Tubercle Bacillus.

SATURDAY (24th).—Neurological Society of the United Kingdom (National Hospital, Queen-square).—10 a.m. Clinical Cases will be shown.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (19th).—Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 p.m. Dr. J. H. Sequeira: Clinique. (Skin.) 5.15 p.m. Mr. L. Thomas: The Control of Hæmorrhage during Operations.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—5 p.m. Mr. Ll. Williams: Etiology of Dental Caries.

TUESDAY (20th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m. Dr. W. Ewart: Clinique. (Medical.) 5.15 p.m. Mr. W. G. Spencer: The Treatment of Diseases of the Knee-joint.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—5 p.m. Mr. D. Hood: Clinical Aspects of Pneumonia.

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3.30 p.m. Sir W. Gowers: Some Symptoms of Tabes.

North-East London Post-Graduate College (Tottenham Hospital, N.).—4.30 p.m. Lecture:—Mr. W. Edmunds: Joint Affections in Childhood.

WEDNESDAY (21st).—Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 p.m. Mr. P. Paton: Clinique. (Surgical.) 5 15 p.m. Dr. A. P. Luff: The Diagnosis and Treatment of some of the Forms of So called Rheumatism.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—5 p.m. Mr. Dunn: Ametropia, its Causation, Diagnosis, and Treatment.

Hospital for Consumption and Diseases of the Chest (Brompton).—3 p.m. Lecture.—Dr. Horton Smith Hartley: Pneumothorax.

THURSDAY (22nd).—Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 p.m. Mr. Hutchinson: Clinique. (Surgical.) 5 15 p.m. Mr. D. Armour: Pain in Acute Abdominal Disease.

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—5 p.m. Mr. Edwards: Rectal Disease.

Hospital for Sick Children (Gt. Ormond-street, W.C).—4 p.m. Lecture:—Dr. Thursfield: Enuresis.

Samaritan Free Hospital for Women (Marylebone-road, N.W.).—3 p.m. Lecture.—Dr. Roberts: Cases from the Wards.

Mount Vernon Hospital for Consumption and Diseases of the Chest (7, Fitzroy square, W.).—5 p.m. Lecture:—Dr. T. D. Lister: Pre-Tuberculous Affections in Early Life. (Post-Graduate Course.)

Royal Institute of Public Health.—5 p.m. Colonel D. Bruce, R.A.M.C.: Sleeping Sickness.

North-East London Post-Graduate College (Tottenham Hospital, N.).—4.30 p.m. Lecture.—Dr. Giles: Hæmorrhage during Pregnancy.

FRIDAY (23rd).—Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 p.m. Dr. J. Horne: Clinique (Throat.)

Post-Graduate College (West London Hospital, Hammersmith-road, W.).—5 p.m. Dr. Abraham: Cases of Skin Disease

National Hospital for the Paralysed and Epileptic (Queen-square, Bloomsbury, W.C.).—3 30 p.m. Dr. R. Russell: Friedreich's Ataxy.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of The Lancet at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach The Lancet Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to The Lancet Offices.

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Subscribers abroad are particularly requested to notice the rates of subscriptions given above. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of The Lancet necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of The Lancet have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—The Manager, The Lancet Offices, 423, Strand, London, England.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, June 15th, 1905.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
June 9	29 90	N.E	0·01	67	56	52	52	54	Raining
" 10	29 91	N.E.	0 16	85	66	50	52	53	Overcast
" 11	29 81	N.E.	0 74	63	62	53	56	57	Raining
" 12	29 80	E	0 30	98	65	57	57	60	Cloudy
" 13	29 83	S E.	0 03	121	71	54	57	59	Cloudy
" 14	29 80	S.E	...	124	72	53	58	64	Fine
" 15	29·75	N.E.	...	114	70	51	51	59	Fine

During the week marked copies of the following newspapers have been received:—*Islington Gazette, Daily Express, Daily Mail, Cork Constitution, Derby Reporter, Glasgow Evening Times, Nottingham Daily Guardian, Yorkshire Post, Field, Lincolnshire Echo, Devon and Exeter Gazette, Observer, Westminster Gazette, Globe, Nottingham Guardian, Bethnal Green News, Herefordshire Mercury, Morning Leader, Freeman's Journal, Liverpool Courier, Mining Journal, Wandsworth and Battersea District Times, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. H. G. Adamson, Lond.; Mr. H. R. Allingham, Lond.; Dr. Henry Ashby, Manchester; Dr. C. T. Andrew, Lond.; Aston Union, Clerk of; Messrs. S. Allsopp and Sons, Burton on-Trent; Advertiser's Agency, Lond.; Aluminium Bottle Stopper Co., Lond.; Mr. Henry Allen, Newport, Isle of Wight; Messrs. Adlard and Son, Lond.

B.—Mr. Harry H. Bashford, Lond.; Mr. J. T. Brock[illegible], Brockenhurst; Dr. Mungo Bryson, Thornhill; Messrs. T. B. Browne, Lond.; Bayer Co., Lond.; Messrs. Bell and Bradfute, Edinburgh; Miss Mildred M. Burgess, Lond.; Messrs. S. H. Boustield and Co., Lond.; Mr. S. H. Benson, Lond.; Messrs. J. L. Bullock and Co., Lond.

C.—Mr. E. F. Coghlan, Lond.; Crystal Palace, Sydenham, General Manager of; Cyclops; Messrs. E. Cook and Co., Lond.; Mr. Cecil Clements, Lincoln; Messrs. Carfax and Co., Lond.; Mr. J. Creswell, Bridgnorth; Cambridge Scientific Instrument Co.; Camwal, Ltd., Lond.; Messrs. T. Christy and Co., Lond.

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E.—Ecclesall-Bierlow Union, Clerk of; E. W. D.

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THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 25th, 1905.

> "The primal duties shine aloft, like stars;
> The charities that soothe, and heal, and bless
> Are scattered at the feet of Man, like flowers"
> WORDSWORTH: *The Excursion*, Book ix.

ANOTHER year has passed, and for those of us who live lives filled with the constant occupations of business or of pleasure it doubtless has slipped by rapidly. Again Hospital Sunday is at hand, and the appeal for aid is reiterated on behalf of the Metropolitan Hospital Sunday Fund and of those noble institutions which are justly objects of pride not only to London but to the whole nation. The "season is at its height," the greatest metropolis in the world, full at all times, is crowded to overflowing by thousands who visit it merely to enjoy themselves, and to all alike comes the opportunity to remember in health those who are in sickness, and to set aside for the relief of the helpless something a little in excess of their usual Sabbath almsgiving. The cry of the hospitals for aid is constant, sturdy beggars as of necessity they must be if they are to carry on their good work; beggars, however, not on their own behalf, but for the sake of others. Their need is great, and they who know what their work is cannot pretend to prophesy that it is likely to become less in the near future. On the contrary, it increases, and must increase, as the population is augmented by natural growth within and by influx from without, and as the demands of an age of progress compel hospitals as well as other institutions to move with the times.

The Change in London's Face.

The development of London never ceases and is not confined to the enlargement of its borders. Let anyone who wishes to appreciate the nature of one phase of this development alone, and of one which intimately affects hospitals, take a walk through London, particularly if during the last few years he has not seen some of the streets once familiar to him. He may go, like Dr. Johnson, down Fleet-street, or he may start from Temple Bar and go by the Law Courts to where Kingsway ends in Aldwych and Aldwych in the Strand. He may follow these new thoroughfares or proceed farther west past Charing Cross, but wherever he passes he will find change either completed or proceeding. In Piccadilly he will notice a gap where the St. James's Restaurant stood, and a monster hotel near the Green Park taking the place of a club and chambers which had scarcely been used for a decade before being demolished. In Regent-street, again, he will find the dignified and harmonious buildings of the Quadrant crumbling beneath the crow-bar of the house-breaker and all will warn him that times are changing and that with them London is changing also. It is this especially that those must remember who read of hospitals being removed to other sites or rebuilt where they have stood for years past, and who perhaps think that it is some whim for new things or some desire for display that causes the demand for hundreds of thousands of pounds to effect the demolition and the rebuilding. It is nothing of the kind. The old houses of Wych-street and Holywell-street have been swept away, together with newer and more substantial buildings in more recently inhabited localities, not because of any caprice affecting their owners or their tenants, but because the new requirements which time and human progress have brought into being have rendered the structures either obsolete in themselves or unnecessary in the places where they stood. With hospital buildings as with other structures—more so, indeed, than with private residences or with business offices—this necessity for reconstruction is forced upon those responsible for their maintenance. Hospitals are institutions with restricted means or we should not be urging our appeal on their behalf; therefore it behoves them, if they occupy valuable positions in densely crowded situations, to see that they extract the maximum of advantage from their site by placing upon it buildings calculated to fulfil their objects as completely as possible. It would be extravagance to occupy with a hospital accommodating 200 patients inadequately a space which might serve the needs of 300 and serve them better. In like manner it may be extravagance to remain in such a situation at all, but if the move is to be made a demand for funds will be necessary before the change can be effected. With hospitals, moreover, there are necessary changes to be considered connected with the advances made in medical and surgical science which alone would require structural alterations in the buildings, even if in other respects they were suitable for their purpose. Wards, operating theatres, and laboratories have to be of the most practically useful type known to science or public support will be withdrawn from an institution believed to be effete. In these circumstances buildings, once the best of their day and a model for the world to copy, have to be brought again into line with those that have outstripped them, and in the increasing advance of medical, sanitary, and social science towards the highest attainable ideals the great charities of London must not be left behind.

The Tale of Ever-increasing Expense.

The money that is laid out in rebuilding our hospitals involves an outlay of capital not needed every day and is an expenditure from which, once made, interest in the shape of efficient work will be derived for many years—perhaps for generations afterwards. In connexion with Hospital Sunday this has to be taken into account, chiefly because some may confuse the large sums laid by in permanent structural improvements with those necessarily disbursed in each financial year upon the daily up-keep of the institution. For the ordinary expenses of the upkeep of these great charities there is "nothing to show" that strikes the eye; no building, ward, or operating theatre remains to perpetuate the names of countless donors. We can only boast as a return for the money spent the knowledge that lives have been saved and that suffering has been relieved, so that the breadwinner has gone back to his work, the mother to her family, and the children to their homes, healed so far as science can heal them, and by means which without the hospital would have been beyond their reach. It is in aiding this daily and hourly up-keep that the Metropolitan Hospital Sunday Fund is annually exhausted, and it is with a view to this that the help of all is solicited to replenish its coffers. Yearly the demand grows greater in this respect also. Few will be found to suggest that as London widens its boundaries the cost of living diminishes. Householders who can look back upon the rates which they paid in 1873, when the Fund began its work, and compare them with those exacted to-day will do well to remember that most hospitals pay rates just as they do themselves, and that the rates paid by the hospitals have increased in exactly the same proportion as theirs. Housekeepers who in providing for their families endeavour to secure that such simple articles of diet as milk, eggs, and vegetables shall be of the highest possible quality, pure and fresh, will admit that this purity and freshness in London have to be paid for as luxuries by the rich, and that the simple forms of food we are speaking of are among the staple necessaries of life for those who have to be kept alive in hospitals. Let anyone acquainted with the rate of wages compare those in London with those paid elsewhere to all classes of servants and workers When the "cost per bed" of hospital maintenance in London is compared with that prevailing in other towns such questions of necessary expenditure as these have to be considered, as well as the fact that in the metropolis the claims for hospital aid are such that only the more serious cases can, as a general rule, be admitted. These points have been dwelt upon in order to show that if hospital expenditure does not diminish, or if indeed it increases and is likely to increase, its proportions are due, as a rule, to causes beyond the control of hospital committees and to circumstances which all can appreciate when once their attention has been directed towards them. Without the aid of such organisations as the Metropolitan Hospital Sunday Fund, and the help of the generous public who support it, we should find an ever-growing tale of unrelieved suffering and death. Among the names of generous men associated with the progress of the Metropolitan Hospital Sunday Fund and the maintained efficiency of the London hospitals, that of Mr. George Herring will ever be conspicuous. Again this year he has renewed his offer of adding one-fourth to any amount collected in places of worship on Hospital Sunday, his liability attaining to £25,000. Fully appreciating the position to which we have called attention above, he observes in the letter to the Secretary of the Fund, which contains his promise of help: "I hope the calls on the charitable for building purposes will not decrease the collections for the *maintenance* of the hospitals, as I think that should be the primary object." This is a brief summary of the point which we have dwelt upon and emphasised above, in the words of one who yearly gives practical effect to his view with unexampled liberality. Let others follow his example in proportion to their means, remembering that important and necessary as are the rebuilding schemes of this year or of that, the annual maintenance of the hospitals must ever be the primary object to be kept in view, or new buildings and old alike will fail to fulfil their objects. The Metropolitan Hospital Sunday Fund makes its valuable contribution to the expenses of the hospitals having regard alone to their upkeep as hospitals; and undoubtedly it is because the Fund makes no donations expressly for building or similar purposes that it benefits by Mr. Herring's splendid and recurring generosity.

Can Hospitals be maintained except by Charity?

We have referred to the generosity of the public to which the Metropolitan Hospital Sunday Fund annually appeals—a generosity which has made our hospitals the great national gift of the rich to the poor, of the whole to the sick. We here use the term "rich" to include not only those donors of large sums, founders and rebuilders of hospitals, whose wealth exceeds that of the majority of their neighbours, but also many who would possibly deny its application to themselves. These, however, are rich beyond the dreams of the poor for whom the hospitals are provided, and it is to their generosity, no less than to that of our territorial magnates and merchant princes, that our hospitals look for support. For such generosity there is a possible alternative to which allusion is sometimes made. We have mentioned the growing rates of London. It is not inconceivable that the burden of the building and of the maintenance of hospitals might be added to the rates. Against such an idea as this, however, we have protested and shall continue to do so, challenging any who may advocate it to show that the efficiency of the hospitals would not suffer under municipal control or that their cost would not be hugely increased. The growing cost of public elementary education and the increase of rates for this and other purposes are not calculated to encourage the addition of fresh subjects for expenditure to those already intrusted to popular elective bodies. Under the present system hospital managers are bound to practise the most rigid economy, and to exercise the keenest supervision over every item of their accounts, because their precarious and limited incomes necessitate their doing so. They also necessarily, as well as willingly, endeavour by all means in their power to check the abuse of the hospital's generous aid by those able to pay for medical attendance. Under a system of hospitals supported out of the public purse of the locality no question of economy would cause any hesitancy, still less any serious anxiety, for the income of the householder would always be there to draw upon and "a slight increase of the hospital rate" would meet the demand caused by any extravagance. Under such a system, moreover, all would have a right to the hospital's aid, as they now have to that of the public elementary day-school, and many who consider themselves above sending their children to such a school would not find their dignity standing in their way if free medical aid were to be had for the asking. The alternative would be the rendering of assistance from a hospital a question of Poor-law relief involving similar social stigma and disqualification, with the effect that, like the workhouse, the hospital would be considerably shunned by the self respecting poor, or would only be resorted to when it was too late. Care should be taken, and is taken, to prevent hospital abuse, but promptitude in the rendering of assistance is essential where human health or human life is at stake, and any recourse to officially imposed formalities, any limits defined and guarded by red tape, must necessarily involve delay and may cause the withholding of assistance which charity would render freely and without question. In urging the working man to give voluntarily to the hospital nearest to him or to contribute to the Hospital Sunday Fund, we would ask him to regard his gift as one of charity to those who in their time of necessity must turn to the hospital for help, and not as one which will entitle him to hospital aid on some future occasion merely because he needs a little medical attention which he can afford to provide for himself.

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1904

TABLE I.—GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients—*NOT *the* NUMBER *of out-patients.*

Name of hospital	Hospital Sunday Fund award	In-patients	Relieved	Cured	Convalescent homes	Remaining under treatment	Died	Out-patients visits	Accidents and emergencies
	£								
Charing Cross	937	2 184	1 099	840	210	140	215	48 480	10 041
French	321	833	98	649	120	51	35	13 380	1 247
German	505	1 845	532	1 067	424	115	131	78 460	2 400
Great Northern Central	1 030	1 982	1 594		154	154	234	76 718	7 855
Guy's	2 041	3 000	6 774		14	507	759	316 147	63,377
Hampstead General	204	422	—	—	—	29	35	7 650	798
Italian	182	558	48	398	65	20	19	35 283	261
King's College	1 418	2 609	948	1 230	220	184	222	46 187	6 516
London	4 993	12 863	8 302	903	1 856	695	1 373	31 718	19 195
London Homoeopathic	534	1 016	357	463	52	81	36	40 536	1 574
Phillips Memorial	24	172	17	134	6	6	3	2 851	10
London Temperance	742	1 337	439	735	27	93	98	26 862	15 021
Metropolitan	903	1 220	291	610	160	95	176	120 291	9 449
Mildmay	283	626	131	390	147	38	30	34 957	7 057
Miller Hospital and Royal Kent Dispensary	257	356	94	209	—	21	52	80 437	7 391
North West London	505	624	129	407	17	42	50	43 600	7 [illegible]
Poplar	661	1 349	—		60	52	98	26 218	31 [illegible]
Queen's Jubilee	153	282	—	—	—	12	13	34 [illegible]	2,200
Royal Free	1 342	2 304	2 042		300	104	218	118 832	25,6[illegible]
St George's	1 629	4 530	2,005		1 340	295	[illegible]	101 402	22 767
SS John and Elizabeth	528	2 9	234	—	53	64	25	—	—
St Mary's	2,306	3 989	1 539	1 725	35	246	340	118 934	20 959
Seamen's Hospital Society	1 387	2 299	777	1 222	60	551	162	95 012	—
The Middlesex Hosp and Convalescent Home	2,501	3 797	2 813		1 068	312	230	140 400	32,451
Tottenham	446	1 093	211	62	—	69	1 0	62 520	—
University College	1 760	2 744	825	1 229	293	170	277	204 124	43 061
Walthamstow &c	105	5 4	35	480	—	34	30	[illegible] 000	2,223
West Ham	552	736	144	599	8	47	58	93 811	11 [illegible]
West London	1 01	2 179	1 843		—	134	202	109 500	9 575
Westminster	1 533	2 512	2 098		477	173	235	61 000	10 878
St John's Lewisham	102	—	—	—	—	—	—	—	—
	£31 065	65 374	16 393	15 702	8 350	4 279	6 003	2,6[illegible]9,571	333 372
Estimated to supply omissions	—	282	7 280	13 143	—	—	—	—	17 37[illegible]
Total	£31 065	65,656	23 678	28 845	8 350	4 279	6 003	2,679 371	410 743

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* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

The only claim which any can justly raise for admission to a hospital lies in the fact that they are in need of help which they cannot obtain elsewhere and by other means. Their necessity then qualifies them and is independent of any payment which they have made. The help of the hospital is, in fact, a charitable gift, and not a right which anyone can claim on other grounds than those of bodily need and poverty.

A Reminder to those who might forget.

We have alluded to the growing population of London as causing pressure upon hospital accommodation in an increasing degree from year to year. The incoming thousands, it must be added, consist principally, or very largely, of those persons who in time of trouble go to the hospital for assistance. The wealthier class of the population in London may increase, but villas outside its borders attract many whom rising rates and the increased cost of daily living drive farther afield for their place of residence. These may earn their daily bread in London, but when Sunday comes they are not within its limits, and we venture to hope that none of them will forget the claims of the great metropolis and of its hospitals. We have before urged those who remember the calls of Hospital Sunday and who themselves have the opportunity for contributing afforded to them at a place of worship not to let others forget it, but to levy upon them such a tax as may be fitting to their pecuniary position. Many of those who do not attend public worship occupy their time, which otherwise would be spent at church or chapel, in motoring, golf, cycling, or in some other pleasurable pursuit. We do not discuss their right to *do this* but we would entreat them not to forget, amid the enjoyment of bodily recreation, those who are lying in pain in the hospital ward and who need health in order that they may keep themselves, and possibly their families, from starvation. We would also point out to them that they are spending money on their own amusement and recreation, and we ask them to spend on this one day of the year as much, nay a little more, upon others than upon themselves.

Foreigners and the Hospital Sunday Fund.

There are many too, upon whom the claims of the Hospital Sunday Fund may appropriately be urged by those acquainted with them for fear lest they should forget—persons who in the natural course of events might possibly not attend at any place of worship on Hospital Sunday where it would be brought to their notice. We have among us a very large and increasing number of foreigners. Many of these are accumulating a considerable amount of wealth in London—some more, some less. A very vast number of foreigners also are landing in our ports annually who neither earn anything that may be called a decent livelihood nor apparently have much chance of doing so. The hospital opens its doors to all alike, and if different nationalities are represented by hospitals in London specially devoted to the care of their sick poor, this does not prevent many purely British hospitals in the districts of Eastern London from being obliged to take in out of pity for their necessities a large number of sick and injured aliens. We do not for a moment desire to see such aid given grudgingly or that it should be claimed as a right on behalf of foreigners through any

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	930	1,227	1,142	—	—	126	85	69,140	—
Hospital for Consumption...	1,821	1,771	1 346		—	317	108	62 884	—
Mount Vernon	767	696	654	—	—	—	24	21,000	—
Royal Hospital for Diseases of Chest	431	715	591		46	62	62	27,461	—
Royal National Hospital for Consumption...	335	969	706		—	162	17	—	—
Alexandra Hospital for Hip Disease	297	173	5	72	4	85	1	1,947	—
Banstead Surgical Home	21	142	52	56	—	16	—	—	—
Barnet Home Hospital	43	55	26	6	—	12	—	—	—
Belgrave Hospital for Children	77	397	81	171	27	23	91	28,303	2,329
Cheyne for Incurable ,, ...	139	70	2	10	8	50	7	—	—
East Lond. Hosp for ,, ...	805	1,656	1,575		395	81	262	88,367	4,032
Evelina Hosp. for Sick ,, ...	96	1,078	805		54	61	188	73,043	26,464
Home for Incurable ,, ...	72	37	—	—	2	23	1	—	—
Home for Sick ,, ...	129	222	—	—	73	48	3	2,862	—
Hospital for Sick ,, ...	1,102	2,537	1,560	394	268	133	391	108,728	—
Kensington for ,, ...	81	163	150		—	8	12	19,371	435
North-East. Hosp. for ,, ...	431	1,258	248	770	78	76	164	66,829	8,967
Paddington Green for ,, ...	307	763	633		197	43	87	—	1,468
St. Mary's for ,, ...	259	659	83	471	62	40	53	21,594	14,088
St. Monica's for ,, ...	67	128	103		—	14	11	—	—
Victoria Hospital for ,, ...	527	732	535		264	59	83	60,257	3,054
Victoria Home, Margate	40	63	27	26	6	36	5	—	—
Hospital for Hip Disease	43	62	4	20	—	33	1	—	14
British Lying-in	43	449	448	—	19	22	1	—	—
City of London	100	601	—	598	8	29	3	18,997	—
Clapham Maternity	19	419	—	—	—	—	—	9,725	—
East-End Mother's Home...	67	377	—	—	—	19	1	5,706	—
General Lying-in	59	525	—	—	—	—	1	13,342	—
Queen Charlotte's Lying-in	450	1,456	—	—	129	—	6	15,785	—
Chelsea Hospital for Women	273	755	743		166	42	12	10,671	—
Hospital for Women	328	838	335	336	116	40	21	16,656	—
Grosvenor Hosp. for Women and Children ..	144	190	69	111	—	8	6	14,327	—
New Hospital for Women	288	539	—	—	80	49	23	30,046	—
Royal Waterloo Hos. for Children and Women	192	152	55	85	4	11	7	20,398	—
Samaritan Free	335	565	193	369	50	39	4	16,836	—
Cancer	446	721	617		48	73	101	18,900	—
Middlesex (Cancer Wing)	268	182	—	—	—	41	104	610	—
London Fever	599	478	—	426	38	47	5	—	—
Gordon for Fistula	17	336	10	313	—	8	—	11,261	—
St. Mark's ,, ...	192	516	31	438	—	39	8	—	—
National for Diseases of Heart, &c.	131	192	142	1	25	24	17	16,515	2
Female Lock	206	563	471		2	109	—	—	—
Hospital for Epilepsy, &c.	54	130	23		3	25	2	12,853	1
National for the Paralysed, &c.	1,160	1,065	434	259	153	166	60	39,110	—
West-End for Nervous System	286	342	241	58	12	42	1	54,371	—
Central London Ophthalmic	165	369	360		9	15	—	31,110	368
Royal Eye	292	652	—	648	—	30	2	61,199	1,250
Royal London Ophthalmic	1,006	2,194	—	—	30	77	8	129,187	1,710
Royal Westminster ,, ...	177	745	729		—	16	—	36,939	—
Western ,, ...	72	295	154	141	—	—	—	28,896	—
City Orthopædic	—	230	190		—	20	1	6,548	—
National ,, ...	153	270	—	—	—	51	—	4,651	—
Royal ,, ...	110	135	160		12	17	—	3,732	—
Royal Sea Bathing Hospital	288	601	341	78	—	91	7	—	—
St. John's Hospital for Diseases of Skin ...	48	239	—	—	—	29	2	35,439	—
St. Peter's for Stone	96	449	401		—	16	32	44,752	—
Central London Throat and Ear	58	365	70	280	4	8	3	58,615	15
Hospital for Diseases of Throat	62	845	117	681	11	23	13	51,756	—
London Throat	34	675	672		—	3	6	16,707	—
Royal Ear...	22	177	177		—	6	—	6,881	—
Royal Dental	214	—	—	—	—	—	—	54,213	—
National Dental	31	—	—	—	—	—	—	25,481	—
	£17,308	35,210	6,524	6,878	2,403	2,778	2,113	1,574,062	64,217
Estimated to supply omissions	—	—	6,650	10,110	54	181	—	62,283	—
Total	£17,308	35,210	13,174	16,988	2,457	2,959	2,113	1,636,345	64,217

preponderance of foreign contributors being found in the list of subscribers to any institution We would, however, press upon those who are making money in a country which extends its hospitality to rich and poor alike the proposition that gratitude for such hospitality can assume on Hospital Sunday a tangible and an appropriate form.

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES

Name of hospital	Hospital Sunday Fund award	In patients	Relieved	Cured	Convalescent homes	Remaining under treatment	Died	Out patients visits	Accidents and emergencies
	£								
Metropolitan Convalescent (Walton)	623	4 360	1,566	2,681	—	103	6	—	—
" " (Bexhill)	345	2,267	510	1 714	—	43	—	—	—
All Saints " "	383	3,401	1 222	2,019	—	105	1	—	—
Ascot Priory "	72	303	300		—	22	2	—	—
Brentwood "	12	107	29	78	—	—	—	—	—
Charing Cross Hospital Convalescent	91	470	476		—	11	1	—	—
Chelsea Hospital for Women Convalescent	38	288	288		—	3	—	—	—
Deptford Medical Mission Convalescent	29	174	—	—	—	—	—	—	—
Mrs. Gladstone Convalescent	86	683	—	—	—	—	—	—	—
Friendly Societies "	77	—	—	—	—	—	—	—	—
Hahnemann "	43	185	156	9	—	29	4	4 615	—
Hanwell "	19	204	—	—	—	—	—	—	—
Hendon Ossulstone Home	53	512	478	—	—	—	—	—	—
	29	482	2,6	184	—	43	1	—	—
	29	411	410	—	—	—	1	—	—
	19	178	—	—	—	8	—	—	—
	63	354	70	264	—	5	—	—	—
Mrs. Kitto's	58	356	—	—	—	—	—	—	—
Mary Wardell	86	131	—	—	—	—	—	—	—
Morley House	163	1 034	—	—	—	85	3	—	—
	134	1 323	—	—	—	142	4	—	—
	53	—	—	—	—	—	—	—	—
	115	520	—	—	—	73	—	—	—
(Folkestone)	172	2 114	—	—	—	74	1	—	—
St. John's Home for Convalescent Children	29	544	—	—	—	—	—	—	—
St. Joseph's Convalescent	57	661	473	158	—	47	4	—	—
St. Leonards on Sea	81	601	—	—	—	61	—	—	—
St. Mary's	20	114	114		—	7	—	—	—
St. Michael's	34	304	—	—	—	—	1	—	—
	96	—	—	—	—	—	—	—	—
	19	153	—	—	—	16	3	—	—
	58	—	—	—	—	—	—	—	—
	83	246	31	187	—	13	18	—	67
	91	200	28	139	4	14	12	4 624	5
	115	441	35	379	27	22	20	—	112
	53	115	19	74	2	8	7	1 244	—
	59	128	42	72	50	—	8	3 862	—
Chislehurst, Sidcup, &c. "	58	—	—	—	—	—	—	—	—
Coldash	17	74	27	20	—	20	1	—	—
Eltham	48	167	14	132	2	9	7	—	—
Enfield	70	177	9	137	—	15	11	—	25
Epsom and Ewell	75	110	12	87	15	6	5	—	—
Hounslow	43	178	32	131	—	3	12	—	263
Kingston, Victoria Hospital	67	152	39	127	20	11	6	—	26
Livingstone Cottage Hospital	90	151	29	101	—	14	7	—	31
Mildmay	19	144	45	51	—	26	10	—	—
Reigate and Redhill	105	381	32	231	—	20	9	—	174
Sidcup	29	152	17	120	4	4	7	249	19
Tilbury (Passmore Edwards) Cottage Hospital	38	—	—	—	—	—	—	—	—
Willesden	126	220	30	173	10	17	18	—	91
	49	152	26	107	—	9	7	80	18
	38	161	6	130	—	8	10	—	100
Hospital	48	90	23	43	3	9	6	—	38
	240	566	13	470	11	32	40	28 909	5,918
	139	181	26	141	—	12	2	—	—
St. Saviour's Hospital and Nursing Home	115	137	44	86	—	10	3	—	—
National Sanatorium for Consumption	96	292	183		—	72	3	—	—
Invalid Asylum	43	202	55	136	10	14	1	—	—
Firs Home	19	63	24	—	—	19	20	—	—
St. Catherine's Home	24	34	23	—	—	12	4	—	—
Friedenheim Hospital for the Dying	297	149	14	3	2	42	100	—	—
Oxygen Home	35	—	—	—	—	—	—	—	—
Santa Claus Home	57	53	30	—	2	20	1	—	—
Free Home for Dying	125	103	25	1	—	18	78	—	—
St. Luke's House	96	95	—	—	—	18	76	—	—
	£5,793	27 554	5,900	10 391	162	1 379	540	43 583	6 887
Estimated to supply omissions	—	2 532	3,470	8 092	—	173	44	4 649	—
Total	£5 793	30 086	9 370	18,483	162	1 552	584	43 232	6,887

An Exceptional Effort needed in 1905.

While money—much money—must be looked upon as a necessity for the maintenance of hospital efficiency the fact must be recognised that there are times and seasons when it is more easy to plead the cause of charity successfully that at others An epoch of continuous commercial prosperity may render money plentiful in the pockets of those to whom such organisations as the Metropolitan Hospital Sunday Fund appeals, and the well to do are at such a time not slow to remember those others with whom, whether times are bad or good, want is ever present At other seasons the petition for aid may be urgently made on the ground of some incident of public importance, some cause impelling us to mark the occasion by acts of generosity The death of our late revered Queen, the coronation of King Edward VII, and his recovery from illness afford instances of predisposing causes which in varying degrees might well help to fill the coffers of the hospitals when we consider how great the debt of the hospitals is to our Royal family and how keen and practical their interest has ever been in all that appertains to the organisation and administration of charities, and of medical charity in particular. The late war was another such cause. It was easy then to remind the public of their sons suffering from illness and wounds in South Africa and of the efforts of surgeons trained in hospitals at home for the good work which they did with unremitting industry and courage at the front. The present year, however, has been one in which so far no thrilling event can be pointed to as a stimulus to the charitable, so that, as far as impulses to give are concerned, we can only remind our readers that there has been a winter season of exceptional poverty and distress; though poverty and distress are circumstances from which we are never free. Can we then turn to exceptional prosperity enjoyed by any class or classes of society in order to beg for a display of unprecedented liberality? We fear not. And it is for this reason that we have suggested above the need for an *exceptional effort in 1905 if the revenue of the Metropolitan* Hospital Sunday Fund is to be maintained at the satisfactory level reached in past years. It is not possible to say that times are good. On the contrary, the vast population of London, largely dependent upon the commercial prosperity of the empire, has not for some six years been in a position to spend money freely, and those of the community who gain their living by providing for the ordinary requirements of their fellow citizens cannot look upon the months just past with unmixed satisfaction. We are therefore pleading the cause of the hospitals to many who at the present time are compelled by circumstances to spend less upon themselves than usual. They may only be obliged to diminish their personal expenditure so far as luxuries are concerned, but the possibility that they may therefore be less willing to give to others is one which has to be faced. To such of these—to all who may be impelled to urge bad times as an excuse for cutting down their usual contributions to the Metropolitan Hospital Sunday Fund—we would submit two points only for consideration. The one is that a gift involving no self-sacrifice cannot be looked on as a charitable gift in anything like the same degree as one which represents some luxury foregone or some pleasure untasted. The second is that in good times as in bad the work of the hospitals has to be done or the physical suffering of the poor has to go unalleviated. Manufacturers and merchants may be richer or less wealthy, and others may feel corresponding diminution of income, but the poor we have always with us. The newspapers at one season may proclaim more loudly than at another unusual distress in the East-End or among those members of the community who ever hover on the brink of starvation, but there are always enough penury and illness in London, and always a sufficient number of accidental injuries occurring in our streets, our factories, our docks, and in the homes of our poorer classes to keep the available wards of the London hospitals filled to overflowing. And as if the needs of those domiciled in London, including a foreign population of hundreds of thousands, were not sufficient, the metropolitan hospitals have claims upon their resources made by the poor of the provinces as well. The poor from districts outside the metropolitan area constitute from 7 to 30 per cent. of the inmates of the hospitals of London. This is a reason, we may say in passing, why in country as well as in London places of worship collections should be held and liberally supported on Hospital Sunday: but it was not in order to make this suggestion that we referred to the circumstance. We introduced the topic as one fact among many relevant to our contention that the London hospitals from year to year require, and are likely to require, a greater rather than a less measure of support, and that in this year 1905, which many will be prone to regard as one of impaired personal prosperity, special efforts of self-denial will be necessary in order that the incomes of these noble institutions may not be diminished.

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£105	37,901
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Brompton Provident	24	3,249
Buxton Street	29	3,311
Camberwell Provident	80	93,387
Camden Town "	15	8,262
Chelsea, Brompton, and Belgrave	48	11,241
Chelsea Provident	13	3,007
Child's-hill "	15	7,238
City	48	18,326
City of London and East London	40	95,696
Clapham General and Provident	23	12,619
Deptford Medical Mission	22	2,554
Eastern	29	22,893
East Dulwich Provident	43	22,115
Farringdon General	45	11,676
Finsbury	56	30 724
Forest Hill Provident	42	7,905
Greenwich "	32	23,330
Hackney "	15	9,900
Hampstead "	53	41,461
Holloway and North Islington	52	17,302
Islington	59	54,697
Kensal Town Provident	14	5,687
Kilburn, Maida Vale, and St. John's Wood	39	5,958
Kilburn Provident Medical Institution ...	44	22,965
London	13	—
London Medical Mission	98	36,141
Margaret-street, for Consumption	13	5,454
Metropolitan	54	29,544
Notting Hill Provident	14	4,723
Paddington	32	9,140
Portland Town	13	4,617
Public	35	9,598
Queen Adelaide's	28	17,385
Royal General	22	10,350
Royal Pimlico Provident	51	—
Royal South London...	49	13,500
St. George's and St. James's	51	4,608
St. George's (Hanover-square) Provident ...	36	2,947
St. John's Wood Provident	45	32,590
[illegible]	46	10,526
[illegible]	32	—
[illegible]	19	3,388
[illegible] & North Brixton	38	6,951
Stamford Hill, Stoke Newington, &c.	59	35,394
Tower Hamlets	44	11,159
Walworth Provident	14	6,310
Wandsworth Common Provident	12	4,624
Westbourne Provident...	.20	10,788
Western	61	31,725
Western General	115	21,342
Westminster General	40	31,095
Whitechapel Provident	36	23,199
Woolwich	22	12,005
	£2,227	1,009,838
Estimated to supply omissions	—	77,889
Total	£2,227	1,087,727

The Need for and Cost of Convalescent Homes.

We have written above of modernised buildings and of other costly improvements which from time to time necessitate special appeals to the public for funds. Among comparatively recent additions to the efficiency of the London hospitals are the homes outside the crowded areas in which the hospital buildings are situated, where patients can complete their recovery before returning to their ordinary lives. Hospital patients, it is hardly necessary to point out, live for the most part in circumstances almost as ill-suited for the time of convalescence as for the more critical period when constant medical or surgical care is necessary. If they are kept in the hospital they are filling space which others might occupy who are in urgent need of aid. If they are sent back to their own homes their recovery must be retarded and may be prevented altogether The convalescent home, therefore, enables the work of the hospital to be brought to a satisfactory conclusion and increases the number of cases with which *it is able to deal* in the year It is a modern improvement of a thoroughly practical nature, but it is one which costs money It is possible that some may be inclined *to* keep in view the addition to the annual expenditure of an individual institution

TABLE SHOWING THE RESULTS OF COLLECTIONS SINCE THE COMMENCEMENT OF THE FUND

Year	Totals	Donations	Year	Totals	Donations
1873	£27,700	£1844	1889	£41 744	£3482
1874	29 936	1505	1890	42 814	3991
1875	26 396	1424	1891	45 330	3019
1876	27 042	1339	1892	41 512	4429
1877	26 082	947	1893	39 230	3052
1878	24 904	1199	1894	43 679	7717
1879	26 501	1120	1895	60 361	21 990
1880	30 423	1567	1896	46,035	5533
1881	31 856	1638	1897	41 003	3607
1882	34 146	2106	1898	40 397	3564
1883	33 935	1580	1899	53 504	15 310
1884	39 329	6410	1900	51 993	16 137
1885	34 320	2555	1901	54 731	18 345
1886	40 399	4817	1902	62 669	16 307
1887	40 607	4130	1903	64 975	15,766
1888	40 379	3000	1904	63 054	15 143

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1895 Including £10 000 from Messrs Barnato and friends £3400 from the Stock Exchange, £1000 from Lord Iveagh, and £1000 from Mr J B Robinson

From 1891 to 1896 Sir Saville Crossley Bart. P C M P gave an annual donation of £1000, and since has divided his contribution between this Fund and King Edward's Fund

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necessitated by the maintaining of a convalescent home or homes and may regard the capital outlay involved as money spent upon a work of *supererogation* forgetting the increased number of patients which the hospital is able to treat and the added *power to* do its work more thoroughly

We have quoted in previous Supplements letters written by patients to the nurses who have tended them in the wards of the hospital *in order* to show those who subscribe to the Metropolitan Hospital Sunday Fund how truly the great institutions which they support are appreciated by those whose *misfortunes* have brought them within their walls Two such letters lie before us written from convalescent homes, and will *serve* a double purpose They will show the feelings of the humble patients who wrote them towards those *who* tended them in the hospital itself, and they will cause those *who read* them to reflect whether some addition to their gifts to the Fund may not reasonably be made on account of these homes in the country where legs that "are still a little shaky" may grow strong and where the 'poor old stump' may *harden* before its boy owner returns to fight the battle of life as a cripple The "good lady" referred to in the *second* letter no doubt is the giver of the clothes that made the writer *think* he was "the lord of the manor" The "Daddys" are, of course, the other inmates of his ward called by *a friendly nickname*

DEAR SISTER —I am very glad to tell you that I am getting on so nicely The air here seems to agree with me, I did not think I should

FLORENCE ——

GEORGI ——
Daddy 18

Those who believe that the poor accept callously and without gratitude what is done for them would learn many lessons in our hospitals

Conclusion.—HOW MUCH?

We have suggested above that something more than the customary Sabbath offering should find its way into the bag or the plate on Hospital Sunday, and that all should remember to contribute to the collection whether present to give *in person or not* We would dwell upon this, always remembering that such other collections as may be made upon the Sundays preceding or following must not suffer thereby. We would advocate, to use a familiar phrase, no "robbing Peter to pay Paul" It may, however, be suggested that on other Sundays the gifts of worshippers for the most part are solicited in order that ministration may be made to the spiritual needs of the world On this one day bodily wants crave our attention—the bodily wants, too, of those at our doors living in our midst, with the sight of our luxury ever before them They ask for no help in their daily struggle against poverty, only for aid when illness or injury drives them from the fight How much should we give to help these? Surely a little more than usual, so special and so merciful being the purpose We have suggested the taxation of pleasure and of luxury, and to those who spend a large portion of their incomes

SUMMARY OF TABLES

—	Hospital Sunday Fund award	In patients	Relieved	Cured	Convalescent homes.	Remaining under treatment	Died	Out patients visits	Accidents and emergencies
General Hospitals	£31 065	65,656	23 673	23 845	8 350	4 279	6,003	2,673 371	410 748
Special Hospitals	17 303	35,210	13 174	16 938	2,457	2 959	2,113	1 656,345	64 217
Cottage Hospitals and Convalescent Homes	5 703	30,086	9 370	18 433	162	1 492	584	42 232	6,627
Dispensaries	2,227	—	—	—	—	—	—	1 087 427	—
Total	£56,393	130 952	46,222	64 316	10 969	8,730	8,700	5 451 675	481 592

our Royal family and how keen and practical their interest has ever been in all that appertains to the organisation and administration of charities, and of medical charity in particular. The late war was another such cause. It was easy then to remind the public of their sons suffering from illness and wounds in South Africa and of the efforts of surgeons trained in hospitals at home for the good work which they did with unremitting industry and courage at the front. The present year, however, has been one in which so far no thrilling event can be pointed to as a stimulus to the charitable, so that, as far as impulses to give are concerned, we can only remind our readers that there has been a winter season of exceptional poverty and distress; though poverty and distress are circumstances from which we are never free. Can we then turn to exceptional prosperity enjoyed by any class or classes of society in order to beg for a display of unprecedented liberality? We fear not. And it is for this reason that we have suggested above the need for an exceptional effort in 1905 if the revenue of the Metropolitan Hospital Sunday Fund is to be maintained at the satisfactory level reached in past years.[*] It is not possible to say that times are good. On the contrary, the vast population of London, largely dependent upon the commercial prosperity of the empire, has not for some six years been in a position to spend money freely, and those of the community who gain their living by providing for the ordinary requirements of their fellow citizens cannot look upon the months just past with unmixed satisfaction. We are therefore pleading the cause of the hospitals to many who at the present time are compelled by circumstances to spend less upon themselves than usual. They may only be obliged to diminish their personal expenditure so far as luxuries are concerned, but the possibility that they may therefore be less willing to give to others is one which has to be faced. To such of these—to all who may be impelled to urge bad times as an excuse for cutting down their usual contributions to the Metropolitan Hospital Sunday Fund—we would submit two points only for consideration. The one is that a gift involving no self-sacrifice cannot be looked on as a charitable gift in anything like the same degree as one which represents some luxury foregone or some pleasure untasted. The second is that in good times as in bad the work of the hospitals has to be done or the physical suffering of the poor has to go unalleviated. Manufacturers and merchants may be richer or less wealthy, and others may feel corresponding diminution of income, but the poor we have always with us. The newspapers at one season may proclaim more loudly than at another unusual distress in the East-End or among those members of the community who ever hover on the brink of starvation, but there are always enough penury and illness in London, and always a sufficient number of accidental injuries occurring in our streets, our factories, our docks, and in the homes of our poorer classes to keep the available wards of the London hospitals filled to overflowing. And as if the needs of those domiciled in London, including a foreign population of hundreds of thousands, were not sufficient, the metropolitan hospitals have claims upon their resources made by the poor of the provinces as well. The poor from districts outside the metropolitan area constitute from 7 to 30 per cent. of the inmates of the hospitals of London. This is a reason, we may say in passing, why in country as well as in London places of worship collections should be held and liberally supported on Hospital Sunday; but it was not in order to make this suggestion that we referred to the circumstance. We introduced the topic as one fact among many relevant to our contention that the London hospitals from year to year require, and are likely to require, a greater rather than a less measure of support, and that in this year 1905, which many will be prone to regard as one of impaired personal prosperity, special efforts of self-denial will be necessary in order that the incomes of these noble institutions may not be diminished.

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Total	£2,227	1,087,727

The Need for and Cost of Convalescent Homes.

We have written above of modernised buildings and of other costly improvements which from time to time necessitate special appeals to the public for funds. Among comparatively recent additions to the efficiency of the London hospitals are the homes outside the crowded areas in which the hospital buildings are situated, where patients can complete their recovery before returning to their ordinary lives. Hospital patients, it is hardly necessary to point out, live for the most part in circumstances almost as ill-suited for the time of convalescence as for the more critical period when constant medical or surgical care is necessary. If they are kept in the hospital they are filling space which others might occupy who are in urgent need of aid. If they are sent back to their own homes their recovery must be of research in hygiene and pathology. In many of our chief provincial cities and towns similar developments are taking place, and, indeed, they give London an example of progress in this direction with which it is very difficult to keep up. And remembering the direct interests which this vast empire has in almost all parts of the world it is encouraging to note that institutes for research have been, or are being, established in our different colonies, in India, and in various tropical regions. And this brings me to another important and promising feature—namely, the application of scientific research for particular purposes and for the study of special subjects, among the most prominent of which may be mentioned tuberculosis, cancer, tropical diseases, nervous affections, psychology, sanitation and hygiene. Other aids and encouragements to research which I can now only enumerate without any comment are the presentation of "research scholarships" to deserving individuals by the British Medical Association, certain city corporations, and other bodies, as well as by private persons; the contribution of large donations by wealthy and sensible persons who are well disposed towards the medical profession and are beginning to realise their responsibilities to particular institutions or for particular purposes; and the fact that their Most Gracious Majesties King Edward and Queen Alexandra, as well as other members of the Royal Family, take such a warm and practical interest in research work and in its results in certain directions.

As immediately relevant to our commemoration of Harvey to-day it would be entirely within my province to discuss in historical sequence the progress that has been made with regard to the circulatory system since his time and to indicate the present state of knowledge and practice in relation to that system. To enter upon this subject, however, at any length is obviously out of the question within the time at my disposal, and I must content myself with a very general summary, leaving further discussion for the published oration. At the outset it is necessary to bear in mind what Harvey really did discover and demonstrate and thus to have some definite starting point for studying the results of further investigation and progress. Of course, many anatomical facts relating to the heart and vessels as well as that there was a movement of the blood were well known before Harvey appeared on the scene and these facts he fully appreciated and utilised, at the same time correcting anatomical errors and controverting the erroneous conclusions and theories of his predecessors. I take it for granted that this learned assembly is familiar with the details of the work and teaching of Harvey in establishing among other points the muscular structure and contractility of the heart, whether known previously or not, and in demonstrating its mode of action and mechanism and the effects thereby produced; at the same time proving that the blood moved in a constant stream and in a definite *direction, there being a complete double circulation*, pulmonary and general. He sums the matter up in the words: "By the impulse of the heart there is a perpetual movement of the blood in a circle." Though he had absolute proof that the blood did somehow find its way from the terminal arteries into the commencing veins he did not know how and conjectured that it was the result of percolation through the organs and tissues. With his simple magnifying lens or *perspicillum* he could not see the delicate network of capillaries, which were only observed when the microscope was sufficiently developed, by means of which the capillary circulation in the frog's lung and mesentery was first observed by Malpighi and the definite continuity of the circulation thus established. Nor did Harvey understand the meaning of the pulmonary circulation, knowing nothing about the mechanism or chemistry of respiration, which were only discovered at a much later period, and this constituted a most important advance. Although described in his time Harvey would not acknowledge the existence of a distinct absorbent system.

[Dr. Roberts then proceeded to summarise the methods by which knowledge and practice i[illegible] system had been advanced since [illegible] those of more modern date. He [illegible] value of post-mortem examinations in this connexion and of *the systematic study and teaching of morbid anatomy*, which no doubt Harvey thoroughly recognised, but which for a long period afterwards was entirely neglected, and also nowadays of morbid histology. He further pointed out how much had been achieved by intelligent clinical observation and investigation, and how far progress had been aided by the introduction of the stethoscope and by other instruments or special apparatus of various kinds for demonstrating or recording the movements of the blood, the arterial tension and blood pressure, and other phenomena connected with the circulation. The chief *methods of examining* the blood were briefly referred to.

As illustrating the advances made in our knowledge in relation to the nature, etiology, and pathology of morbid conditions of the circulatory system, the orator referred to gross organic lesions of the heart and vessels, the different forms of acute endocarditis, acute and chronic changes affecting the myocardium, functional disorders and their relation to the nervous system, thrombosis and embolism, the mutual pathological effects produced between the cardiovascular and other systems, the principal changes and diseases associated with the blood, and certain special morbid processes or lesions with which the circulatory system is concerned. Dealing with clinical investigation in relation to the heart and vessels, while fully recognising the value of the various instruments and apparatus already referred to, he insisted upon the importance and sufficiency of the simpler physical methods in ordinary use as a matter of general routine and incidentally referred to the essential help not uncommonly afforded by direct auscultation with which Harvey was certainly acquainted. For adequate examination of the blood of course special methods are usually essential, in addition to the mere use of the microscope, and the help of a skilled expert is not uncommonly required. Reference was made to the employment of the Roentgen rays in examining the heart and pericardium in certain cases and in the diagnosis of aneurysm.

With regard to treatment, after alluding to Harvey as a practitioner and to the remedial measures which he seemed chiefly to employ, Dr. Roberts dwelt upon the great advances which had been made in the therapeutics of the circulatory system within modern experience; how definite our knowledge now was as to what we could and could not accomplish; and how largely we are indebted to experimental pharmacology, as well as to physiological investigation and observation, and the systematic and intelligent study of clinical therapeutics. Dealing with particular *methods and agents, he glanced at the value of* drugs and of the trustworthy active principles now to be obtained, the great importance of hypodermic and intravenous injection, the remarkable effects of certain glandular structures or their products on the circulatory system as strikingly exemplified by suprarenal extract and adrenalin, the treatment of cardiac affections by physical or balneological methods or a combination of both, the essential importance of rest in a variety of circumstances, the rational use of blood-letting and local removal of blood, the beneficial effects of transfusion of blood under special circumstances, and the extreme value of the modern treatment by injection or infusion of saline solution in certain grave conditions. Dr. Roberts also dealt briefly with the therapeutics of the blood and made a passing allusion to operative treatment in relation to the circulatory system.

The orator then referred to some of the more prominent examples of the beneficial results on an extensive scale of scientific and practical research and as being closely connected with the circulatory system drew special attention to the "brilliant victories" which have been achieved against malaria in different countries and regions, many of them forming an integral part of this vast empire. While paying a tribute of respect and admiration to all those who at the risk of life and health have gone forth to dangerous climates to study and combat *with this and other tropical diseases*, he mentioned specially Dr. J. E. Dutton, the latest "martyr of science," as he had been aptly called, whose lamented death recently occurred on the Congo, where he had gone to study sleeping sickness on behalf of the Liverpool School of Tropical Medicine. Dr. Roberts expressed on behalf of the *College their* deep sense of the great services which Dr. Dutton had rendered to the medical profession and to humanity, their profound regret at the premature cutting off of such a valuable life and promising career, and their heartfelt sympathy with his bereaved family and friends. He concluded as follows:—]

The last and most agreeable duty laid upon me by Harvey's direction is to "exhort the Fellows and Members, for the honour of the profession, to continue in mutual love and affection among themselves, without which neither the dignity of the College can be maintained nor yet particular men receive that benefit by their admission into the College which they might expect, ever remembering that concordia res parvae crescunt, discordia magnae dilabuntur." Who so fitted as Harvey to give us this exhortation at the close of his noble career! Though he could be justly indignant on occasion, his whole life was an example of simple and unassuming dignity, true courtesy and politeness, unselfishness, kindness of heart, and Christian grace and charity. Whatever may have been the state of things in days gone by it is a satisfaction to think that we may now congratulate ourselves on fulfilling Harvey's exhortation in a fairly adequate degree. A spirit of good fellowship prevails amongst us and I firmly believe that we are all cordially united by the bonds of mutual respect and esteem. Moreover, our relations with our working ally, the College of Surgeons, are thoroughly amicable and sympathetic. Thus the dignity of the College is fully maintained and an increasing influence for good is being exerted upon the medical profession generally as well as in other directions. With regard to the future position and reputation of this College in relation to scientific research and the progress of medicine there can be no doubt or misgiving when we see amongst our younger Fellows and Members so many who are endowed with great abilities, who are full of energy, intellectual vigour, and enthusiasm in their work and whose achievements have already brought them into conspicuous prominence and, in some cases, into the foremost ranks of our profession. May we not confidently hope that they will also ever keep in mind Harvey's last exhortation and unflinchingly strive to maintain the high standard of character and conduct which he has placed before them. But should they at any time feel the need of an example, a stimulus, or an inspiration, let them steadily fix their attention and thoughts upon the personality, the life, and the work of our "immortal and beloved Harvey," whom it is our privilege and pride and happiness to commemorate on this anniversary.

Lectures

ON

CARBOHYDRATE METABOLISM.

A Course of Advanced Lectures in Physiology, delivered at the University of London,

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LECTURE I.

Gentlemen,—This is a large and important subject, and one which takes us into the question of the series of operations occurring in the applications of food, as a whole, to the purposes of life. The primary classification of the organic portion of food is into nitrogenous and non-nitrogenous. Avoiding descent into particulars, the nitrogenous may be spoken of under the head of proteid. The non-nitrogenous consists of fats and carbohydrates. There are these two distinct divisions to start with, but as we proceed we shall find that these become so intimately mixed up in their passage through the body as to lead to the consideration of the one necessarily bringing in that of the others.

The destination of food is the growth and renovation of the component parts of the body and the production of energy. For these purposes the actual seat of utilisation is within the protoplasmic or biogen molecules constituting the basis of living matter. It is here where the active changes of life occur. Food elements on the one hand and oxygen on the other enter the large and highly complex molecules of which protoplasm is composed and through the play of changes ensuing the phenomena of life are evoked. As an outcome of this proposition the food material has to reach these protoplasmic molecules and to traverse the circulatory system in doing so. In what precise manner the transit is carried out will have to engage our attention. The problem is mixed up with considerations of a complicated nature. Modern research shows that what has to be dealt with is something far otherwise than a simple passage of nutrient chemical principles into the blood at the seat of absorption and their conveyance as such to the seat of utilisation in the tissues. The blood has an intermediate part to play, in connexion with which, as I shall have to point out, there is evidence to show that living protoplasmic action is concerned.

The first stage for all kinds of food to pass through is that of preparation for absorption. Solid matter requires to be brought to the liquid state and all nutrient principles to be placed in a condition to which the property of diffusibility belongs. This is effected by enzyme action, the enzymes being products of secretion of the digestive system adjusted by nature to accomplish the purposes required to be fulfilled and, as we shall see further on, being modified by the character of the demand existing so as to meet the wants arising from the particular kind of food supply. Digestion is a necessary part of my subject in [illegible] food on to the disposal of it by utilisat[illegible]uires to be said upon the point but I do not propose to dwell to any great extent upon it. The polysaccharides—starch and cellulose, the disaccharides—maltose, lactose, and saccharose, and the *monosaccharides*—dextrose, lævulose, and galactose, are the chief carbohydrates that have to be dealt with in connexion with alimentation. Evidently in some of the lower animals an enzyme is provided that is capable of attacking and dissolving cellulose. In the human subject, however, it is doubtful if cellulose is to any material extent digested. Cytase is the name given to the cellulose hydrolysing enzyme that has been discovered but information with regard to it is in an incomplete state.

Starch may be spoken of as the most important carbohydrate entering into the constitution of our food. Whilst in the state of starch, however, it is an absolutely useless material on account of the resistance it offers to being absorbed. It readily yields, however, to the hydrolysing influence of the enzymes with which it is brought into contact and thus is placed in a position to be susceptible of utilisation in the body. The saliva and pancreatic juice contain a diastatic ferment which possesses the power of carrying it through dextrinoid stages into maltose as an end product. This is the limit of change effected by diastase. The action, however, has been found to be attended with the production of a little glucose attributable, probably, to the presence of a minute amount of the glucose-forming ferment to which the name of glucase is applied. In the intestinal mucous membrane an active glucose-forming capacity exists, so that as a final issue before absorption occurs the hydrolysis of starch presumably proceeds to the end stage of enzymic transmutation, or, in other words, to the production of glucose.

Cane sugar or saccharose may be taken next to starch. This is a very soluble and diffusible principle and therefore is in a position to pass with ease from the alimentary canal into the circulatory system. Did it pass, however, it would subsequently simply filter through the body and escape with the urine in an unutilised state. All experience goes to show that saccharose as such is not susceptible of application in the system. It remains untouched by the living protoplasm and therefore cannot take part in the operations of life. Virtually *holding the position* of extraneous matter it is dealt with by the system accordingly. It is most easily, however, placed in an altered state by enzyme action and thereby rendered serviceable. Invertase is the name of the ferment that accomplishes this work and its effect is to insert a molecule of water and resolve the body into a molecule of dextrose and a molecule of lævulose. The small intèstine is known to contain this enzyme. It is stated that the stomach does not. I have found however,[1] that to a certain extent it does, and that introduced into the stomach when digestion is going on saccharose is pretty extensively converted into glucose. In the ruminant animal a modified state of things exists. The intestine possesses very little transformative energy—not more than is observed in the case of the stomach with animals generally. The inverting power is situated in the multiple stomach and is possessed by the paunch and manyplies to a much higher degree than by the reticulum and by the reed or true stomach. Thus means exist through the provision of enzyme action in connexion with the alimentary canal for placing ingested saccharose in a utilisable condition. These means must very efficiently fulfil their object, seeing that if saccharose were allowed to reach the circulation it would filter off as waste material with the urine and it is not observed to do so. I have examined the portal blood after the experimental introduction of large amounts of saccharose into the stomach and have obtained no evidence of its presence. By excessive feeding with cane sugar the urine may be rendered [illegible] sugar found. In [illegible] as glucose. Apart [illegible] not exist. This is proved by the intravenous and subcutaneous injection of cane sugar being followed by no signs of the production of glucose. Both the blood and the urine are found to give evidence of the presence of cane sugar but none of produced glucose.

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[1] Physiology of the Carbohydrates, 1894, p. 94.

Observation on the yeast organism teaches us exactly the same as we learn from what is observable in connexion with the animal system. Cane sugar is of no use to the yeast cell. Its protoplasm will not touch it for functional application. By the invertase, however, which the organism contains transformation into glucose is effected and now the application occurs. The cane sugar molecule, it may be considered, is not of a nature to be susceptible of being anchored on by, and incorporated into, the protoplasmic molecules of the yeast and as long as it remains in an unchanged state it resists being influenced, just as it resists being touched when introduced into the circulatory system of an animal. Lactose holds a similar position to cane sugar or saccharose and whilst existing as such is not susceptible of protoplasmic utilisation. It is a disaccharide and when hydrolysed splits into a molecule of dextrose and a molecule of galactose. The enzyme that effects this change is called lactase. Knowledge regarding this enzyme has not been extensively worked out. Its chief seat appears to be the mucous membrane of the small intestine and it may be assumed that ingested lactose here undergoes transformation preparatory to absorption from the alimentary canal. As with saccharose it is noticeable that lactose reaching the alimentary canal of a diabetic passes off as glucose in the urine. Evidence is here afforded of the actual occurrence of the change within the system.

It thus appears that each of the carbohydrates that has been spoken of requires to undergo full hydrolysis into a monosaccharide to become fit for utilisation. Starch evidently does not stop at the disaccharide state of maltose, but this, like its congeners saccharose and lactose, passes on into the monosaccharide form. It is seen that by enzyme action the non-utilisable carbohydrates are put into a state to be susceptible of appropriation by living protoplasm, and adapta- [illegible] particular require- [illegible] Nature is a matter of [illegible] directions. When the food is not of the character to require the action of a diastatic ferment none is provided. The salivary glands of the infant are not developed at the first period after birth when milk constitutes the natural food. At this time also the pancreatic juice has no power of digesting starch. Bainbridge[1] has recently investigated with respect to lactase the adaptation of the pancreatic secretion to the nature of the food. Independently of the nature of the food lactase is always present in the mucous membrane of the small intestine, but in the case of the pancreas its production is dependent upon whether the animal is being fed on milk or not. In biscuit-fed dogs neither the pancreas nor its secretion contains any lactase. In milk-fed dogs, on the other hand, after the continuance of the feeding for two or three weeks lactase is to be discovered in both the pancreas and its secretion. The mechanism of this adaptiveness has been worked out and found to depend on the influence of the ingested lactose on the mucous membrane of the small intestine. Through the interaction occurring a "tangible something" becomes developed which reaches the blood stream and by it is carried to the pancreas, where it gives rise to the production of lactase for assisting in the digestion of the lactose that is entering into the composition of the food. This "tangible something" which acts upon the secreting cells of the pancreas in the manner that has been mentioned is susceptible of being extracted from the intestinal mucous membrane and produces its effect on being artificially injected into the system. For example, observation has shown that the subcutaneous injection of the extract obtained from a milk-fed dog leads to the production of lactase, whilst with the extract obtained from a biscuit-fed dog no effect occurs.

The object of digestion is the preparation of food for absorption and the several changes in carbohydrate matter that have been referred to fall within the scope of this process. Ideas regarding what is wanted for placing nutrient matter in a suitable position for application in the system have in recent times undergone great development. In this remark I have in view the molecular conformation that is needed to be provided to permit of entry into living protoplasm and thence of taking part in the metabolic changes occurring, a point upon which I shall have much to say later. Formerly it was considered sufficient to regard digestion as bringing the food into a liquid and diffusible state so as to be rendered fit for the occurrence of absorption in compliance, as the idea ran, with the physical laws of osmosis.

It is interesting to look back upon the crude state of knowledge of organic chemistry that existed when the study of the physiological relations of sugar was first started. But little was known about precise methods of preparation for analysis, and analytical procedure had none of the delicacy and precision with which they are invested at the present day. Instead of any actual quantitative determination of sugar in the blood of different parts the estimation was based simply upon the character of the copper test reaction that was obtained. Regarded as a heat producer, the sugar molecule was supposed to undergo direct oxidation in the manner that combustion is carried on in carbonaceous matter around us, and originally the lungs were looked upon as constituting the seat of combustion on account of arterial blood, owing to the mode of experimenting pursued, being regarded as containing to a pronounced extent less sugar than that of the right ventricle. My first experiments upon the physiology of sugar were directed to ascertaining if the destruction of sugar supposed to take place during the transit of blood through the lungs of the living animal would do so during transit through excised lungs subjected to inflation in imitation of respiration. For obtaining the blood for injection I resorted to catheterism of the right ventricle of another animal and this led up to my finding that right ventricular blood during life was not charged with sugar in the manner that had previously been supposed from the condition observed when collected, as had hitherto been done, after the destruction of life. Seeing that there was this disparity between right ventricular blood collected during life and that obtained after death without the adoption of precautions now known to be necessary to escape from the effects of post-mortem alteration it occurred to me that investigation ought by rights to be extended to the liver to ascertain the position in which this organ stood in relation to ante- and post-mortem conditions. I must confess I did not at starting expect to obtain a result different from what had hitherto been met with. On experimenting, however, in a manner to obtain a representation of the condition of the liver at the moment of death it was found that there was no more evidence afforded of the presence of sugar than is derivable from the examination of other constituents of the body. Thus in the case of both right ventricular blood and the liver experiment showed, when conducted in such a way as not to allow time to elapse for the influence of post-mortem change to be exerted, that the conclusions which had been previously formed and which had led to the establishment of the glycogenic doctrine were based upon a faulty foundation.

The glycogenic doctrine also included the destruction of the sugar alleged to be produced by the liver and poured into the circulation through the hepatic veins. After the lungs were no longer looked upon as the seat of destruction the systemic capillaries were assigned as constituting the position in which combustion of sugar, for it has been customary to speak of it as a process of this simple nature, occurred. In support of this view experimental evidence was advanced representing arterial blood as containing considerably more sugar than venous. This, it is known, I could not find to be the case, a large number of carefully conducted experiments having resulted in showing no real difference as regards amount of sugar between the two kinds of blood.

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[1] Journal of Physiology, vol. xxxi., p. 93, 1904.

Modern investigators have supplied confirmatory testimony and even Lépine, one of the foremost and staunchest supporters of the glycogenic doctrine, has joined in giving expression to a similar conclusion. In the *Comptes Rendus* of the Académie des Sciences for the *séance* of Nov. 2nd, 1903, Lépine and Boulud, in the first place, referring to what they stated in a previous communication, say that very often there exists more sugar in the blood of the carotid artery than in that of the right ventricle, and then proceed to affirm that in some cases at least more sugar is found in venous than in arterial blood. An example cited gives 0·80 per 1000 for the arterial and 0·86 for the venous. What a change of front to be assumed by the French school! An experimental record supplied in former days by Bernard showed a diminution by half of the sugar in arterial blood during transit through the capillaries to the veins, the actual figures belonging to the experiment in question being 1·450 per 1000 for the arterial and 0·730 for the venous blood. With the knowledge we now possess it may be confidently asserted that experimental fallacy must have here existed. If in accordance with the abovementioned statement of Lépine the right ventricular blood may contain less sugar than the arterial and the blood in the arteries less sugar than that in the veins what, it may be asked, becomes of the glycogenic theory in connexion with which it has been all along contended that exactly the reverse order of things has to be dealt with?

Although the experimental evidence showing the fallacious ground on which the glycogenic doctrine has been built seems to be pretty generally accepted, a lingering idea appears to prevail that the sugar derived from the food passes as such through the circulation to the tissues where it serves for utilisation. Undoubtedly the carbohydrate must reach the tissues, but the great point in connexion with the matter is as to the form under which the conveyance takes place. I will proceed to deal with this question and I think it will be seen that it is quite incompatible with the circumstances existing that a small molecular body like sugar can constitute the medium for the transmission of food carbohydrate from the seat of absorption to that of utilisation.

Everything points to the impossibility of keeping the sugar molecule within the limits of the circulating current. When circulating through the kidney it cannot be prevented from escaping like other small molecular bodies and making its appearance in the urine. Impermeability of the kidney to sugar has been spoken of and suggested as a means of permitting sugar to reach the tissues without running off with the urine. I consider it may be confidently asserted that this suggestion has not a vestige of real support. No matter in what way sugar reaches the circulation it, in proportion to the extent that it does so, shows itself in the urine. The urine thus becomes an indicator of the state of the contents of the circulation as far as sugar is concerned.

Let us pause for a moment and view this matter by reference to our present-day notions of the mechanism of renal secretion. From the method of experimenting that has during the past few years been adopted our knowledge upon this point has been deprived of much of the speculative character that formerly belonged to it. The first event may be pretty safely concluded to be a simple filtration through the Malpighian tuft into Bowman's capsule. In this filtration the water of the blood plasma carries with it, proportionately to their presence, the crystalloids or small molecular bodies—urea, salts, sugar, &c.—that may exist in it, just as happens when water holding in solution various crystalloidal substances is thrown upon an ordinary filter. It is impossible to conceive that any differentiation could occur and that the sugar molecules could be held back whilst molecules of an allied nature should be allowed to pass. Pressure is at work in connexion with the filtration so that the fluid is driven through the walls of the glomerular capillaries. The next event is the passage of the filtrate along the uriniferous tubules where it becomes altered in character and transformed into urine by the agency of the tubular epithelial cells with which it is brought into contact. These are secreting and absorbing cells. They have been likened in their action on the fluid in transit through the tubule to the cells lining the intestinal canal (Cushny). The rate of transit plays an important part. When, as under high blood pressure and renal arterial dilatation, the filtrate is excessive, it may travel through the tubule with a velocity that permits but little alteration to occur, but when the transit is slow evidence of selective reabsorption is presented. Water is reabsorbed freely and, as is noticeable in the intestine, sodium chloride is more freely taken up by the cells than sodium sulphate and sodium phosphate. The cells apparently, like other cells of the body, show no disposition to touch urea. Sugar, presumably, is taken up to some extent, and, further, a modifying effect is in some way or other produced, inasmuch as that which passes on with the urine, as will be seen later, has a lower cupric oxide reducing power than the sugar of the blood. Either an influence is exerted by the cells on the sugar or it might be that the glucose is taken up by the cells in preference to the other sugars belonging to the blood.

I will now proceed to illustrate the relationship existing between blood and urine with reference to sugar by the evidence derivable from its experimental introduction into the system. A little time back I undertook a series of experiments on the intravenous and subcutaneous injection of different sugars. The results were published in the *Journal of Physiology*, vol. xxiv., 1899, the title of the paper being "An Inquiry into the Effects on the Blood and Urine of the Intravenous and Subcutaneous Injection of Various Carbohydrates standing in Relation to Animal Life." The sugars employed consisted of the disaccharides—saccharose, maltose, and lactose, and the monosaccharides—dextrose, lævulose, and galactose. Upwards of 200 observations are included in the paper. The experiments were conducted on rabbits, and for the intravenous injection the vein which occupies quite a superficial position and runs close against the outer edge of the thin part of the ear was selected. Into this vessel it is easy to pass a subcutaneous injection needle without apparent consciousness by the animal and therefore without needing the exercise of restraint beyond being held in a steady position by an assistant. The sugar solution was run in from a graduated burette, to the top of which was affixed an indiarubber bag with inflator to produce the requisite pressure. From 25 to 30 cubic centimetres per minute was the rate at which it was usually introduced. Attention had to be given to secure that the blood was collected without the opportunity having been afforded for post-mortem change to occur. The method adopted was to kill by pithing and instantly afterwards to cut into the chest with scissors and snip across the heart, from which the blood, after turning the animal over, was collected in a basin. Measured by a chronograph the time occupied by pithing and the collection of the blood was upon an average about 15 seconds. The alcoholic method of extracting the sugar from the blood was adopted so as to permit of the nature of the sugar present being ascertained by taking the cupric oxide reducing power before and after hydrolysis by means of boiling with a mineral acid. The ammoniated cupric test (Pavy) which constitutes an exceedingly delicate and at the same time trustworthy test was used for effecting the determinations. The symbol K is employed to represent the cupric oxide reducing power of the sugar present as compared with that of glucose expressed as 100.

I have already said that the urine is an indicator of the state of the blood with reference to sugar. The definite small quantity of sugar in all circumstances present as a standard constituent of the blood is represented in the urine by an equally definite and constant presence of sugar. At one time it was a disputed point as to whether sugar existed in healthy urine. There may be those who remember that a controversy with some warmth introduced into it was some years ago carried on in the pages of THE LANCET. I was one of the disputants and contended on the affirmative side, grounding my position upon the crucial evidence I had obtained of reaction with the fermentation test applied to the product collected from large quantities of urine through the medium of lead and ammonia precipitation. Since this time Emil Fischer's phenylhydrazin test has set the matter completely at rest. An osazone is always readily obtainable from the extracted sugar derived from a moderate quantity of urine and it is even possible for crystals to be procured by direct procedure from the urine in its ordinary state by persons who are skilful in the application of the process. The actual quantity of sugar present is easily revealed by means of the ammoniated cupric test. Whilst Fehling's solution gives no reaction a distinctly appreciable amount is shown to be present by the ammoniated cupric test, and where Fehling's solution gives, as is often seen in concentrated urine, what may be considered as an approach to a reaction somewhat notably high figures, certainly in view of the fact that normal urine is being dealt with, may be obtained. We speak of urine as being free from sugar when no perceptible reaction is given by Fehling's solution, but all the time a certain amount of sugar corresponding with that existing in the blood, is present It is the nitrogenous constituents of the urine that conceal the reaction by giving rise to the development of ammonia and thus preventing the occurrence of a deposit of suboxide No doubt these circumstances have had something to do with establishing the idea of renal impermeability to sugar and the idea arising out of it that sugar can be present in the blood without passing off with the urine

It will be convenient to state here that neither in the case of healthy urine nor in that of blood does the sugar actually consist entirely of glucose It is customary to speak of glucose as the kind of sugar belonging to the blood Observation shows that this does not represent the full truth Alike by the cupric oxide reducing power indicated before and after hydrolysis and the osazone crystals obtainable it is demonstrable that sugar of other nature than glucose is present A communication on this point is to be found

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possess a cupric oxide reducing power considerably below that of glucose and with phenylhydrazin gave an osazone corresponding both in crystalline form and melting point with glucosazone, and another corresponding with the osazone derivable from what has been designated by Fischer and others isomaltose Probably in reality a mixture of sugars and higher dextrins exists presenting a condition that will serve to account for the very varying degrees of cupric oxide reducing power that may be met with

Before referring to the injection of sugar experiments it is advisable that a representation should be given of the state of blood and urine existing under normal conditions The following observations serve this purpose —

Normal Cardiac Blood

	Sugar per 1000		
Animal	Before hydrolysis	After hydrolysis	K
Rabbit	0·997	1·407	71
	0·993	1 255	79
	0 967	1 261	74
	0 939	1 458	64
	1 261	1 740	72
	1 039	1 553	67
	1 316	1 7[illegible]0	73
	1 170	1 520	77
	0 992	1 325	75
	1 116	1 700	65
	1 088	1 300	83
	1 200	1 630	75
Mean	1·089	1 495	73
Cat	0 9[illegible]6	1 136	86
	1 000	1 190	84
	0 883	0 975	90
	0 712	1 030	69
	1 026	1 409	72
	0 684	1 104	62
Mean	0 880	1 140	77
Dog	0 860	1 300	66
Horse	160	1 550	[illegible]

All the above instances apply to ordinary conditions as regards food and it is seen that in the vegetable feeder the figures stand a little higher taken as a whole than in the animal feeder but there is not any large difference noticeable and looked at individually irregularity is perceptible To ascertain the condition existing apart from any question of food animals were taken after fasting for a period sufficient to occasion not far short of a disappearance of glycogen from the liver The following were the results given —

Cardiac Blood of Fasting Animals

	Sugar per 1000		
Animal	Before hydrolysis	After hydrolysis	K
Rabbit	1 28	1 73	73
	1 49	2 13	70
	1 46	2 06	70
	0 93	1 17	79
	1 04	1 44	70
	1·05	1 34	79
Mean	1 21	1 64	74
Cat	1 27	1 33	95
	0 94	0 98	96
Mean	1 10	1 15	96

Normal Urine

	Sugar per 1000		
Animal	Before hydrolysis	After hydrolysis	K
Rabbit	3 33	6 60	50
	5 [illegible]9	11 92	49
	0 68	1 80	38
	1 05	2 [illegible]3	44
	2 40	5 35	46
	3 70	7·90	42
	8 80	16 54	53
	4 89	9 06	54
	2 95	6 14	48
	1 86	3 21	57
	2 33	4 03	57
	4 00	7 [illegible]0	57
	4·68	8 75	53
	4 30	7 24	59
	6 08	10 32	53
	2 22	4 27	52
Mean	3 69	7 03	52
Cat	1 78	3 [illegible]6	47
	1 73	3 35	51
	3 02	7 [illegible]5	39
	2 27	5 41	42
	2 10	4 [illegible]4	45
	2 17	6 00	36
	3 31	4 54	73
	1 38	3 21	43
	4 90	9 00	53
	3 60	7 99	45
	4 08	8 [illegible]5	46
	2 73	5 86	47
Mean	2 [illegible]5	5 57	47
Dog	4·07	6 35	64
Horse	4 41	7 40	60
Human subject	0 91	1 [illegible]3	48
	2 87	5·05	57
	4·07	6 [illegible]5	65
	4 41	6·90	64
	3 57	5 40	65
	2 55	[illegible] 25	60
	4 83	6·[illegible]0	[illegible]1
	2 53	4 54	62
	2 27	4 0	5[illegible]
	1·[illegible]	3 41	46
	2 12	4 23	50
	1 35	2 [illegible]3	51
Mean	2 9 –	4 [illegible]3	60

I have previously directed attention to the condition of the blood taken after a period of fasting. I will likewise do so for the urine. The specimens were derived from the same set of observations.

Urine of Fasting Animals.

Animal.	Sugar per 1000. Before hydrolysis.	Sugar per 1000. After hydrolysis.	K.
Rabbit	0·68	1·80	38
,,	1·06	2·38	44
,,	2·40	5·36	46
,,	3·70	7·90	42
,,	3·30	6·60	50
Mean	2·23	4·80	46
Cat	4·30	9·00	53
,,	3·60	7·99	45
,,	4·08	8·96	46
Mean	4·19	8·65	48

Looking at these observations it is noticeable in every instance that the cupric oxide reducing power after treatment with the mineral acid is conspicuously higher than that before. It is further noticeable that K runs in a decidedly lower range of figures in the case of the urine than in that of the blood. This I consider has a bearing upon the direction taken by sugar within the animal system and I shall have occasion to comment upon it later. As regards the genesis of the increase of cupric oxide reducing power by the agency of the acid it is only, as I have previously said, by hydrolysis of a carbohydrate or cleavage of a glucoside that the phenomenon can be accounted for.

It follows from what has preceded that not only does healthy urine contain a definite amount of sugar but that the sugar present is not to be regarded as consisting simply or even mainly of glucose. Uric acid and creatinine are cupric oxide reducing bodies and we must not be oblivious of the fact that they must contribute something towards the production of the cupric oxide reducing result obtained. They are not present, however, to a sufficient extent to answer for much in this direction and they can have nothing whatever to do with the increased figures obtained after hydrolysis by treatment with the acid. As a source, indeed, for the production of these increased figures we can only look, as I have stated, to the presence of carbohydrate matter of lower cupric oxide reducing power than glucose or to the liberation of sugar from a glucoside. The phenyl-hydrazine reaction shows that a maltose type of sugar is present, but to account for the results frequently seen to have been obtained the presence likewise of much lower cupric oxide reducing carbohydrate matter than this is needed. That glycogen or animal gum cannot be advanced as the source of explanation I have found is rendered evident by the agency of alcohol in which these principles are insoluble. Urine has been evaporated almost to complete dryness and then extracted with alcohol. The filtered alcoholic extract after evaporation and subjection to the acid treatment has given the same character of result as the urine in its ordinary state.

The amount of sugar that may be found is seen to be very variable. The degree of concentration of the urine seems to be the main factor in connexion with this point. It is a matter of common observation to find in applying the ammoniated cupric test to ordinary urine that it is specially in high specific gravity specimens that the maximum amounts are met with. Indeed, with very high specific gravity specimens it is not an unusual event for Fehling's solution to give a greater or less degree of reaction and instances have from time to time occurred in which the result has been interpreted as indicating the existence of an abnormal glycosuria. The medical practitioner, in fact, requires to be on his guard not to be misled by the result obtained on testing a high specific gravity urine. I might adduce many examples in illustration of what I have stated about the relation of the sugar indication to specific gravity. I will be content with the following. The first two specimens in the list for the human subject were obtained from the same individual and were passed at periods within a few hours of each other. One was of specific gravity 1008 with the sugar indication mentioned of 0·91 per 1000 before hydrolysis and 1·89 per 1000 after. The other had a specific gravity of 1024 with a sugar indication of 2·87 per 1000 before hydrolysis and 5·05 per 1000 after. In an instance where I took the sugar indication of urine of specific gravity 1002 it was found to stand at 0·34 per 1000.

Not only in all urines is there seen to be a decided amount of sugar present but in some which must nevertheless be regarded as falling within the normal category the amount reaches a point that would hardly have been looked for under the notions that have hitherto been entertained. In the case of one of the rabbits, for instance, the figures stood at 8·80 per 1000 before hydrolysis and 16·54 per 1000 after, which gives a K of 53. The K is normal and the condition simply represents an undue proportion of normal sugar indication such as might be produced as a result of concentration. It is the elimination of glucose which is characteristic of abnormal glycosuria and if the high sugar indication had been due to this K would have stood much higher than it did. The effect of adding glucose to healthy urine is theoretically and practically to bring the figures obtained before and after hydrolysis nearer to each other and as the quantity added advances the effect of the lower cupric oxide reducing sugars that happen to be present becomes more and more thrown into the shade until it ceases to be perceptible. Thus K serves to point out, when undue sugar indication exists, whether it is the result of a heightened normal state or an abnormal output of glucose.

I have stated that it is the abnormal output of glucose that belongs to glycosuria as a morbid condition. As the result of treatment of the case the urine may be brought to a natural state and give no reaction with Fehling's solution. It will be understood, however, that it contains sugar in small amount as happens with healthy urine. In these cases a little dietetic deviation readily affects the urine and may cause it to give more or less change indicative of sugar on being boiled with Fehling's solution. The sugar may not be greater in amount than may be sometimes met with in concentrated urine from the healthy person, but on taking the cupric oxide reducing power before and after hydrolysis the resulting K is found to stand higher. The following are a few instances illustrative of this point.

Urine from Mild Glycosurics with associated Output of a Slight Amount of Sugar.

Sugar per 1000. Before hydrolysis.	Sugar per 1000. After hydrolysis.	K.
4·31	5·05	71
5·81	7·20	80
7·35	9·09	81
7·81	9·87	79
6·66	7·48	88
6·25	7·80	80
6·58	8·92	74
4·63	6·94	67
7·69	8·72	88
5·00	6·30	79

Having dealt with the normal state of blood and urine in relation to sugar I will next proceed to consider the condition observed after the direct introduction of sugar into the system by intravenous injection. When a large quantity is introduced in this way it literally runs out through the kidney as it is injected into the vein. It is almost incomprehensible the rapidity with which the sugar in these circumstances reaches the urine. It passes through the kidney almost like passing through an ordinary filter. With the injection of four grammes per kilogramme body-weight sugar was discoverable in quantity in the urine instantly after the completion of the injection. Ordinarily the injection occupied somewhere about 60 seconds and the subsequent instantaneous pithing and collection of the right ventricular blood another 15 seconds. It would be within these limited periods of time that the escape of sugar could be taking place from the kidney and yet it was found after the employment of saccharose that the urine collected from the bladder contained in one instance as much as 64, and in another 74, per 1000 of this sugar. Looking at the lengthy route to be traversed in passing through the kidney the question suggests itself whether it might not pass directly into the urine contained in the bladder by osmosis from the vessels of the organ but presumably the result is not to be accounted for in this way With dextrose dealt with in a similar manner the escape was a little less active, the highest figures given being 39 and 47 per 1000

A strikingly noticeable effect of the injection of sugar in the quantity named when the animals were not killed immediately was a greatly increased flow of urine The intensity of the diuresis was such that in the collection of the urine as a part of the experiment it was found, in order to avoid loss from spontaneous escape, that considerable vigilance was required to be exercised to keep pace with the activity of secretion The method of collection was by pressure over the bladder with the thumb

The determinations made of the amount of sugar present in the blood in the different experiments showed a variation for the different sugars, but comparative uniformity was observable for each kind of sugar On the sugar reaching the circulation two influences can be mentioned that would immediately come into operation and produce their modifying effect Water is drawn by osmosis from the tissues and the blood becomes thereby more or less extensively diluted This, it may be stated, has been found experimentally to occur There must also be diffusion of sugar from the blood into the tissues Our knowledge does not permit us to speak of any other tangible physical influence that would come into play

The following are the respective amounts of the different sugars found in the blood after the injection of four grammes per kilogramme body weight The sugar in each case is reckoned as glucose and expressed in parts per 1000

Blood collected Instantly

Saccharose	Lactose	Maltose	Galactose.	Lævulose	Dextrose
24 26	20·00	17 32	13 93	14 94	14 83
24 52	17 90	18 73	11 11	17·00	14 20
21 66	—	—	11 11	17 30	14 94
21 21	—	—	—	14 58	15 48

Blood collected from Animal killed Five Minutes after the Injection

Saccharose	Lactose	Maltose	Galactose	Lævulose	Dextrose
13 04	10 30	12 05	10 37	10 56	10 20
15 80	10 62	10 04	—	10 56	10 72
—	—	—	—	9 83	—

Blood collected from Animal killed 15 Minutes after the Injection

Saccharose	Lactose	Maltose	Galactose	Lævulose	Dextrose
12 10	8 50	8 66	8 33	7 22	7 35
12 06	10 00	7 43	—	7 50	8 17
11 66	—	—	—	7 37	8 59
—	—	—	—	—	8 59

Reviewing these figures the disparity that existed in the instantaneously collected bloods has in great measure disappeared in those collected after the lapse of 15 minutes In the former instance the disaccharides stand away from the monosaccharides in the larger amount of sugar found and conspicuously is this the case for saccharose At the end of 15 minutes, however, with the exception of saccharose, which still stands to some extent with higher figures than the rest, the sugar has fallen to a pretty approximate point

I will now give attention to the experiments in which one gramme of sugar per kilogramme body weight was injected and it will be instructive to view the results for both blood and urine set out in tabular form —

Intravenous Injection of One Gramme per Kilogramme

Blood collected Instantly

Saccharose	Lactose	Maltose	Galactose	Lævulose	Dextrose
6 53	6 12	6 43	6 14	6 48	6 53
5 54	—	—	—	—	5 30
—	—	—	—	—	6 53

A striking uniformity is here noticeable for all the sugars

Blood collected at the End of Five Minutes

Saccharose	Lactose	Maltose	Galactose	Lævulose	Dextrose.
4·90	4 34	3 63	3 39	3·92	4 22
4 37	—	—	—	—	—

Blood collected at the End of 15 Minutes

Saccharose	Lactose	Maltose	Galactose.	Lævulose.	Dextrose
3·60	3 81	3 51	2·66	2·57	2 32
3 22	—	—	—	—	3 14

Blood collected at the end of 60 minutes

	Saccharose	Lactose	Maltose	Galactose	Lævulose	Dextro
	1 88	2 33	1 59	1 66	1 29	1 42
	1 97	2 91	2 05	1 79	1 49	1 59
	—	1 75	1 70	1 66	1 66	1 50
	—	—	—	1 73	1 41	1 51
	—	—	—	1 79	1 37	1 55
	—	—	—	—	1·60	1 12
	—	—	—	—	—	1 38
	—	—	—	—	—	1 28
	—	—	—	—	—	0 70
	—	—	—	—	—	1 22
	—	—	—	—	—	1 31
	—	—	—	—	—	1 41
Mean	1 92	2 33	1 78	1 72	1 44	1 33

Urine

injected

	Saccharose	Lactose	Maltose	Galactose	Lævulose	Dextrose
	80 4	51 9	56 8	31 7	19 7	12 8
	82 8	45 1	66 3	38 6	28 6	9 2
	80·0	49 1	56 5	31 7	15 6	2 8
	—	—	—	19 6	19 8	11 7
	—	—	—	23 1	19 5	28 1
	—	—	—	—	22 7	15 4
	—	—	—	—	—	19 2
	—	—	—	—	—	17·0
	—	—	—	—	—	10 2
	—	—	—	—	—	11 3
	—	—	—	—	—	18 4
	—	—	—	—	—	31 5
Mean	81 0	48 7	56 5	28 9	20 9	15 6

Thus it is seen, reading from the mean of the results, that 81 per cent of the saccharose injected ran off with the urine in the space of an hour, 48 7 per cent of the lactose, and so on for the other sugars The results tally with the information given by the assemblage of experiments already dealt with The saccharose molecule does not seem if allowed to reach the circulation as such, to be susceptible of being touched by the system and simply passes off into the urine in an unchanged state Lactose and maltose to some extent correspond but it looks as though they were partially put into a position to proceed to utilisation With considerably more force does this remark apply to the monosaccharides, the elimination of these having been upon a much more limited scale Of the three the least extent of elimination occurred with dextrose and the highest with galactose Lævulose stood not far from midway between the two It is unassimilated or untouched molecules that escape with the urine Those which pass into the assimilated state are placed in a position to be removed from liability to pass off with the urine

Intravenous Injection of 0 250 Gramme per Kilogramme

A further set of experiments was performed with the employment of a quarter of a gramme per kilogramme, means which $\frac{1}{4000}$th of the body weight In this series only saccharose and dextrose were made use of.

Saccharose

Intravenous Injection of 0 250 gramme of Saccharose per kilogramme

—	Sugar as glucose in blood per 1000	Sugar as glucose in urine per 1000
Killed instantly	2 550	7 20
Killed at end of 5 minutes	1·973	14 20
Killed at end of 15 minutes ..	2 225	68·00

Dextrose

Where large amounts of dextrose are injected the sugar met with in both blood and urine shows itself in the form of glucose The quantity of unchanged dextrose is such as to swamp the sugar of a lower cupric oxide reducing nature that may be present I therefore have not considered it
necessary previou
namely, those rep
state In the case, --
are employed it is susceptible of being seen that some of it is changed by the system into a lower cupric oxide reducing body On this account I consider it will be instructive to

closing. The catheter is left *in situ* for four or five days and is then removed, being passed only when the patient is fed. As there is sometimes a little redness round the stitches at the apex of the cone it is well to remove one or two of them about this time. The redness has been especially noticed when the patient is very emaciated. The other stitches are taken out about the tenth day.

It is interesting to notice how rarely the patient retches or vomits after the operation and that very little pain is experienced. From the first he is fed every four hours, each feed consisting of four or five ounces of peptonised milk and brandy. The quantity is gradually increased till eight or ten ounces are given at a time, the amount of brandy and peptonisation being gradually diminished, egg and milk, Benger's food, &c., being substituted. As a rule, the patient cannot take more than eight or ten ounces with comfort at a time. He is generally able to get up in about ten days, but it is advisable not to allow him to get up too soon as this may cause some escape of the gastric contents and redness of the skin.

The important points in the method are: (1) that the whole cone of stomach is surrounded by muscle, and (2) the length of the cone. The muscle acts as a sphincter and effectually prevents the gastric contents escaping, and therefore excoriation of the skin is absent. In some of the patients the rectus was very much atrophied and when split each layer was very thin. But even so the escape of the contents of the stomach was prevented. In the last patient there was at first a slight leakage but the skin was only affected to a small extent and this was due in part to the fact that some sloughing occurred from the stitches being tied too tightly and the patient being very emaciated. When healing occurred, which it did in a month, there was no escape. It is obvious that if the stomach is so contracted that the cone cannot be made long enough, some other method such as Witzel's, would have to be adopted. However, in none of my cases was this difficulty met with.

One of the most striking after-effects of the operation is the recovery of the power of being able to swallow with ease. The patients in Cases 3, 11, 12, 13, and 14 were quite unable to take either liquids or solids, or only the former with extreme difficulty. Each of these patients became able to swallow such foods as custard, beef-tea, bread-and-milk, and sometimes mincemeat or mashed potatoes. This

TABLE OF CASES OF GASTROSTOMY FOR CARCINOMA OF THE ŒSOPHAGUS.

Case.	Sex.	Years of age.	Duration of symptoms.	Site of stricture.	Date of operation.	Date of death.
1	M.	62	Six months. No solid food for three months. Occasionally regurgitation of food.	11 inches from the teeth.	August 20th, 1901. No. 8 catheter put into the stomach.	August 31st, 1901.
2	M.	50	13 weeks. Rapid loss of flesh and increasing difficulty in swallowing.	8½ inches from the teeth.	Sept. 2nd, 1901. No. 10 catheter used.	?
3	M.	42	Six months. Regurgitation of fluids for one month.	10¾ inches from the teeth.	June 3rd, 1902.	Jan. 3rd, 1903.
4	M.	62	Six months. For nine weeks only fluids taken.	10½ inches from the teeth.	July 27th, 1902.	Dec. 25th, 1902.
5	M.	57	Four months. Steadily increasing difficulty in swallowing solids. Unable to swallow liquids.	10½ inches from the teeth.	August 20th, 1902.	August 22nd, 1902.
6	M.	66	Three months. For one month able to take liquids only. Partial regurgitation of food on attempting to swallow.	In lower part of the œsophagus.	July 8th, 1902.	End of December, 1902.
	M.	68	Three months. Difficulty in swallowing solids. For two months there was shortness of breath. For three weeks the patient was unable to take solids or liquids.	Upper part of the œsophagus; the larynx was involved.	August 30th, 1902.	Sept. 16th, 1902.
8	M.	33	12 months. 11 weeks ago there had been severe dyspnœa. Tracheotomy was performed. Since that time the patient had only been able to take liquids.	Upper part of the œsophagus; the larynx was involved.	Dec. 23rd, 1902. No. 10 catheter.	Feb. 11th, 1903.
9	M.	60	Two months. The patient could only take liquids.	7½ inches from the teeth.	March 31st, 1903. No. 10 catheter.	April 17th, 1903.
10	M	73	Six months. Much coughing on attempting to swallow liquids.	—	May 22nd, 1903. No. 10 catheter.	June 3rd, 1903.
11	M.	53	Three months. For ten days the patient was able to take fluids only with difficulty.	14 inches from the teeth.	August 8th, 1904. No. 10 catheter.	Dec. 20th, 1904.
12	M.	46	Nine months. For a week the patient was unable to take even liquids; regurgitation.	9¼ inches from the teeth.	August 16th, 1904. No. 10 catheter.	Sept. 28th, 1904.
13	F.	40	Eight months. For four months the patient was not able to take solids; for one week he was unable to take liquids.	Upper part of the œsophagus; the larynx was involved.	Sept. 26th, 1904. No. 10 catheter.	January, 1905.
14	M.	62	Six months. For two months there had been increasing difficulty in swallowing liquids.	11½ inches from the teeth.	Dec. 23rd, 1904. No. 10 catheter.	Still living and well.
15	M.	49	Four and a half months. Severe attacks of coughing on attempting to swallow liquids.	Upper part of the œsophagus; the larynx was involved.	April 14th, 1904. No. 8 catheter.	Still living.

Remarks.—Case 1.—The patient was very ill and emaciated; no leakage from the stomach opening. Necropsy: No perforation into the trachea; the stricture was four inches below the cricoid; there was pneumonia in the right lung. Case 2.—There were secondary nodules in the liver; the lumbar glands were affected. The patient was discharged from hospital on Sept. 27th, 1901. Case 3.—June 7th: Catheter removed and passed when required. 10th: Able to take liquids. 14th: Able to take bread and milk. There was never any redness of skin around gastrostomy wound or regurgitation through the opening. Case 4.—August 1st: Catheter removed and passed when required. The patient was discharged from hospital on August 10th. There was no leakage of gastric contents. Case 5.—Necropsy: The growth was opposite the bifurcation of the trachea; perforation into the right bronchus. Case 6.—A feeble old man: a bad attack of bronchitis after operation. There was some excoriation round the stomach opening. Quite healed in a month's time; no leakage. The patient did not recover power of swallowing. Case 7.—Necropsy: The growth involved upper one and a half inches of the œsophagus and the posterior half of the larynx; there was recent septic peritonitis; there was no food in the peritoneal cavity. Case 8.—Dec. 30th: Tube removed; no leakage from gastrostomy wound. Necropsy: The growth was on the upper end of the œsophagus, involving the larynx; there was a perforation of the œsophagus in the neck, leading into an abscess on the right side of the neck. Case 9.—April 6th: Tube removed; no leakage of gastric contents. Necropsy: there was a perforation into the trachea; pneumonia in the right lung. The upper limit of the growth was below the level of the cricoid. Case 10.—May 27th: Tube removed; no leakage. Necropsy: The growth was at the level of the bifurcation of the trachea. There was a perforation into the left bronchus and into the lung; septic broncho-pneumonia and abscess in the left lung. Case 11.—August 13th: Tube removed. August 19th: Discharged; can take liquids. Subsequently able to swallow food in comparative comfort; very little redness of skin; slight leakage if too large feeds are given. Case 12.—August 27th The patient was able to take soft solids. Sept. 4th: Discharged; no redness or leakage even on coughing. 28th: Death from double pneumonia. Case 13.—Operation performed under local anæsthesia. Oct. 17th: The patient was able to swallow liquids; gastrostomy opening gave her no trouble. Case 14.—Dec. 28th: Tube removed and passed when required. The patient was discharged on Jan. 6th, 1905. There is no leakage and the patient is able to take soft solids comfortably. He feeds himself once or twice daily by the gastrostomy opening. Case 15.—April 20th: Catheter removed. May 3rd: The patient was able to swallow with comfort. Discharged on May 25th. The operation was performed under eucaine. There was some sloughing of the skin around the gastrostomy opening. Quite healed in a month; slight leakage. The patient, who was feeble and emaciated, improved much after the operation.

recovery generally occurred a week or ten days after the operation and the improvement took place to such a marked extent in one patient that he only used the gastrostomy tube twice a day In the majority of cases this improvement is only temporary, perhaps lasting some weeks, and the benefit to the patient a corresponding time Still, if one can say to the patient that he will in all probability be able to take at least such foods as these in a natural way a great point is made in favour of the operation, for the patient usually asks What will be the effect of the operation on his swallowing ? At the same time one is able to assure the patient that he will not die from starvation The probable explanation of *this recovery is that the growth not being irritated ceases* to be inflamed and consequently shrinks, the lumen of the œsophagus being thereby opened up

Another striking feature is the improvement in the general health and condition of the patient which occurs in many cases A patient who has been starving gains flesh and colour and strength Some patients have attacks of coughing whenever they attempt to swallow This is due to (1) some of the food getting into the larynx when the growth is high up in the œsophagus and possibly involving the larynx, or (2) a small perforation from the œsophagus into the air passages, or the separation between them being very thin This latter class of patient is very unfavourable for operation—e g, Cases 5, 9, and 10 may be cited Each patient died soon after the operation from perforation The first group is not so unfavourable One of my patients was a

the upper part

yteno epiglottic

g could be felt

in the region of the larynx Any attempt at swallowing caused a good deal of coughing On Sept 26th 1904, gastrostomy was *performed under eucaine* local anæsthesia Three weeks later the patient was able to take liquids without coughing and she lived in comparative comfort for four months having been able to do some light work and to go out The gastrostomy acted perfectly and never gave her any trouble A similar case was that of a man, aged 49 years He had a growth in the upper part of the œsophagus extending on to the arytenoids, the left cord being paralysed Gastrostomy was performed on April 15th 1905 The patient at once began to improve in general health and a fortnight later he was able to take liquids and soft solids such as minced meat without causing coughing Local anæsthesia was employed in these two cases on account of the involvement of the larynx which made the administration of a general anæsthetic inadvisable In the second case the skin around the opening into the stomach sloughed for a short *distance and this is attributed partly* to the effects of the eucaine and partly to the stitches being tied too tightly for around two of them the skin became white and necrotic In spite of this there was no escape of the stomach contents, except when the patient coughed after he had been fed, and the redness of the skin which never extended more than an inch from the stomach opening was due more to inflammatory reaction than to irritation of the stomach contents In another patient, aged 66 years (Case 6) who was also very feeble and emaciated a limited area of sloughing of the skin occurred and although this patient had a bad attack of bronchitis after the operation there was practically no leakage or regurgitation from the stomach opening

It has been objected that the track of the cone of the stomach becomes straight instead of remaining as it is made at the operation, so that the base of the cone and the apex lie behind one another, the valvular arrangement becoming inefficient It is true that in some cases the track does becomes straighter, but even when this occurs leakage does not follow because the sphincteric action of the rectus still persists Consequently any redness or excoriation of the skin is confined within the smallest limits, scarcely sufficient to cause any inconvenience, and in many cases is absent altogether (Cases 3 and 14) It is advisable to remove the tube on the fourth or fifth day and to pass it only when the patient is fed, the aperture

piece of sterilised dressing

the tube and to feed himself

than leaving the tube constantly in the stomach opening (where, in fact, it rarely stays) and putting a clip on to it None of my patients have had any trouble in passing the tube and there has been no tendency for the opening to close, as the feeds being given four hourly there is not any likelihood of the opening becoming unduly contracted

Of the 15 patients on whom I have operated nine have lived sufficiently long for an estimation to be made of the results of the operation The time the patients lived after the operation varied from six weeks to seven months Two of them are still alive—one more than five months and the other six weeks after the operation All of them were kept under observation and were seen from time to time or were communicated with by letter Not one of them regretted having had the operation performed, as the relief of the symptoms and the improvement in general health were obvious and the inconveniences of the operation were slight In Case 3 the patient enjoyed good health and was able to get *about till within a week or two of his death* In Case 14 the patient is doing work as a clerk The patient in Case 8 was confined to bed during the whole time he lived but the local condition, involving as it did the larynx to such an extent as to necessitate tracheotomy, was a sufficient explanation of this There can be no doubt that but for the gastrostomy this patient would have died two months sooner than he actually did and though his was so unfavourable a case the gastrostomy acted exceedingly well and there was no leakage from it

The short time the patients survived at once raises the question Does the operation prolong life for any appreciable length of time? The answer must always be doubtful because one can never tell how soon the growth will perforate in to the trachea or bronchus, thus setting up septic processes in the lungs This was well illustrated in Case 12 The patient was a man, aged 46 years, a small bougie could be passed into the stomach, a larger one stopped nine and a half inches from the teeth The operation was performed on August 16th, 1904, and the patient left the hospital much improved on Sept 4th For more than three weeks he continued to do well, he then died at his home from double pneumonia after two or three days' illness Cases 9 and 10 are similar On the whole, it may be said that at best the operation can only prolong the patient's life for a short time, but it saves him from dying from starvation and his death is attended by a minimum of discomfort as it is usually due to septic complications in the lungs

Five of the patients died soon after the operation One of them (Case 7) had recent septic peritonitis The region of the wound was healthy and it did not appear that the peritonitis was caused by any escape of gastric contents or was due to *food passing into the peritoneum from the* opening into the stomach The other four died as a result of perforation into the trachea or a bronchus As death took place on the eleventh, second, seventeenth and eleventh days respectively, the operation can scarcely be said to have been the direct cause of death The remaining patient left the hospital in the fourth week and was not seen again This patient had secondary deposits in the liver and lumbar glands He suffered a good deal from pain in the back which was not relieved by the operation, but the gastrostomy was acting quite well

Lastly, the important question arises, *How soon should* the operation be done after the diagnosis of malignant disease of the œsophagus has been made? It is to be remembered that the majority of patients come for treatment and advice when the symptoms are well marked, and there*fore the sooner* the operation is performed the better If, however, the patient is able to take sufficient nourishment without coughing it may be delayed provided that the patient is seen at regular and short intervals, not longer than a fortnight so that the progress of the disease can be watched If there is any increase in the difficulty of swallowing, if coughing is produced by the attempt to *swallow*, or if there is regurgitation of food into the mouth, then the operation should be advised forthwith the surgeon clearly explaining to the patient the results which may be expected It is a good plan to give the patient a liquid to drink and to see *how it is swallowed* A much better estimation of the amount of narrowing of the œsophagus can be formed by this actual observation and therefore a better guide as to the advisability of immediate operation than by what the patient says Bougies should also be passed and the size of the largest one which can be passed through the stricture, as well as the difficulty in passing it, are *important aids in* helping one to come to a decision for or against operation Unfortunately many of the patients are so emaciated and so exhausted that it is scarcely worth while advising them to undergo the operation, and, of course, when there are signs of affection of the lungs it is useless to operate

Harley street W

EXPERIMENTS ON THE DISINFECTION OF VIBRIO CHOLERÆ ASIATICÆ AND BACILLUS DYSENTERIÆ (FLEXNER) WITH CYLLIN AND CARBOLIC ACID.

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(From the Public Health Laboratories, King's College, London.)

IN previous papers[1] I have discussed briefly the relative merits of certain disinfectants when applied directly to infective organisms, after the method of Rideal and Walker. The present experiments are a continuation of this work on the same lines. Care has been taken throughout that uniformity in the following conditions should obtain: time of contact of disinfectant with microbe; age of culture of the microbe used; constitution and reaction of the medium upon which the microbe is grown; vital resistance of the species of microbe used; quantity of disinfectant added to the culture; temperature of medication; and temperature and time of incubation.

A virulent culture of vibrio choleræ Asiaticæ was procured and sown in bouillon rendered slightly acid to phenolphthalein but neutral to litmus (acidity equivalent to 15 cubic centimetres normal NaOH per litre). A sample of phenol was standardised by bromine and a series of dilutions in distilled and sterile water was made. Into five sterile test tubes were placed respectively five cubic centimetres of dilutions 1 in 70, 1 in 80, 1 in 90, 1 in 100, and 1 in 110, and into each of these serially at intervals of exactly 30 seconds five drops of a 24-hours bouillon culture of vibrio choleræ incubated at 37° C. were deposited. Continuing the 30 seconds interval a single loopful was removed in turn from each of the medicated cultures after careful shaking and sown in a bouillon tube. The platinum loop was thoroughly sterilised after each inoculation. All vessels, flasks, tubes, pipettes, &c., used in making dilutions were also previously rigorously sterilised. The medicated culture tubes and bouillon tubes during manipulation were held in such oblique position that all extraneous organisms floating in the atmosphere were excluded. 30 bouillon tubes were thus inoculated, each at an interval of 30 seconds later than the previous. The room temperature averaged 16° C. The inoculated tubes were then removed to a 37° C. incubator for 48 hours, at the end of which time in this case nothing had grown. A second series of dilutions of phenol were tried with like result, the inoculated tubes being allowed to remain in the incubator for 72 hours.

Table I. shows that pure phenol in dilution of 1 in 160 killed all the cholera organisms, but that a dilution of 1 in 165 applied for two and a half minutes allowed growth in 72 hours. It may here be noted that whereas bacillus typhosus and the Klebs-Löffler bacillus, experimented on previously in the same way, always grew within 48 hours if they grew at all, the vibrio choleræ remained in the bouillon apparently dead for 48 hours, after which time growth commenced and was distinctly visible within 72 hours. Further, it may be recorded that working with the above-mentioned slightly acid broth and the dilutions indicated in Table I. no growth appeared in 72 hours, nor did growth appear until a dilution of 1 in 200 was reached. Acid broth was accordingly discarded and an alkaline form (10 cubic centimetres normal NaOH per litre) used instead through which the results of Table I. were obtained. This indicates, I think, that the acidity of the broth inhibited the growth of the cholera organism. In order to eliminate such inhibition alkaline bouillon was used for all further work on vibrio choleræ.

TABLE I.—*Vibrio Choleræ Asiaticæ, 24 Hours Broth Culture at 37° C. Room Temperature from 15° to 18° C. Date, Oct. 20th, 1904.*

Sample.	Dilution.	Time culture exposed to action of disinfectant—minutes.						Sub-cultures.	
		2½	5	7½	10	12½	15	Period of incubation.	Temperature.
Phenol.	1 in 155	–	–	–	–	–	–	72 hours.	37° C.
,,	1 in 160	–	–	–	–	–	–	,,	,,
,,	1 in 165	+	–	–	–	–	–	,,	,,
,,	1 in 170	+	+	+	–	–	–	,,	,,
,,	1 in 175	+	+	+	+	+	+	,,	,,

Table II. roughly demonstrates the comparative values of cyllin and phenol in the dilutions indicated, and Table III.

TABLE II.—*Vibrio Choleræ Asiaticæ, 24 Hours Broth Culture at 37° C. Room Temperature from 15° to 18° C. Date, Oct. 28th, 1904.*

Sample.	Dilution.	Time culture exposed to action of disinfectant—minutes.						Sub-cultures.	
		2½	5	7½	10	12½	15	Period of incubation.	Temperature.
Cyllin.	1 in 2000	–	–	–	–	–	–	72 hours.	37° C.
,,	1 in 3000	–	–	–	–	–	–	,,	,,
,,	1 in 4000		–	–	–	–	–	,,	,,
,,	1 in 5000	+	+	–	–	–	–	,,	,,
Phenol.	1 in 170	+	+	+	+	–	–	,,	,,

TABLE III.—*Vibrio Choleræ Asiaticæ, 24 Hours Broth Culture at 37° C. Room Temperature from 15° to 18° C. Date, Nov. 4th, 1904.*

Sample	Dilution.	Time culture exposed to action of disinfectant—minutes.						Sub cultures.	
		2½	5	7½	10	12½	15	Period of incubation.	Temperature.
Cyllin.	1 in 4500	–	–	–	–	–	–	72 hours.	37° C.
,,	1 in 5000	+	–	–	–	–	–	,,	,,
,,	1 in 5500	+	+	+	–	–	–	,,	,,
,,	1 in 6000	+	+	+	+	+	+	,,	,,
Phenol.	1 in 170	+	+	+	–	–	–	,,	,,

Carbolic acid coefficient, $\frac{5500}{170} = 32\cdot3$

represents the completion of the work by which the values of these bodies as disinfectants have been accurately ascertained. It is here seen that cyllin in dilution of 1 in 5500 is unable to destroy the life of the organism in seven and a half minutes but able to effect its destruction in ten minutes and that pure phenol in dilution of 1 in 170 performs exactly the same work in the same time.

It was found that the slight acidity in the bouillon which seems to inhibit the growth of the cholera organism has no such effect on bacillus dysenteriæ (Flexner). Accordingly in working with this organism the acid bouillon was used throughout.

Table IV. shows a trial series intended to fix the death point (in terms of time and quantity of phenol) of Flexner's organism. Table V. represents a further trial series in

TABLE IV.—*Bacillus Dysenteriæ (Flexner), 24 Hours Broth Culture at 37° C. Room Temperature from 15° to 18° C. Date, Nov. 8th, 1904.*

Sample.	Dilution.	Time culture exposed to action of disinfectant—minutes.						Sub-cultures.	
		2½	5	7½	10	12½	15	Period of incubation.	Temperature.
Phenol.	1 in 75	–	–	–	–	–	–	48 hours.	37° C.
,,	1 in 80	+	+	–	–	–	–	,,	,,
,,	1 in 85	+	+	+	–	–	–	,,	,,
,,	1 in 90	+	+	+	+	+	+	,,	,,
,,	1 in 95	+	+	+	+	+	+	,,	,,

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[1] Journal of State Medicine, January, 1904; Brit. Med. Jour., 1904, vol. ii., p. 15.

TABLE V.—*Bacillus Dysenteriæ (Flexner), 24 Hours Broth Culture at 37° C. Room Temperature from 15° to 18° C. Date, Nov. 12th, 1904.*

Sample.	Dilution.	Time culture exposed to action of disinfectant—minutes.						Sub-cultures.	
		2½	5	7½	10	12½	15	Period of incubation	Temperature.
Cyllin.	1 in 700	–	–	–	–	–	–	43 hours.	37° C.
,,	1 in 750	–	–	–	–	–	–	,,	,,
,,	1 in 800	–	–	–	–	–	–	,,	,,
,,	1 in 850	+	+	–	–	–	–	,,	,,
Phenol.	1 in 85	+	+	+	–	–	–	,,	,,

TABLE VI.—*Bacillus Dysenteriæ (Flexner), 24 Hours Broth Culture at 37° C. Room Temperature from 15° to 18° C. Date, Nov. 16th, 1904.*

Sample.	Dilution	Time culture exposed to action of disinfectant—minutes.						Sub cultures.	
		2½	5	7½	10	12½	15	Period of incubation	Temperature
Cyllin.	1 in 750	–	–	–	–	–	–	48 hours	37° C
,,	1 in 800	·	–	–	–	–	–	,,	,,
,,	1 in 850	+	·	+	–	–	–	·	,,
,,	1 in 900	+	·	+	+	+	–	,,	,,
Phenol.	1 in 85		+	+	–	–	–	,,	,,

Carbolic acid coefficient, $\frac{850}{85} = 10$.

which cyllin is put in competition with phenol. Table VI. fixes accurately the relative powers of these two disinfectants under the conditions described.

ON THE TREATMENT OF RINGWORM OF THE SCALP BY MEANS OF THE X RAYS.

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IT is now generally recognised that ringworm of the scalp cannot be cured by the application of parasiticides, since no method has yet been discovered by means of which such remedies may be made to penetrate sufficiently deeply into the follicle to destroy the fungus. Hitherto the alternative has been to use methods which will cause sufficient folliculitis to loosen the hairs, so that they fall out, or that they may be easily extracted, bringing the fungus with them. By the employment of strong irritants, such as croton oil, an acute inflammation may be produced with rapid fall of the hair, the cure being complete on the subsidence of the inflammation. But such applications require extreme care and can only be applied to small areas or to isolated hairs by needling, otherwise there is danger of actual destruction of tissue and of the hair papillæ with permanent scarring and loss of hair. For large or multiple patches the usual treatment has been to rub on strong irritants, such as chrysarobin, crude izal, compound citron ointment, oleate of mercury, &c., daily over a long period, so that only a mild folliculitis is produced. This treatment, which is tedious and often painful, must often extend over many months or even years.

In rare instances it has been noticed that while under treatment and without any obvious production of folliculitis the ringworm hairs after a time drop out, leaving smooth bald patches, on which eventually fine downy hairs begin to grow. Here there has apparently been some disturbance of nutrition of the hair. Dr. H. Aldersmith states that he has seen this curious result a few times from treatment chiefly with "boric acid," ether, and spirit lotion, and also with "gas-water," and he remarks that "if this '*artificial alopecia areata*' accidentally comes on during treatment it is a most fortunate thing, as the whole of the places generally follow suit when one undergoes this change and the case gets well.' In fact," he says, 'my chief experiments during the last few years have been an effort to discover something that will always cause the diseased hairs to fall out from patches of ringworm, for I fully believe this troublesome disease will in time be cured by this method and not by discovery of new parasiticides."[1]

This prophecy had been fulfilled by the application of the x rays in the treatment of ringworm. By this means the hair of the part exposed to the rays may be made to fall, leaving a smooth bald area entirely free from stumps, and when this grows again, after an interval of some weeks, the new hairs are found to be free from ringworm. The fungus has not been killed but has come away with the old hairs and by the time the new hair grows no trace of it is left. Naturally this treatment has been tried almost since the earliest application of the rays as a therapeutic measure but those using it have always been chary in its application for fear of producing burns or permanent baldness. The first trials were made by Freund and by Schiff who used very short exposures so that from 40 to 50 applications were required. Others have been accustomed to treat cases in from 10 to 12 exposures, but even this method has been found too tedious and too uncertain in its results for general use. In recent years means have been devised for measuring the quality and the quantity of the rays. M. Sabouraud, whose brilliant researches have added so much to our knowledge of ringworm and its origin, has availed himself of these methods and has eventually arrived at a very simple and practicable means of applying this remedy, so that the dose necessary to produce depilation without either fear of radio-dermatitis or of permanent baldness may be given at one sitting.

By means of an ingenious device invented by Holzknecht (Holzknecht's pastilles) it is possible to measure approximately the quantity of x rays reaching any spot from an x ray tube at a given distance in a given time. In 1902 Kienbock showed that the amount of x rays necessary to produce fall of the hair from the scalp was from five to seven units H of Holzknecht's scale. It was thus easy to measure the quantity of rays and by the use of the radiochromometer of Benoist one could measure the quality. But the pastilles of Holzknecht were expensive and difficult to obtain and they were of a secret composition. M. Sabouraud in the endeavour to find a substitute hit upon the device of using pastilles made from the paper of the ordinary fluorescent screen. His radiometer[2] is based upon the fact (as pointed out by Villars) that the platino-cyanide of barium of the spectroscopic screen becomes darkened under the action of the x rays and changes colour in proportion with the quantity of the rays received. Given this fact, a standard tint was made corresponding to that which the platino-cyanide of barium takes when the exposure corresponds to five units H of Holzknecht's scale. All that is necessary is to expose the part that is to be depilated at a fixed distance from the tube and to place the pastille midway between the surface and the anticathode of the tube until it acquires the standard tint. The time occupied will vary with the degree of exhaustion of the tube and with the strength of the current, but so long as the pastille has reached, but has not passed, the standard tint the dose received will be that which will cause complete depilation without evil result. The hair begins to fall about 14 days after the application and continues to do so for a few days longer. It begins to grow again in from six to eight weeks and is fully grown at the end of three months.

From my own experience in the use of Sabouraud's pastilles I am fully convinced that they do afford a simple and safe means of accurate dosage. I had previously tr[illegible] [illegible] of small repeated doses [illegible] of greater length in which a[illegible] by means of a milliampère-meter in the secondary circuit and by the use of a regulating tube maintained at a uniform state of exhaustion, but I have found the simple method invented by Sabouraud to be far less troublesome and much more trustworthy. In my earlier experiments a series of cases was treated by means of repeated short exposures of 10 minutes,[3] 10 to 14 exposures spread over a period of from three to five weeks, and continued until the hair began to fall. In all cases the result was satisfactory and there was no dermatitis or permanent baldness; the hair in each instance has grown again quite normally over the areas made bald by the rays. It is obvious, however, since we now know that the hair only begins to fall two weeks after the sufficient amount has been received, that the several applications during the two weeks previous to the fall of hair were unnecessary and might have been seriously harmful. The method, too, was tedious and suitable only for single patches or limited areas. At this time there were no means of measuring with accuracy the dosage of the rays; the pastilles of Holzknecht were unobtainable in this country and, moreover, there was a tendency here to deprecate such methods of measurements. Better results were hoped for from the use of a specially constructed milliampèremeter by means of which the actual current being forced through the tubes could be measured. I undertook then another series of cases using a regulating tube and a milliampèremeter. By keeping the tube as nearly as possible at a fixed equivalent spark-length and the current, as registered by the milliampèremeter, at a fixed strength, I hoped to obtain rays of a constant quality and quantity, and it only remained then to fix the time of exposure. By making trials with gradually increasing doses I arrived at the following result—viz., that the least amount of rays necessary to produce depilation might be represented by the following factors:—primary current, five ampères; alternate spark-length of tube, three inches; current passing through tube, four milliampères; distance of anticathode from surface exposed, six inches; and time of exposure, 20 minutes. In this way I was able to produce depilation by one sitting of 20 minutes. But the results were not always quite satisfactory since it was found in practice impossible to keep all these factors constant. Sometimes depilation was incomplete and in one instance a slight radio-dermatitis was produced.

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[1] Ringworm and Alopecia Areata, fourth edition, 1897, p. 236.

[2] Radiometre X de Sabouraud et Noiré.

With the use of Sabouraud's pastilles all these difficulties vanished, for experience soon showed that they indicate with remarkable accuracy the quantity and apparently also the quality of the rays emanating from the tube. By preliminary trial of the pastilles I was interested to find that with the ampèrage, spark-length of tube, and milliampèrage given above the time of exposure necessary to obtain the standard tint was exactly 20 minutes, thus corresponding with my own previous estimate. But when the tube was advanced to four or five inches alternate spark length the time occupied was 10 or 12 minutes only. This was in accord with Sabouraud's statement that the higher the tube the more active the rays and consequently the shorter the exposure required; it was, however, opposed to the general view that soft tubes are more therapeutically active than hard tubes. One was naturally led to suppose that the change in the colour of the pastilles was not therefore necessarily a measure of the activity of the rays as regards the effect on the hair papillæ or of their capacity to produce dermatitis. But from my experience in the exposure of scalps by this method I am fully convinced that the change in tint of the pastille does afford an accurate measurement of the amount and quality of the rays. Indeed, I believe it to be at present the only safe means which we have of dosage for therapeutic purposes.[4]

So far I have said little about the actual technique of the treatment. I shall first of all briefly summarise Sabouraud's method and afterwards mention some slight modifications which I have adopted in my own practice. Sabouraud's most recent formula stands as follows: "In order to cure a patch of ringworm by the x rays the patch must be placed at a distance of 15 centimetres from the centre of the tube, while at the same time a pastille of platino cyanide of barium paper is placed at a distance of eight centimetres. When the pastille has taken the tint B of the radiometer the operation is finished." For the protection of the operator Sabouraud incloses the tube in a metal case lined with ebonite and with an opening towards the patient through which the rays pass. The opening can be fitted with cylinders of various diameters but of uniform length. The area of the scalp to be treated rests in front of the open end of the cylinder. Regulating tubes are used and they are maintained at an equivalent sparking-length of from nine to ten centimetres (four inches). Midway between the scalp and the centre of the tube, in a special opening in the metal case, is placed a platino-cyanide of barium pastille. The current is then passed through the tube until the colour of the pastille matches the standard tint. The exposure is then discontinued. If the patches are few in number they are exposed separately. If they are many and scattered the whole scalp is exposed. This is done by exposing as large a circle as possible, afterwards covering it with a lead shield which exactly fits the area and proceeding over the scalp in the same way until the whole surface has been exposed. The pastille must have behind it a metallic shield which the rays will not penetrate and it must either be wrapped in black paper or the exposure must take place in semi-darkness since the original colour of the pastille is rapidly regained under the influence of daylight.

With my own cases I have been accustomed to use a shield of lead foil with a hole corresponding to the area to be exposed placed on the patient's head. The head is fixed at the proper distance from the tube by means of a simple headrest attached to the chair back. The tube may be covered with a light composition shield in order to protect the operator but the aperture through which the rays pass must be considerably larger than is usual in the shields in general use. The pastille is fixed at three and a half inches from the anticathode (or centre of the tube) and this latter point at seven inches from the scalp. A current of five ampères is passed through the primary circuit (the voltage is 24 units, part of which works the mercury interrupter). The tube is hardened by passing the current through the accessory bulb until it has an alternate spark of four inches. It is found that a current of about 0·3 milliampères is registered by the milliampèremeter in circuit with the tube itself. After ten minutes' exposure the pastille is examined and if not sufficiently dark it is replaced. The exposure usually under these conditions occupies from about 12 to 15 minutes. If the tube becomes softer, which is at once indicated by the galvanometer registering a greater milliampèrage through the tube, the exposure must be longer. With a tube of one inch and a milliampèrage of one milliampère it may even be as long as 35 minutes.[5] But the pastille will indicate exactly when to cease the exposure. After the exposure nothing is done beyond the daily application of a weak ointment of ammoniated mercury with the view to prevent spreading when the hair begins to fall. This occurs with the utmost regularity *during* the third week after the application, beginning usually on the fourteenth day. If, however, the exposure has not been sufficiently long to produce the standard tint in the pastille, depilation will be incomplete, while if the pastille is made too dark by a too long exposure there is danger of subsequent dermatitis. A little practice enables one to recognise easily the proper tint.

In the treatment of cases where the whole scalp needs depilating I at first found great difficulty in adjusting the lead shield so that no two areas overlapped and that no untreated patches were left between the exposed areas. I

FIG. 1.

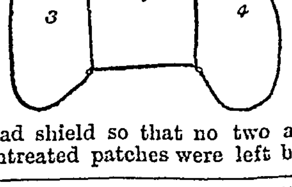
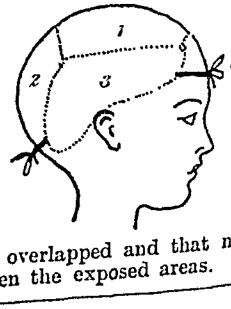


FIG. 2.



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[3] Most of the applications in this first series of cases were made by Mr. A. T. Marshall (then house surgeon to the Paddington Green Children's Hospital), to whose patience and skill the favourable results were chiefly due.

[4] While at the time of writing this I was of opinion that the readings of the milliampèremeter and the knowledge of the spark-length of the tube afforded a valuable check upon the information derived from the use of the pastille, I have since found that these measurements are not at all to be relied upon. Apart from the degree of exhaustion of the tube and the amount of current actually passing through it there are other uncertain factors which modify considerably the amount and quality of the rays emitted. Two of these factors are possibly: (1) the age of the tube altogether apart from its degree of exhaustion; and (2) the state of the atmospheric pressure or of the degree of moisture of the air (on a wet day the necessary time of exposure with any tube is found to be much shortened). But whatever the other conditions I have always found the colour change of the pastille a perfectly accurate measure of the therapeutic activity of the rays emitted.

[5] Cf. preceding footnote.

have recently overcome this difficulty by using a light frame of very fine wire so as to divide the scalp into four areas—viz , the vertex, two lateral and the occiput The framework being adjusted the line of the wires is marked on the scalp with a skin pencil so that their position may be kept constant It is then easy to surround each area to be exposed by sheets of lead foil folded round the wires The frame is made simply of three pieces of wire, as in Fig 1, and is fixed by tying with tapes at the nape and across the forehead, as in Fig 2, thus dividing the scalp into four segments Up to the present time I have treated 40 cases by Sabouraud s method, giving in all 100 exposures with the pastilles In every instance[6] the hair has fallen regularly and completely during the third week, leaving the surface quite bald and free from both diseased and healthy hairs Many of these scalps have not yet had time to recover their growth of hair but in those in which the defluvium took place more than six weeks ago the hair has begun to grow again and in all the earlier cases (both with and without the pastille) the hair growth has attained its normal condition In fact my results are in accord with Sabouraud s statements that the hair begins to grow again six weeks after the defluvium is complete and that it is fully grown at the end of three months

Provided then that the proper precautions are taken—(1) that the length of exposure is not allowed to exceed the limit set by the right use of the pastille , (2) that no area or part of any surface is exposed more than once , and (3) that the part exposed is kept at the proper fixed distance from the anticathode of the tube—there is no danger of permanent baldness or injury to the tissues At the same time care must be taken that the exposure is sufficiently long or the fall of hair will not be complete and many diseased stumps will be left behind, requiring needling or other treatment afterwards When a part only of the scalp is being treated *the remainder must be anointed frequently with* a mild parasiticide or the falling hairs from the diseased [illegible] , this is explained by [illegible] be obtained from the [illegible] [illegible]ot been killed by the action of the rays

In conclusion, there can be little doubt but that the method of treatment by the x rays is about to supersede all other methods now that, with proper care the risks of burning or of permanent baldness are no longer to be feared The period of infectivity from the time that the patient comes under treatment—i e , from the time of exposure to the completion of the defluvium—is reduced to three or four weeks Even if the cure be considered to be effected only when the normal growth of hair has taken place the length of time under treatment is not more than three or four months In the words of Sabouraud 'La teigne se guérissait en deux ans elle se guérit en trois mois '

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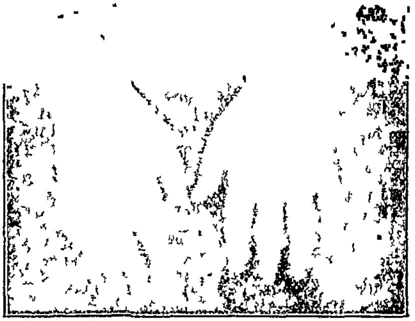
A CASE OF POLYARTICULAR "QUIET EFFUSION"

BY THOMAS BATTERSBY JOBSON, M D DUB , D P H R O P S LOND

THE subject of these notes, for which I cannot think of a better heading than the above, was a female, aged 24 years For over a year she had been under my care for symmetrical effusions of the knee, the wrist, and the first phalangeal joints of the hand, and, as this subject has lately been brought into prominence by Sir William Bennett a short account of the case may be of some interest With regard to the family history, although there was no history of swellings similar to those from which the patient suff [illegible] of rheumatism Her [illegible] and heart disease in [illegible] rheumatism An aun [illegible] previous history of the [illegible] severe headaches and f [illegible] she remembered was when she was nine years old Her wrists became greatly swollen, so much so that her friends thought she had put them out of joint The medical attendant ordered them to be wrapped in flannel and called her disease "rheumatism " The joints remained big for a long time and to the best of her recollection this attack occurred during the winter At the age of 11 years her knees became affected in the same way , they swelled but she suffered no pain and but little inconvenience Soon after this the first inter phalangeal joints of the hands became enlarged—all five joints of each hand just as they were last year when the photograph here reproduced was taken All these swellings occurred in the winter time, *sometimes not coming on till as late as Christmas, but regu*larly subsiding with the onset of summer, when practically no trace of any enlargement remained Regularly winter after winter these joint effusions recurred with more or less severity till she became quite accustomed to their yearly appearance and did not consult a medical man Occasionally joints other than those mentioned above were affected The elbows were a little swollen on one or two occasions Once she suffered from pains in the back and her mother told her that she had swellings down the spine The ankles were never enlarged, even to a slight degree Until she was 20 years of age the patient felt but little inconvenience from these annual attacks but for the last four years she had been troubled with a considerable amount of stiffness and it was this that by incapacitating her from work, caused her to seek medical advice Also for a few years a considerable amount of dyspnœa on exertion had accompanied the joint swellings During the summer she could walk and run up stairs without getting out of breath The patient had suffered on and off for years from amenorrhœa, but though she had been treated with benefit for this the joint effusions were not correspondingly improved Also her menstrual troubles came on independently of the season of the year whereas the joint affection occurred in the winter only On the first occasion on which I saw the patient she was hysterical but this was the only time that any tendency to hysteria was noticed by me



I first saw the patient in the winter of 1900 Her condition at that time was as follows Both knee-joints were distended with fluid which readily yielded fluctuation There was no redness, local heat, or tenderness on pressure Great stiffness, both in the knees and in the back, was complained of There was no œdema of the legs and the ankle joints were quite normal The wrist joints were enlarged but not nearly so much as the knees The most striking feature was the symmetrical enlargement of all the first inter phalangeal joints of both hands These looked like a row of ' white swellings ' across the fingers and kept the latter in a state of permanent abd [illegible] the same features as [illegible] appearance can be ob- the [illegible] carpo phalangeal joints tained [illegible] were perhaps a little enlarged but very slightly All the other joints in the body were normal The patient suffered from constipation occasionally and also from indigestion The urinary system was healthy the urine containing no albumin or sugar There was nothing abnormal in the lymphatic system Except the tendency to hysteria the nervous system appeared healthy. The heart was sound and there was no obvious abnormality in the circulatory system, except a slight tendency to anæmia. This, however, was slight, her conjunctivæ were by no means pale, and the general colour of the face was good. The dyspnœa could not be entirely accounted for by anæmia. The specific gravity of the blood as determined by the chloroform-benzol method was from 1050 to 1055 and this, according to the table of Hammerschlag, gives a hæmoglobin percentage of 70—a figure very little below the average for women, the blood of the female being slightly more hydræmic than that of the male.

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[6] The only exceptions were three cases in which owing to a break down in the installation the exposure had to cease before the pastille had reached the standard tint

Treatment was as follows. The swellings could be reduced by pressure but they returned as soon as the pressure was removed. Rest in bed had no effect, so after a week's trial I got the patient up, ordered moderate exercise, massage of the joints, and a mixture of iron and arsenic. In spite of treatment no real improvement in the condition of the joints took place till the spring of 1901.

Whether the swellings are due to a neurosis or whether they are caused by some form of arthritis is an interesting point and, personally, I incline to the former view. The present condition of the patient is similar to that described above. During the last winter, 1904–05, she had no swellings till March when her knees were again attacked.

The interesting points in the case may be recapitulated: the multiplicity of joints affected and their peculiar selection; the annual recurrence of the affection during the winter; the early age at which it commenced before menstruation; and the persistence of the effusions in spite of the menstrual functions being successfully treated.

Ilford.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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NOTE ON A CASE OF ANEURYSM SIMULATING DYSPEPSIA.

By R. H. CORDNER, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a man, aged 35 years, was admitted to the hospital complaining of "indigestion." He stated that for two years he had suffered from pain, usually coming on five or ten minutes after food and lasting for an hour or more. The discomfort was lessened by care in the selection of his diet but pain never quite left him and for some time previously to his admission he had restricted his diet almost entirely to fluids. The patient was a thin, worn man with a drawn, anxious face. The odour of his breath was heavy and his tongue was coated. His teeth were few and bad and he wore a plate of false teeth which he stated were not comfortable. His skin was inelastic and his bowels were constipated. His heart and lungs were sound and there was no history of syphilis.

On examination some pulsation was visible in the epigastric notch and extending over to the left of the middle line. On deep pressure over this area a sense of resistance was made out but no definite tumour. On auscultation over this region a faint blowing murmur was heard, localised to a space of about the size of a five-shilling piece. It was not heard in the iliac arteries and there was no diminution of the pulse wave. An x ray photograph gave no shadow.

Under treatment, for some time the patient seemed to improve but latterly he complained of the increasing pain both in the epigastrium and in the back. These pains rapidly became worse and often took place at times quite unconnected with food, occurring often at night and disturbing his sleep and necessitating the use of morphine. One night nearly three weeks after admission the patient suddenly died.

Necropsy.—A post-mortem examination showed an aneurysm of about the size of a small pear involving the whole of the cœliac axis artery and the anterior wall of the aorta. It lay on the spine between the two crura, close up to the aortic opening in the diaphragm and partly covered by the posterior wall of the stomach. The splenic artery came right out of the wall of the sac, the cavity of which was nearly filled with ante-mortem clot. The wall of the aneurysm had ruptured and the peritoneal cavity was full of blood. The stomach seemed quite healthy.

The curious point about this case was that almost all the symptoms were referred to the digestive organs, which, I think, were little if at all affected. The bad teeth, coated tongue, and constipation all seemed to point in the same direction. The probable explanation seemed to be in the close relation of the sac to the stomach wall. It is conceivable that food by setting up peristaltic contractions would cause pain and irritation in the sac. Bland and unirritating, easily digested foods, such as peptonised milk, would by causing less peristalsis cause less pain. This latter fact would account for the apparent improvement under careful dieting.

Aldershot.

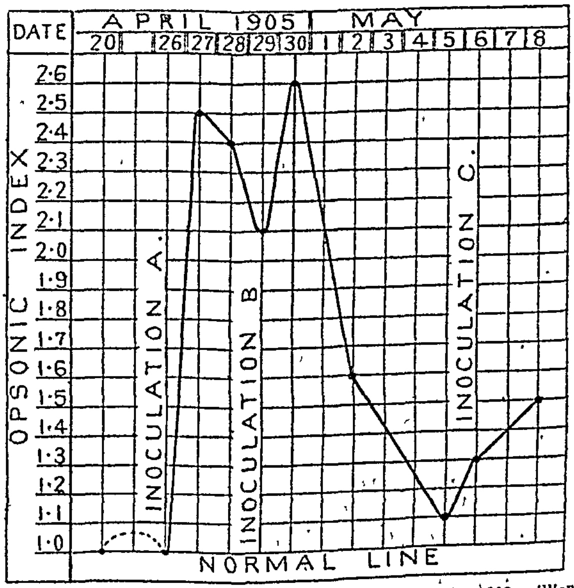
NOTE ON A CASE OF EMPYEMA TREATED BY PNEUMOCOCCUS VACCINE.

By THOMAS GLOVER LYON, M.A., M.D. CANTAB.,

PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, VICTORIA PARK.

THE patient was a man, aged 23 years, of temperate habits. On Feb. 22nd, 1905, Mr. J. L. Lawry (then house physician to the case) resected a rib, letting out two and a half pints of blood-stained inodorous pus. The acute symptoms were at once relieved but the subsequent progress of the case proved unsatisfactory. The patient remained of a bad colour and did not gain strength. The discharge became offensive and constant in quantity, about half an ounce daily. A probe could be inserted four inches into the sinus and provoked coughing. Cultures of the discharge showed a pure growth of diplococcus pneumoniæ and it was determined to try the effect of the inoculation treatment after Dr. A. E. Wright's method.[1] This was commenced on April 26th—i.e., nine weeks after the resection of rib. A record of the details of the injections and their effect upon the opsonic index of the patient's blood will be seen recorded upon the accompanying chart.

CHART OF VARIATIONS IN OPSONIC INDEX.



A, Inoculation 100 millions pneumococci. B, Inoculation 200 millions pneumococci. C, Inoculation 100 millions pneumococci.

Immediately after the first injection a remarkable change occurred in the condition of the patient. He rapidly gained strength and weight and the discharge ceased to be offensive. At the end of a fortnight after the first inoculation the wound had healed and the patient left the hospital on May 10th to resume his ten hours' daily work. It may be added that there was no constitutional or local disturbance attending the inoculations. The temperature, respiration, and pulse remained normal and no trouble arose at the seat of inoculation.

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[1] THE LANCET, August 6th (p. 411) and Oct. 22nd (p. 1138), 1904.

The bacteriological investigations, preparations of vaccine, inoculations, and determinations of variation in opsonic index were performed by Dr. G. W. Ross, house physician to the case, at whose suggestion the inoculation treatment had been adopted.

Victoria-square, S.W.

A CASE OF LUDWIG'S ANGINA FOLLOWING INFLUENZA.

BY C. ASHLEY SCOTT LEGGATT, M.D. EDIN.

THE patient, a woman, aged 37 years, was first seen on Feb. 21st. She was suffering from tonsillitis of the follicular type usually associated with influenza and of moderate severity. The case ran a normal course and the patient was practically well on the 27th. On March 15th she again sent for me as she had a swelling on the right side of the neck which she thought was due to mumps. She said that she had been fairly well during the intervening fortnight but had not felt quite herself, and first felt pain in the glands of the right side of the neck at a dinner party on the night of the 13th. On the next morning there was a swelling under the right side of the lower jaw but when seen by me on the 15th there was no swelling of the parotid nor was there anything to be seen inside the throat though the patient complained of great pain in swallowing. The temperature was normal but the pulse was rather rapid from the first. During the next few days the patient suffered a great deal of pain but remained in much the same condition and on the 25th Mr. E. Venning saw her with me and advised the removal of a septic molar tooth thinking that it might be the source of mischief. No improvement followed, the pulse increasing in frequency, and the temperature beginning to rise every afternoon to 100° or 101° F., so on the 29th Mr. C. A. Ballance saw the case with me. During this day the pain had been severe and the pulse was 140 and at times slightly irregular, and immediate operation was decided upon. One incision was carried along the anterior border of the right sterno-mastoid and another shorter one was made at the posterior border of the muscle. Scarcely any pus was found but all the cellular tissue was grey-black in colour and gangrenous. The glands, too, along the internal jugular vein were in a state of infective inflammation; some of these were removed. It was then discovered that a coagulum occupied the interior of the jugular vein from the base of the skull to the level of the thyroid cartilage. The vein was divided between two ligatures and the proximal part containing the coagulum was fixed to the skin margin. The patient made a rapid convalescence and in three weeks was able to leave for the seaside.

It is difficult to say whether the tonsil or the carious tooth was the source of the infection of the spreading cellulitis of the neck. Carious teeth or caries of the alveolar process are a well-recognised avenue through which infection of the type of Ludwig's angina may arise in the cellular tissue of the neck. On the other hand, there is no reason why such an infection may not spread from an inflamed tonsil, a condition which has been known to occur in certain malignant scarlatinal cases. In this case the septic mischief in the tooth had been going on for years and probably the supervention of influenzal tonsillitis on the top of this was the immediate cause of the cellulitis. A point of great interest in the case is the thrombosis of the jugular vein which is of great rarity in cases of septic cellulitis of the neck. To this cause may be ascribed the slow onset of symptoms and the absence of severe constitutional symptoms. The blocking of the venous channel was nature's effort to localise the inflammatory process.

Walton-place, S.W.

THE DENTISTS ACT.—At Crediton, Devonshire, on June 14th, Mr. William Baker of that town was summoned for an offence under the Dentists Act of 1878. Evidence showed that the defendant had a brass plate at his house inscribed "W. Baker, surgeon dentist, Limited." The defendant stated that he was a doctor of dental surgery of Chicago, America, and that he had never represented himself to be a registered dentist under the Act of 1878. He was fined £5 and costs. The prosecution was instituted by the British Dental Association.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

KING'S COLLEGE HOSPITAL.

A CASE OF ABSCESS OF THE LUNG FOLLOWING GASTRIC ULCER; RECOVERY.

(Under the care of Sir HUGH R. BEEVOR.)

FOR the notes of the case we are indebted to Mr. H. R. Allingham, senior house physician.

The patient, a female, aged 20 years, a domestic servant, had suffered from anæmia with much dyspepsia and constipation during the past two years, occasionally vomiting. On Feb. 24th, 1905, she sought advice for pain in the left anterior axillary line at about the ninth rib. Physical examination of the chest and the abdomen was negative and a mixture containing bismuth was prescribed. On the evening of the 26th, after a full and injudicious meal, the patient was seized with very severe pain in the abdomen, screaming out; she had the pulse of collapse and cold extremities. Morphine was given in repeated doses. Pain was localised to the splenic region with general abdominal tenderness. Next morning the pulse had recovered much, her temperature was 100° F., the abdomen was not distended, but there was no apparent movement on descent of the diaphragm. There were marked hypogastric tenderness and an appearance of menses. During the next two days her temperature rose slightly and leucocytosis was 14 000 per cubic millimetre, and Mr. F. F. Burghard was called in consultation. It was considered that the patient needed watching in hospital and she was admitted into King's College Hospital on March 2nd, 1905.

On admission the patient looked very ill, with a drawn and anxious face. Her temperature was 99·2° and her pulse was 120, of small volume. She complained of severe pain in the abdomen, mostly referred to the left iliac region. On examination the abdomen was slightly but uniformly distended, there was rigidity of the muscles of the abdominal wall, and the abdomen did not move on respiration. There was great tenderness, more marked in the left iliac region. There were slight dulness in each flank, and absence of liver dulness. Some vomiting occurred and constipation was absolute (the bowels not having acted for some days), in spite of the free use of enemata. Immediate operation was considered inadvisable on account of the length of time that had elapsed since the onset of the symptoms and the absence of symptoms localising the suppuration. The abdominal signs continued but did not increase in severity and the distension did not become greater. The pain was as before and the pyrexia ranged from 100° to 101°. By March 6th thoracic signs became evident; dulness was present on the left side from the base of the lung to the fourth rib in the axillary line and over the dull area there was loss of breath sounds, and vocal resonance and tactile fremitus. A blood count now showed a leucocytosis of 18,000. On the 9th exploration of the left chest withdrew two ounces of blood-stained serous fluid; the signs in the chest became more marked and the abdominal signs less evident, though pain continued in the abdomen. The apex beat was throughout in the fourth space, just internal to the nipple line. After the 11th the pyrexia steadily rose day by day with a feeble, rapid pulse (112), the respirations being 36, until on the 16th the temperature reached 104·4°, accompanied by a leucocytosis of 32,600 to the cubic millimetre. The pain became severe and was localised in the left side of the chest and the left shoulder. The physical signs were as before except that the mobility of the abdomen was improved. There was no cough or sputum at this stage. A second exploration withdrew a small quantity of blood-stained serous fluid containing a few cells and sterile on culture. An x ray photograph showed a slight depression and flattening of the left dome of the diaphragm and the area above the diaphragm showed a little opacity on the left side, as of a pleural effusion. The patient became drowsy and apathetic, only occasionally crying out with pain. By the 18th over the dull area tubular breathing and bronchophony were present from the third to the eighth space on the left side, and below the eighth interspace there were signs of fluid effusion as before. During the next few days her general condition became worse, a chronic deafness became more complete, and the pain in the left shoulder was severe, her temperature varying between 102° and 104·4°. Cough appeared on the evening of March 22nd and became frequent and distressing, but there was no expectoration. The pulse was feeble (140) and the respirations were 40. At last, on March 23rd, in the early morning, the patient suddenly brought up, by combined coughing and vomiting, over a pint of fluid. This was chiefly foul pus, with some stomach contents intermixed. At the same time the temperature fell from 102° to 97·4° and the patient was collapsed, with cold sweat, thready pulse (132), and respirations 52 to the minute. Stimulants were freely used and five minims of solution of strychnine were injected hypodermically every four hours. During the next few days the patient continued to cough up foul pus and this did not end for nearly eight days after the rupture of the abscess. The cough was frequent and distressing and great effort produced only slight expectoration. Pain on being moved was acute. On the 25th (two days after rupture of the abscess) signs of pneumonic consolidation appeared at the right base, with pleural frictions, and great pain was felt in the right side. Her general condition was very bad and stimulants were freely administered, combined henceforth with large doses of tincture of perchloride of iron. In view of apparent inability to cough up the pus, &c., emesis was induced with 30 grains of sulphate of zinc, but the result was not satisfactory. By the 29th in very slow stages the patient's condition had improved; the pyrexia, though very irregular, was less; and the condition of the lungs had improved, the right side resolving first. Cough continued very troublesome but expectoration became gradually merely bronchial mucus. Improvement slowly but steadily followed, only interrupted by a thrombosis of the left femoral vein which showed itself in pain and slight swelling of the limb and engorgement of the superficial veins of the leg and the thigh. The temperature did not become normal until so late as May 1st and it has continued so. At first during convalescence the heart's apex moved to the left and there were no normal breath sounds in the left lower lobe. The progress to normal sounds and rapidity of recovery of expansion of the left lung were more rapid than in cases of ordinary pleurisy. The measurement of the left chest is one and a quarter inches less than the right chest. The patient left the hospital practically quite well.

Remarks by Sir HUGH BEEVOR.—In the early days of this illness the symptoms pointed to a subdiaphragmatic abscess as much as a lung abscess, the diaphragm being evidently the site of inflammation. When the Roentgen rays localised the extension of the suppuration as being above the diaphragm any operation was precluded by the presence of serous effusion in the left pleura. In such conditions pneumothorax might have been expected to arise and cause more evil than any benefit to be gained by opening the abscess with such a complication added. But the chief interest in this case lies in the speed and thoroughness of recovery where the abscess was long in penetrating to a bronchus, where secondary pneumonia developed in the other lung, and where the patient was of poor physique. In the face of unsatisfactory results reported in many cases operated upon for pulmonary abscess the experience of this patient seems worthy of notice.

MIDDLESEX COUNTY LUNATIC ASYLUM.—On June 3rd Sir C. Francis Cory-Wright, Bart., D.L., formally opened the new asylum at Napsbury, near St. Albans, Herts. The buildings, which will accommodate about 1200, have been erected under the direction of the architect, Mr. Rowland Plumbe, and it is hoped that the needs of the county will be met for some years The buildings have, however, been so designed as to allow of future development. It is almost needless to say that great attention has been paid to the sanitary arrangements of the asylum and that everything which could add to the well-being and comfort of the patients has been carefully thought out and supplied.

Medical Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—The Onset of Fear and the Onset of Pain in Cardiac Disturbance.—Acute Cerebro-spinal Fever and Intoxication.

A MEETING of this society was held on June 7th, Professor JOHN CHIENE, the President, being in the chair.

Mr. ALEXANDER MILES showed four patients after operation for Acute Generalised Peritonitis resulting from Gangrenous Appendicitis. The patients were boys, aged respectively 9, 13, 16, and 16 years, and were all in the wards of Leith Hospital at the same time during March and April of this year. The cases illustrated the benefit which resulted from washing out the abdominal cavity with saline solution in general peritonitis. Mr. Miles had operated on 45 cases of acute generalised peritonitis associated with gangrenous appendicitis; of these 25 ended fatally and 20 recovered and in all the latter the abdomen had been washed out. Mr. Miles also exhibited a Spleen removed for Traumatic Rupture. The man is now following his usual occupation.

Mr. F. M. CAIRD showed a man after Trephining for Extradural Hæmorrhage. The patient had been found lying unconscious at the foot of a stair. There was only a slight bleeding from the ear and the case seemed to be one of cerebral laceration. A subnormal temperature lasted for three days and suggested a suppurative condition of the brain. The size of the pupils varied from day to day. Seven days after the accident the muscles of the face on the left side commenced to twitch and this soon extended to the arm and leg of the same side. On trephining over the fissure of Rolando on the right side a large, hard, cake-like blood clot, weighing four ounces, was found. Consciousness was regained almost immediately after the operation and though the ability to speak was at first poor it soon regained the normal amount. The patient recollected everything that had happened up to the moment of entering the passage leading to the stairs.

Mr. ALEXIS THOMSON showed a man who had suffered from Tropical Abscess in the Right Lobe of the Liver which had been treated by syphon drainage after the method of Sir Patrick Manson. The exploring needle having shown the presence of pus a large trocar was passed into the cavity in the anterior axillary line and at the seventh interspace and the pus was allowed to escape. A large catheter was then introduced and fixed in, while a tube attached dipped below into a vessel containing boric solution. This form of syphon drainage was established for three weeks, allowing the escape of much thick brown pus. The result was absolutely satisfactory.

Dr. GEORGE A. GIBSON showed a male patient suffering from Ophthalmoplegia Externa et Interna. The affection commenced five years previously in a slight drooping of the right eyelid and had progressively become worse. There was absolutely no movement in the right eye and in the left the superior oblique muscle had alone escaped. There was no alteration in the field of vision; all the cutaneous reflexes were exaggerated. Such cases had been described as superior tabes dorsalis. The disease consisted in a specific affection of the nuclei controlling the nerves of the eyeball.

Dr. GEORGE R. WILSON read a paper entitled "The Onset of Fear and the Onset of Pain in Cardiac Disturbance." The fears referred to were paroxysmal and transient and for the most part nocturnal—such as fear of suicide, fear of disgrace, fear of poisoning someone, fear of mis-signing a cheque, and so on. These symptoms were common in patients suffering from abuse of alcohol and tobacco. The occasion of the dread was probably a transient bradycardia. None of these dreads were of long enough duration to constitute an obsession. With these might be compared the night-terrors of children, nightmare, and the sinking sensation, and the referred pains of cardiac disease. Head's explanation of referred pains was convincing so far as it related to the sympathetic and dorsal mechanism. The primary symptom in all the above experiences was a general and more or less acute sense of uneasiness. Then followed a quick conscious effort at localisation. Both these phases and the subsequent result—a pain or a fear—should be discussed not only as mental processes but as a continuous nerve movement and as [illegible] listribution. With regard to such [illegible] aentioned it might be safely inferre [illegible] mechanism for them having well-defined connexions with the bulbar, sympathetic, and spinal mechanisms. There could be no doubt, for instance, that in the normal man there was a well-established mechanism to represent a sense of danger and that it was closely associated with the mechanism of general uneasiness which was stimulated *so frequently in* bodily diseases. In certain cases the route of the impulses from the cardiac plexus would be through the sympathetic fibres to the dorsal segment, thence to the medulla, thence to the cortex. From the mechanism for general uneasiness the route would be in some cases back to an overstimulated spinal segment where it was intercepted and *sent back again to the cortical mechanism representing*, say, the left arm, and there occurred in the intelligence a "referred pain" in the arm. In other cases a similar impulse from the cardiac plexus, after leaving the mechanism of general uneasiness, was reflected, not to a hyperæsthetic dorsal, but to a hyperæsthetic cortical mechanism and was again reflected to the mechanism of judgment and there occurred in the intelligence a "referred fear." (The term "irrelevant" might be preferable.) In both groups of cases the perversion of the impulse had been determined by a "tender" mechanism—in the one case by a dorsal mechanism which represented a "tender" surface area and in the other case by a cortical mechanism which represented a "*tender*" place in the mind; for, in the cases of transient fear before mentioned, the *fear* referred to some subject of almost constant anxiety. It was not suggested that cardiac disturbance was always the prime factor in these cases of transient terror.—Dr. T. S. CLOUSTON said that all heart pain was not attended [illegible]

[illegible] He called attention to the intimate relationship between melancholia and vascula [illegible] be poisoned *and so* mi [illegible] GIBSON said that in his [illegible] in cases of heart diseas [illegible] could recall many cases of fear, morbid anxiety, &c., in which there was no affection of the heart whatever.

Dr. ALEXANDER JAMES read a paper entitled, "Notes of Cases of Acute Cerebro-spinal Fever and Intoxication occurring recently in Edinburgh and in the Surrounding District Clinically Resembling Forms of Epidemic Cerebro-spinal Meningitis." He said that during the past 15 years he had seen serious and often fatal cases of cerebro-spinal intoxication and fever in which the ordinary causes of such symptoms could be apparently excluded and for the explanation of which some less ordinary infective or toxic agency had to be thought of. Within the past few months he had seen in the Royal Infirmary of Edinburgh and elsewhere a much larger proportion of such cases than usual. He then proceeded to sketch out the most prominent features in a few of the more interesting cases which had come under his observation. One of the patients was a boy, aged 13 years, who was found lying under a tree in a state of unconsciousness from which he could not be roused. He was pale, the pupils were dilated, the pulse was 80 per minute and feeble, his temperature was normal, and there was no paralysis. He had complained of headache previously. A few hours later twitchings of the facial muscles commenced with rel [illegible] supervened. The [illegible] some *hyperæmia* [illegible] medulla; all the [illegible] patient was a male, aged 18 years, who previously to his admission to the Royal Infirmary had suffered from broncho- or catarrhal pneumonia for 14 days. There was also a suspicion that he suffered from typhoid fever but no Widal reaction was obtainable. Examination of the sputum showed many cocci and diplococci but no typical pneumococci. On admission he could hardly be roused to answer questions; his pupils were equal, slightly dilated, and reacted to light, though slowly. On the day after his admission his temp [illegible] pulse and respiration were [illegible] r minute. Attacks resembling [illegible] ow showed themselves about every 20 minutes, with intervals of incomplete relaxation. In these intervals he complained of great pain in the head, neck, and epigastrium, due probably to cramp. Kernig's sign was markedly present; tickling the soles of the feet produced active drawing up of the legs, though knee-jerks could not be elicited. Priapism was present. Lumbar puncture was performed and 15 cubic centimetres of cerebro-spinal fluid escaped readily, indicating high tension. Marked improvement followed, the spasmodic attacks ceased, the patient's mental condition became clearer, and he was able to leave *the hospital five weeks after his admission. The fluid* obtained by puncture was quite clear and contained no organisms. Another patient was a woman, aged 24 years, who, when admitted to the infirmary, complained of great headache and was only semi-conscious; her temperature was 101·4°, her pulse rate was 124, and her respiration rate was 24. Both eyes were slightly prominent, with slight ptosis on *the left side. Kernig's sign was absent*, knee-jerks were present, and the pupils were equal and active. Lumbar puncture was performed and 22 cubic centimetres of fluid spurted out with great relief to the patient's symptoms. She made an excellent recovery. The fluid showed no excess of cells and no organisms. Another patient was a boy, aged eight years, who suddenly fell to the ground, complained of *great pain on the right side of his head*, and dragged his left leg on walking. He became dazed and partly unconscious and seemed paretic on the whole of the left side; his pupils were dilated and only slightly reacted to light. The plantar reflex was more marked on the left side than on the right and knee-jerks were absent on both sides. Four days after his seizure lumbar puncture was performed and *nine cubic centimetres of fluid were withdrawn*. From this time he gradually improved. The fluid contained staphylococcus albus and either staphylococcus aureus or citreus. Two forms of bacilli were also present, the one resembling pseudo-diphtheria organisms and the other being a short bacillus with rounded ends; no diplococci were present.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on June 14th, Dr. J. J. Pringle being in the chair.—Dr. H. Radcliffe Crocker showed a case for diagnosis of a Follicular Eruption occupying the thighs and knees of a woman aged 51 *years. The condition had persisted for six* months. Over the knees the skin was much thickened, reddened, and scaly, and this condition, together with the [illegible] s, inclined Dr. [illegible] rubra pilaris.— [illegible] probably lichen planus.—No other suggestions were offered.—Dr. Pringle showed *another case for diagnosis* of a Follicular Eruption covering the back and front of the trunk of a girl, aged 20 years, who gave the history of the eruption having lasted for five years; it was increasing in extent and was itchy. There was no evidence of seborrhœa or of excessive sweating.—Dr. Crocker, however, considered that it might nevertheless be of the nature of a sweat eruption.—Dr. J. H. Sequeira showed a case of Keratosis Follicularis (Darier's disease) of remarkable extent and severity in a woman who claimed to be of Welsh nationality. The eruption was particularly copious and pronounced upon the upper and inner surface of the thighs, upon the flexor aspect of the forearms and arms, and upon the neck and the abdomen. She had had the disease for from eight to ten years. A *section from the* affected skin was shown and the characteristic dilatation of the orifice of the pilo-sebaceous follicles by plugs of horny material was well marked. This case being only the second example of this rare disease which had been recorded in this country excited a great deal of interest.—Dr. Arthur Whitfield showed a case of Myoma Cutis in a man about 40 years of age. Numerous small tumours were grouped, somewhat like herpes, in the course of the cutaneous division of the right supra-orbital nerve. They were entirely painless, were found only in the position named, and had persisted for five years. It was a moot point whether they had appeared in the site of a previous eruption of herpes, a supposition supported by a history of original "blisters" in this position and by the very anomalous arrangement of the lesions. A section from one of the tumours was shown *at the meeting* and demonstrated that the tumour was undoubtedly composed of unstriped muscular tissue.—Dr. E. G. Graham Little also showed *a case* of Myoma Cutis in a woman, aged [illegible] who had small tumours of the size of a pea upon the neck where they had appeared in the first instance, upon the left arm and forearm, and upon the back of the shoulder. She had noticed the earliest of these about six months ago. They were perfectly painless and she suffered no inconvenience whatever from them, but they appeared to be getting larger and some fresh ones were still coming out. A microscopical section from a tumour on the neck showed characteristic muscle fibres in the deeper parts of the corium, massed together and constituting the greater part of the swelling.—Mr. George Pernet showed a microscopical specimen of Streptothrix which had been derived from a patch of Actinomycosis of the Skin from a case under the care of Dr. Crocker who explained that the patient had been an engineer who had possibly contracted the disease in West Africa where he had also contracted malaria.

MEDICO-LEGAL SOCIETY.—The terminal meeting for the session of this society was held on June 6th, Dr. F. J. Smith being in the chair.—Dr. W. Wynn Westcott read a communication on Suicide. Inquest juries only found about 1 per cent. of suicides guilty of *felo de se*; cases where no evidence was obtained as to the mental condition were regarded as temporarily insane. Patients were often prematurely discharged from asylums and the exigencies of home life led them to slay themselves. Alcoholism was the most common predisposing cause, then the presence of disease. An additional grievance or an overmastering passion was usually the proximate cause of the fatal act. The relation of the sexes was very consistent, three men to every woman. The rate of suicide per 1,000,000 of the population was constantly increasing; thus it was in 1861, 66; in 1881, 77; in 1891, 85; in 1901, 96; and in 1903, 105.—Dr. F. S. Toogood had never witnessed the fear of death in patients dying in the Lewisham Infirmary. Alcoholism, love affairs in the case of women, and the delirium of acute disease, were responsible for most attempts at suicide.—Dr. S. B. Atkinson instanced Sir Samuel Romilly as a case where an effective blood-letting led to speedy regret at the act of self-slaughter.—Dr. James Scott stated that few of those who came under him in Brixton Gaol for attempting to commit suicide could be regarded as insane. He had found that fewest of these cases were entered in February and most in July or August.—Mr. A. E. C. Franklin of the Federated Malay States instanced cases where pity, *ennui*, and even a desire to annoy had led Tamils and Chinese respectively to slay themselves.—Miss E. L. C. Appel, M.B., then read a paper on Feeling and Emotion, their Bearing upon Crime and Insanity. Self-responsibility was a purely human characteristic; to regard criminals as irresponsible robbed them of their manhood. Sensation was the function of the central nervous system; feeling of the sympathetic system. In man evolution especially concerned nerve structures which were influenced by the environment; hence remedial homes of detention were preferable to prisons for criminals. Further, in states of nervous fatigue, ill-health, and even sleep, acts might be performed which would be reprehensible at other times; the actors were not insane but were acting subconsciously. Attendants at public institutions should be chosen with great care, with a view both to watch the behaviour and to influence those committed to their charge.—Dr. Albert Wilson held the view that there was no such thing as free will; a man's impulses and desires were summed up by his intellect and called his will.—Mrs. Saunders Jacobs, B.A., distinguished the semi-conscious from the subconscious state; the brute creation at times manifested a sense of responsibility. Sensation was at the root of every faculty of the mind.—Miss Appel, in reply, said that our wills were bound by our past and to that extent were not free; we should try to improve the mental machine as it was being made in the young.

SAMARITAN FREE HOSPITAL FOR WOMEN, LONDON.—The new out-patients' department and nurses' bedrooms at this hospital were opened on June 14th by Lord Leigh, the president of the hospital, in the absence of Lord Portman, who was to have done so but who had been called to Windsor. It was now desired to instal the electric light and to erect a modern theatre to complete the hospital and a special appeal fund has been organised which will be glad to receive subscriptions. Communications should be addressed to Miss D. Royde-Smith, secretary of the Special Appeal Fund, at the hospital, Marylebone-road, N.W.

Reviews and Notices of Books.

Modern Methods of Treatment: The Open-Air Treatment of Pulmonary Tuberculosis. By F. W. BURTON-FANNING, M.D. Cantab., Physician to the Norfolk and Norwich Hospital; Honorary Visiting Physician to the Kelling Open-Air Sanatorium. London, Paris, New York, and Melbourne: Cassell and Co., Limited. 1905. Pp. 176. Price 5*s*.

THE benefits of the open-air treatment are now generally recognised. Although there are certain advantages, both from a curative and an educational point of view, to be obtained by residence in a regularly constituted sanatorium, nevertheless the treatment can be perfectly well carried out in private houses. In agreement with some other authorities Dr. Burton-Fanning maintains that the conditions which are absolutely necessary for the satisfactory adoption of the open-air system are to be found almost everywhere outside our cities. We regard this statement as rather too sweeping. The site of the building in which the treatment is to be carried out has to be selected carefully in regard to shelter from prevalent winds and a dry soil is obviously better than a moist one.

The early chapters of this book are occupied with certain etiological and clinical considerations and allusion is made to the differences in tractability to treatment which distinguish the various forms and stages of pulmonary tuberculosis. The importance of the early recognition of the disease is duly insisted on, for the success of the treatment is more dependent on the case being taken in hand at the very commencement of the malady than on any other one point. The remarks on this subject are well worthy of perusal. If there are found the assemblage of signs and progression of symptoms characteristic of pulmonary tuberculosis no difficulty will be experienced in arriving at a diagnosis, but certain symptoms may precede the physical signs or the latter may be anomalous and then grave doubts may arise which will be the cause of considerable anxiety to the practitioner.

In the chapters devoted to a consideration of the details of the open-air treatment the routine generally adopted in the case of a patient who is just embarking on such a course is first described. One of the principal points discussed is, Should the patient be wholly confined to bed or should he be allowed up for the whole or part of the day in the bedroom or out of doors? The answer to this question is chiefly supplied by the observation of the patient's temperature, but other points have also to be observed, more especially the rate of the pulse and the condition of the digestive system. Dr. Burton-Fanning's observations on these and other matters afford much valuable information and will greatly help those practitioners who have had no practical experience of sanatorium life. The treatment of the convalescent patient is equally well discussed and the daily routine is carefully laid down. The chapter on diet in the treatment of pulmonary tuberculosis is also a valuable one. Dr. Burton-Fanning objects to the "over-feeding" which was once in vogue. In this opposition we believe he is right. Success in sanatorium treatment depends largely on "individualisation"—that is to say, each patient must be studied separately and "is a law unto himself." Particularly is this the case in regard to diet; we agree with the author when he says: "Our object in the dietetic treatment of pulmonary tuberculosis is to bring the patient's nutrition up to a standard which is judged to be consistent with the highest level of general health and at the same time to improve digestion and assimilation." This can only be done by placing each patient on such a diet as he can properly digest and assimilate.

Another matter that has been too much lost sight of in the past is rightly emphasised in this work—namely, that the majority of the inmates of a sanatorium require life-long care and assistance if their recoveries are to be maintained. This is a subject that naturally bristles with difficulties and is at present receiving a good deal of public attention.

Dr. *Burton-Fanning* adduces some arguments in support of the contention that not only are elaborate buildings unnecessary but that they provide less efficient treatment than more primitive forms of accommodation. There is much to be said in favour of this suggestion when the patients to be dealt with are limited in number, but when upwards of a hundred have to be treated in the same sanatorium then we believe that the administration will be greatly aided by adopting the block or pavilion system.

A System of Practical Surgery. By Professor E. VON BERGMANN, M.D., of Berlin; Professor P. VON BRUNS, M.D.,
of Tübingen; and Professo
Translated from the Gerr
BULL, M.D., Professor of
and Surgeons, New Yoı
Norgate. 1905. Five volun
the text and 102 full-page plates in colours and monochrome. Pp. 4174. Price: extra cloth, £6 6*s.*; half leather, £7 7*s.*; half morocco, £8 8*s.*

THE mere statement of the number of the pages of this system of surgery will of itself suffice to show the elaborate nature of the work. More than 4000 pages of text and more than 2000 illustrations should surely be sufficient for the thorough description of the practice of surgery. The work in its German dress is well known to medical science throughout the world and it was therefore with no small degree of interest and curiosity that we turned to this presentment of the treatise. This is not merely a translation from the German; the work has been edited by Dr. Bull after the translation had been made from the revised second German edition, and the translators are all men of recognised position in surgery and they have added descriptions of methods of practice preferred by English or American surgeons, so that we have the benefit of these additions to the original work. The editor has done his work so well that the new matter has been thoroughly incorporated with the old and the two can rarely be distinguished the one from the other. For this reason we shall not attempt to discriminate between the original and the added matter in the criticisms which we may have to make.

First, as to the translation; it has been well executed so that it is generally difficult for the reader to recognise that he is reading a translation. There is, however, one matter with regard to which we must take exception. In many sciences, although the corpus of the science is identical in all the countries of the civilised world, the names in use in that science may differ considerably, and to this general rule the science of surgery is no exception. Many terms and expressions which are to be met with in surgical treatises in German are almost meaningless in the ears of an English surgeon unless he has an acquaintance with German surgical literature. We will give some examples of what we mean. Fig. 124 is entitled "Struma in Graves' Disease." What will most English-speaking surgeons understand by this? They will not know that in German "struma" is used for enlarged thyroid, seeing that the word is never thus used in English. Again: "If in a double cleft the union has occurred with a short philtrum, a marked shortening in the centre of the lip is the result." To the average reader what idea will the word "philtrum" give? Deficiencies of translation such as these are blemishes which could easily have been removed by the exercise of a little care. There are many real slips which mar the pages of the work. For instance: "The most important thing about this method, [taxis] is that it should not be fractured too energetically." Then we find the expression "labium majora." Again, "If the partitions between the two halves of the allantois fails a double bladder will be the result." Here the meaning may be guessed but the wording is at least curious. We are also informed that "unlike tuberculosis syphilis of the testicle is usually situated in the testis." We do not dispute this fact at all but its statement seems somewhat unnecessary. Of course, the real meaning is that tubercle attacks the epididymis while syphilis attacks the body of the testis. We have quoted these errors not to find fault with the work itself, which is deserving of the greatest praise, but merely to point out that a little extra revision would not have been misplaced.

We will now examine a few of the statements of the book with which we do not agree. In the description of the treatment of enlarged prostate no mention is made of the modern operation of the enucleation of the prostate through a suprapubic cystotomy wound. This is an important omission, for in this country at least this method of treatment is rapidly replacing all others. The origin of varicocele is still referred to the fact that the left spermatic vein enters the left renal vein at a right angle; and the author somewhat mysteriously adds "the pressure in the vena cava is distinctly less than that in the left inguinal vein," though what this has to do with the matter is entirely beyond our comprehension. Two other reasons are also given for the greater frequency of left varicocele: the fact that the left testis hangs lower than the right and that the left cremaster muscle is more stretched and less powerful than the right. These are very inadequate causes. The main reason is the pressure of a distended sigmoid flexure on the left spermatic vein.

In the section on the Diseases of the Mammary Gland we find the following sentence: "Kocher's report of eight cases in which the cancerous nodules of the breast were only partially removed shows how careful one should be in judging of the value of these statistics; six of these showed no signs of recurrence after three years." It is possible that this is only an error of the translator and that the author wrote that only the cancerous nodules were removed. As it reads now it can only mean that portions of the malignant growth were left behind, and yet recurrence took place in only 25 per cent. of the cases.

With a notice of one very striking passage we will conclude. In the account of the treatment of cleft palate we read, "although Wolff has shown that the operation may be performed still earlier, even in the first month of fœtal life......." We must acknowledge that we have never heard of the operation being performed at this early age and we should be glad to receive information on two or three points. In the first place, how is the diagnosis of a cleft palate made within the first month of fœtal life? secondly, is the operation done suprapubically or per vaginam? and thirdly, what is the prognosis for the mother and child? We may also mention that we were under the impression that the union of the two halves of the palate did not commence till the eighth week of fœtal life and therefore an operation for the closure of the cleft within the first month might often be supererogatory. A consideration of the size of the embryo at this early age does but serve to enhance our admiration of the skill of the operator. In the words of Goldsmith, slightly modified, let us add: "And when he next doth perform this operation may we be there to see." We would not have it thought that the passages which we have criticised are typical of the whole work. With the treatise generally we are well content and we regard it as a valuable exposition of modern surgery.

The main characteristics of the System are the fulness with which the subjects are treated and the wealth of illustrations. Many of these are in colours and are very successful examples of colour-printing. The vast majority of the articles are very good but we desire especially to praise those on Injuries of the Head and Diseases of the Breast.

The Preparation and After-Treatment of Section Cases. By W. J. STEWART MCKAY, M.B., M.Ch., B.Sc. Sydney, Senior Surgeon to the Lewisham Hospital for Women and Children, Sydney. With 10 plates and 134 drawings. London: Baillière, Tindall, and Cox. 1905. Royal 8vo, pp. 672. Price 15*s.* net.

To every surgeon the preparation and after-treatment of his abdominal cases must be a matter of the utmost importance, but whether the subject is so important as to warrant a volume of 672 pages being written about it may well be questioned. We cannot but admire the painstaking care with which Dr. McKay has compiled this book and it undoubtedly contains a great deal of most valuable information. The author, as he truly says in his preface, has set down anything and everything that will be a help to the young surgeon. The result is, as he himself admits, that the work has assumed undue proportions, yet there is but little we would wish to see omitted. Acting on the advice of the late Mr. Lawson Tait the author made himself acquainted with the work done in many of the clinics on the continent and he has embodied the knowledge thus gained in his work. The first 19 chapters are devoted to an account of the preparation of the patient, the sterilisation of instruments and dressings, the furnishing of theatres, and other details of antisepsis and asepsis. The next ten chapters are concerned with the after-treatment of the patients and the conclusions to be drawn from observations on the pulse, temperature, tongue, and so on, while the rest of the work deals with the various complications which may follow an abdominal section and their treatment.

In the chapter in which the fitting out of an operating room is considered stress is laid on the many advantages of moveable wash-hand basins over fixed ones. This is really an important point and even at the present time modern theatres are fitted with fixed hand basins which are almost impossible to clean and which can never be sterilised. The different methods of sterilising catgut are described at considerable length. The author acknowledges that he has lost a case from the use of this material and yet he appears still to employ it. For our own part we do not think that its advantages counterbalance the great difficulties experienced in completely sterilising it. Dr. McKay uses gauze sponges but he does not mention the very useful and safe method of using sterilised gauze as sponges in rolls sufficiently long to prevent their being lost in the abdominal cavity. Many operators now always use these in abdominal surgery. For disinfection of the hands the author recommends Lockwood's method of employing a solution of biniodide of mercury in spirit. He is strongly in favour of rubber gloves.

The part of the book which we consider most valuable is that dealing with the after-complications of abdominal sections. Dr. McKay has made a point of very carefully watching his cases and his descriptions of the symptoms, diagnosis, and treatment of those dreaded sequelæ severe shock, hæmorrhage, septic infection, and peritonitis are particularly good. Other chapters, too, which bear evidence of the author's accurate powers of clinical observation are those on the tongue, the pulse, the temperature, and the respiration. Dr. McKay has come to the conclusion that the only purgatives of any value in the treatment of cases of abdominal section are calomel, elaterium (best combined with the calomel), sulphate of magnesium, croton oil, and castor oil. He suggests the fact that calomel so often fails to act by itself is due to the great care with which it is manufactured at the present day. When the cheaper varieties containing some sublimate are employed it acts much more effectually. Schmiederberg, further, has pointed out that calomel acts chiefly on the intestinal ganglia and these are often partially paralysed and difficult to stimulate, especially in cases of shock or peritonitis. Dr. McKay finds that a combination of three grains of calomel and two grains of pulvis elaterini compositus acts most efficiently. In the treatment of the wound after removal of the stitches the mortise and tenon method of applying strips of plaster is described but nothing is said of the much better and more efficient plan of applying a many-tailed binder of strapping completely round the abdomen.

In discussing ileus and pseudo-ileus the author states that he believes, in contradistinction to Treves and others, that if even a small annular section of the bowel loses its contractility it is capable of acting as a complete obstruction to the passage of its contents and so an ileus or a pseudo ileus may be produced. He maintains that since true peristaltic contraction is a coördinated reflex carried out by the local nerve centres in the wall of the gut, the paralysis of a segment of the gut will prevent that augmentation of contraction above and inhibition of contraction below any point which are necessary before any object in the bowel can be moved on.

Some of the most interesting of the remaining chapters are those on peritonitis and its treatment, post-operative adhesions and intestinal obstruction, foreign bodies left in the peritoneal cavity, and post-operative hernia. The book is one which we can recommend strongly to every surgeon as even the most experienced will not fail to learn something from its perusal.

LIBRARY TABLE.

The Preparation and Mounting of Microscopic Objects. By THOMAS DAVIES. Edited by JOHN MATTHEWS, M.D. Edin., F.R.M.S. London: C. A. Pearson, Limited. 1905. Pp. 214. Price 2*s.*—This is a new edition of a well-known little book, the first edition of which was published in 1863, and it will be found extremely useful to all beginners in microscopy and for general work with the microscope. It is stated in the preface that additions have been made in order to extend "the usefulness of the book to a new class of readers—the medical student and the junior medical practitioner. To this end, besides other matter, a brief prefatory chapter has been added embracing the elements of preliminary histological manipulation." The references to blood and method of staining, for example, are, however, too brief for the purposes of the present-day medical student, while the biologist and the histologist will naturally refer to larger works. On the other hand, the book contains almost everything which the general, as distinct from the particular, student of microscopy may desire to know, and several useful suggestions are given for the improvising and making of home-made accessories. There are a good index and a few illustrations. So much excellent matter is provided at a low price that it is, perhaps, ungrateful to ask for more, but the addition of a chapter on the microscope itself would have made the book of still greater practical value.

Handbook of Travel-talk: Being a Collection of Questions, Phrases, and Vocabularies in English, French, German, and Italian. Nineteenth edition. London: Edward Stanford 1905. Pp. 688. Price 3*s.* 6*d.*—This small volume is intended as a pocket companion for ready reference and in apology to scholars the preface says at the outset that "even a scholar, who is able to read foreign works with tolerable facility, may find himself at a loss when he comes to attempt the colloquial phraseology of the roadside or the terms belonging to any particular art, science, or profession." The truth of this remark is well known to any of us who, with an academical knowledge of the language, have *attempted to travel in a foreign country.* The handbook is replete with information upon all practical points and quite up to date, a section having been added especially dealing *with motoring*. *In this* connexion the phrase, "I see a policeman; go slowly," is decidedly significant and proves that the salutary police-trap does not exist only on the *Brighton and Bath roads. The* book would be a most useful companion to any English traveller on the continent. By the way, why is develop twice on one page spelt with a terminal "e"?

JOURNALS AND MAGAZINES.

Edinburgh Medical Journal.—The June number opens with an address by Professor J. Chiene dealing with the origin of tumours which he attributes to developmental defect—an excess of "maternal influence," the exact meaning of which is not very clear. An interesting paper on the Medico-Legal Relations of Intemperance is contributed by Dr. Stanley B. Atkinson, barrister-at-law. Mr. O. Ernest Pronger sets forth views similar to those recently urged by him in our columns (THE LANCET, June 10th, 1905, p. 1573) as to the far-reaching effects upon health of errors of refraction and gives notes of some cases illustrating this source of trouble. Dr. Walter Ker records certain facts which, in his opinion, tend to throw doubt upon the conveyance of small-pox by the air to districts in the neighbourhood of a small-pox hospital.

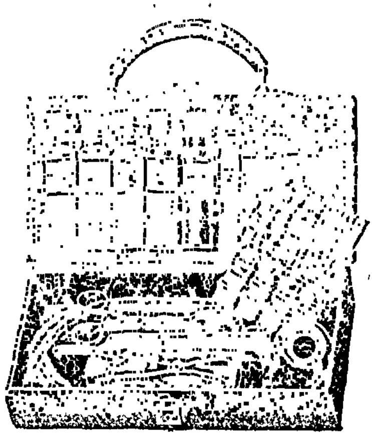
Scottish Medical and Surgical Journal (June).—An interesting address delivered to the Odonto-Chirurgical Society of Scotland by Dr. G. Lovell Gulland upon neuralgia forms the principal feature of this issue. The relation of pain to morbid conditions of the mouth is discussed and illustrations are added showing the distribution of such referred pain in the case of individual teeth. Dr. A. H. F. Barbour narrates a case of climacteric hæmorrhage due to sclerosis of the uterine vessels and refers to the literature of this condition, which is of some importance in that curetting is incapable of effecting permanent arrest of the bleeding and hysterectomy is necessary. Mr. Alfred A. Young records some cases of perforated gastric ulcers in which recovery occurred either with or without operation.

Birmingham Medical Review.—In the May number of this review is contained the first of the Ingleby lectures upon Mentally Defective Children, by Dr. James Kerr. It is full of interest, dealing as it does with conditions leading to defects of speech and of allied functions. The curious condition known as moral imbecility is also alluded to. We hardly think, that the term "ammoral" as a synonym of non-moral has much merit, and we hope that other writers will not be tempted to adopt it. Dr. Alex. Findlay continues his exposition of the application of physical chemistry to medical and biological science and gives some illustrations of the application of the theory of ionisation to explain physiological phenomena. Dr. W. Arthur Foxwell writes a short note upon insomnia, especially that occurring in gouty subjects, and the possibility of treating it in some cases without the administration of hypnotics.

New Inventions.

AN EMERGENCY POISONING CASE.

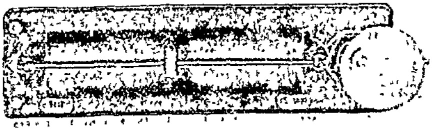
CASES of acute poisoning occur not infrequently in which proper treatment at the time would result in the saving of life or the averting of serious consequences. Ready and effective measures are indicated to obtain satisfactory results in such cases and the general practitioner is sometimes not in a position to take these measures. In order to supply this want I have recently devised an emergency case, an illustration of which is here given. The case is compact and handy and neatly finished in black leather. Its outside dimensions are 12 inches long, four and a quarter inches wide, and six inches high. The contents are as follows: one stomach tube, one tongue forceps, one mouth gag, one two-ounce glass syringe, and one hypodermic syringe. It also contains large bottles of magnesium sulphate, of zinc sulphate in 20-grain powders, powdered mustard, calcined magnesia, and chloroform. The one-ounce vials contain amyl nitrite, alcohol, dialysed iron, acetic acid, oil of turpentine, and aromatic spirit of ammonia. The half-ounce vials contain powdered ipecacuanha, powdered opium, potassium bromide, chloral hydrate, and potassium permanganate. The hypodermic tablets are of strychnine sulphate, morphine sulphate, pilocarpine muriate, apomorphine hydrochlorate, nitroglycerine, digitalis, and atropine sulphate. The case also contains a manual on acute poisoning, giving special symptoms, simple tests, chemical *antidotes*, *physiological antagonists*, and treatment.



New York City. JOHN W. WAINWRIGHT, M.D.

A RHEOSTAT FOR USE WITH THE CYSTOSCOPE.

THE accompanying picture illustrates the rheostat made for me by Mr. Trotter of Glasgow which I have found most useful whenever electric light is available, as it saves carrying secondary batteries. The rheostat works in connexion with the ordinary electric light and is reduced through a 50 candle-power lamp, so that a steady cystoscopic light is maintained without the anxiety of failure which so frequently occurs with secondary batteries. The cost of the rheostat is only 30*s.* and it is easily carried in an ordinary small operating bag. It has been so useful to me that I write this short note recommending it.



J. CRAWFORD RENTON, M.D. Edin.,
Surgeon and Lecturer on Clinical Surgery, Western Infirmary, Glasgow.
Glasgow.

SANITATION AND THE PANAMA CANAL.

THE SOLUTION OF CERTAIN CLIMATIC AND HYGIENIC PROBLEMS.

By John George Leigh.

III.[1]

Many circumstances conspired to lighten the task imposed upon the Health Department in the Panama Canal Zone. Indeed, it is not too much to say that, had they been vested with larger authority and more generously provided with funds, the chiefs of this department could not have been better situated for solving the important problems with which it was, and remains, their duty to cope. There is nothing mysterious or doubtful about the diseases which they are called upon to combat; these have been so closely studied during recent years that there no longer exists considerable uncertainty as to their causes and the best means of treating and controlling them. As a matter of fact, among the medical staff now in authority in the Isthmus are men of world-wide reputation in connexion with these very diseases and tropical sanitation generally. The climate and associated local conditions are noisome, as has been demonstrated, but their worst effects are well understood, and the data available respecting earlier disappointments and failures should now be invaluable as guides and warnings. Most important, however, of all the advantages referred to are those associated with the political conditions ruling in the Canal Zone. One of the leading purposes of the creation of this territory was to secure for the United States authorities ample opportunity for putting in force such sanitary rules and regulations as might be deemed necessary during the construction of the canal, and subsequently, for the preservation of public health. This will be sufficiently demonstrated by the following excerpts from the treaty between the United States and the Republic of Panama, which came into operation early last year:—

> Article II.—The Republic of Panama grants to the United States in perpetuity the use, occupation, and control of a zone of land and land under water for the ...... sanitation and protection of said canal ...... extending to a distance of five miles on each side of the centre line of the route of the canal to be constructed, the said zone beginning in the Caribbean Sea three marine miles from mean low-water mark and extending to and across the Isthmus of Panama into the Pacific Ocean to a distance of three marine miles from mean low-water mark—with the proviso that the cities of Panama and Colon and the harbours adjacent to said cities, which are included within the boundaries of the zone above described, shall not be included within this grant. The Republic of Panama further grants to the United States in perpetuity the use, occupation, and control of any other lands and waters outside the zone which may be necessary and convenient for the ...... sanitation and protection of the said enterprise. The Republic further grants in like manner to the United States in perpetuity ...... the group of small islands in the Bay of Panama, named Perico, Naos, Culebra, and Flamenco.
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> Article III.—The Republic of Panama grants to the United States all the rights, power, and authority within the zone mentioned which the United States would possess and exercise if it were the sovereign of the territory within which such lands and waters are located, to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority.
>
> Article VI.—All damages caused to the owners of private lands or private property of any kind by reason of ...... the works of sanitation and protection herein provided for shall be appraised and settled by a joint commission appointed by the Governments of the United States and the Republic of Panama, whose decisions as to such damages shall be final and whose awards as to such damages shall be paid solely by the United States. ...... The appraisal of said private lands and private property and the assessment of damages to them shall be based upon their value before the date of this convention.
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> Article VII.—The Republic of Panama grants to the United States within the limits of the cities of Panama and Colon and their adjacent harbours and within the territory adjacent thereto the right to acquire by purchase or by the exercise of the right of eminent domain, any lands, buildings, water rights or other properties for the construction, maintenance, operation, and protection of ...... any works of sanitation, such as the collection and disposition of sewage and the distribution of water in the said cities of Panama and Colon which, in the discretion of the United States, may be necessary and convenient. ...... All such works of sanitation ..... shall be made at the expense of the United States, and the Government of the United States, its agents or nominees shall be authorised to impose and collect water rates and sewerage rates which shall be sufficient to provide for the payment of interest and the amortisation of the principal of the cost of said works within a period of 50 years and upon the expiration of said term of 50 years the system of sewers and waterworks shall revert to and become the properties of the cities of Panama and Colon respectively, and the use of the water shall be free to the inhabitants of Panama and Colon, except to the extent that water rates may be necessary for the operation and maintenance of said system of sewers and water. The Republic of Panama agrees that the cities of Panama and Colon shall comply in perpetuity with the sanitary ordinances, whether of a preventive or curative character, prescribed by the United States; and in case the Government of Panama is unable or fails in its duty to enforce this compliance by the cities of Panama and Colon with the sanitary ordinances of the United States the Republic of Panama grants to the United States the right and authority to enforce the same.

It will be evident from the above that so far as treaty rights and authority are concerned the United States Government has everything in its favour, and that there was ample justification for the opinion expressed by Dr. W. C. Gorgas soon after his appointment as head of the health department that the conditions were such that "we ought to be able to get up a model sanitary department," rivalling on a small scale the most efficient and best-equipped of any modern nation. The Canal Zone, or territory immediately under the jurisdiction of the United States, consists of rather less than 500 square miles, with a population, exclusive of the canal staff but including many labourers on the works, of, according to a quite recent census, 9742. Of these people 807 live at La Boca and 540 at Ancon, which may be described as suburbs of the city of Panama; 1393 at Culebra and 933 at Emperador, in the neighbourhood of the great mountain cutting; 668 at Gorgona and Matachin; 723 at Bohio and the small adjacent villages; 555 at Gatun, and 1160 at Cristobal, in the vicinity of Colon. The cities of Panana and Colon, with populations of, respectively, 20,262 and 7214, are equally under American authority so far as health and sanitation are concerned; consequently, if we take into consideration recent immigration (see Table V.) and the probable demands of contractors and engineers it may be anticipated that a year hence the population along the canal line will exceed 50,000 and possibly even reach 60,000.

Table V.—*Immigration into the Canal Zone and Cities of Panama and Colon from July 1st to December 31st, 1904.*

Month.	Arrivals.	Departures.	Excess of arrivals.
July	1680	762	918
August	2724	1920	804
September	1569	1242	327
October...	1776	1104	672
November	1876	1558	318
December	2431	1828	603
Totals...	12,056	8414	3642

The French canal companies, it should be remembered, possessed no police powers and were therefore unable to exercise other than moral suasion (a frail reed on which to rely in such a campaign) upon the inhabitants along the canal route to cleanse their reeking villages and to observe the elementary laws of health. All they could do was to devote considerable sums of money to the erection and maintenance of hospitals for the treatment of their employés and occasionally other denizens in the Isthmus. During the first years of its existence the New Company devoted very considerable attention to the improvement of sanitary conditions, but more recently, thanks to its uncertain tenure of the canal property and the disturbed state of the country, its zeal very sensibly abated. Thus it happened that when the control of the enterprise passed to the United States the towns and villages along the canal line were more than normally filthy, while the hospitals were almost completely denuded as regards both staff and supplies. Fortunately there was at that time no prevalent sickness on the Isthmus; during the preceding 12 months there had been a few cases of yellow fever and small-pox, considerable mortality caused by consumption, but no cholera or plague. During the early months of 1904 the total deaths reported in Panama were: in January, 92; in February, 95; in March, 94; and in April, 63. Of these, beri-beri accounted for 16; dysentery for 17; malaria for 11; "fever," unclassified, for 47; tuberculosis for 46; and yellow fever for 4. The deaths from the last-mentioned disease during the years 1901, 1902, and 1903 were respectively 11, 182, and 48, the large mortality in 1902 being attributed to the presence in Panama of many soldiers, non-immunes, from the mainland of Colombia. It was found that in Colon the most common and fatal disease was

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[1] Nos. I. and II. were published in The Lancet of June 3rd (p. 1530) and 10th (p. 1597), 1905, respectively.

[illegible] and [illegible] discovered, on taking possession of the properties of the canal company, that two of the hospital wards at Ancon were being used by a local society [illegible] with sickness at Panama. [illegible] ir condition and demanded [illegible] and minor alterations to be adapted to modern requirements. Their existing capacity was about 500 beds, but in case of emergency sufficient ward space was available for 200 additional beds. The hospital, which is built on the pavilion plan, is admirably situated, well elevated above the city, and surrounded by beautiful grounds. A less satisfactory report was forthcoming respecting the condition of the company's hospital at Colon, but the work of remodelling and putting into proper repair the various buildings is now, it is understood, complete, as also is the transfer to this institution of a second hospital at Colon heretofore under the control of the Panama Railroad Company. It was believed by the Canal Commission of 1904 that hospital buildings providing accommodation for 300 beds would meet all requirements at the Atlantic terminal of the canal; to-day, however, the situation is of such character as to demand the early erection of another hospital and an expenditure of $40,000 for this purpose has quite recently been sanctioned. Some years ago a large building was erected on the island of Taboga, in the bay of Panama, for the benefit of convalescent canal employés. This has been repaired by the American authorities and will soon, it is believed, be put to its former use.

Scant attention appears to have been paid by the native government of the Isthmus to the care of the afflicted or indigent population. In the city of Panama there is a municipal institution known as the Hospital San Tomas, to the small income of which patients contribute at fixed rates dependent upon their financial position. There is also in the same city an almshouse, the Asilo de Bolivar, with accommodation for about 70 inmates, hopelessly indigent or afflicted with chronic ailments. These buildings were found to be in a very unsatisfactory condition, which, however, has recently been somewhat improved. Up to last year the local government made little or no provision for the care of lepers or of the insane but in accordance with an agreement arrived at in December progress is now being made with the erection of a hospital by the Canal Zone authorities, to which the Republic of Panama may send persons insane or afflicted with leprosy and the indigent sick upon payment of a certain rate per capital. By the same and other agreements the Panama authorities granted to the United States complete sanitary and quarantine control over the cities and ports of Colon and Panama and power to exclude from the Canal Zone and other places under American jurisdiction any persons whose presence may be deemed to endanger the public health or in any manner impede the prosecution of the work of opening the canal.

Among the first acts of the late Canal Commission were the constitution of a Health Department as a sub-department of the Canal Zone government and the selection of two of their number, Mr. C. E. Grunsky and Mr. W. H. Burr, as a special committee on sanitation. It was arranged that the affairs of the department should be administered by a Board of Health of four members—namely, the chief sanitary officer (with authority as executive head of the department), the director of hospitals, the chief quarantine officer, and the chief sanitary inspector of the Canal Zone. Dr. W. C. Gorgas, Colonel, United States army, was appointed chief sanitary officer, with headquarters at Ancon; Dr. John W. Ross, United States Navy, director of hospitals, stationed at Ancon; Dr. H. R. Carter, of the United States Health and Marine Hospital Service, chief quarantine officer; Dr. Louis A. LaGarde, Major, United States Army, superintendent of the Ancon Hospital; Dr. L. W. Spratling, Surgeon, United States Navy, superintendent of the Colon Hospital; Mr. Joseph Le Prince, chief sanitary inspector of the Canal Zone; an [illegible] Dr. A. N. [illegible] of Colon, [illegible] and Dr. L. [illegible]

An engineering force was also organised for the special purpose of designing and constructing waterworks and sewer systems for the cities of Panama and Colon. To supply water to the former it was decided to build a reservoir at the headwaters of the Rio Grande, about ten miles from the city, and thence to convey the water in a 16-inch cast-iron pipe to a distributing reservoir having a capacity of 1,000,000 gallons constructed on the summit of a hill at Ancon. This water-supply system, which will, I understand, be shortly in operation, has been designed on the basis of a minimum supply per diem of 60 gallons per head for a population of 30,000. It is possible that eventually the chief source of supply for both Panama and Colon and the entire Canal Zone between these terminal points will be the reservoir formed by the great dam to be constructed at Gamboa or elsewhere for the purpose of controlling the Chagres floods. A very complete sewer and drainage system, estimated to cost £52,870, has been designed for the city of Panama and considerable progress is reported as regards its construction.

Greater difficulty and delay are involved in the case of kindred works at Colon. This city is built upon a flat sandy island, no part of which is more than a few feet above mean sea level; indeed, considerable portions are covered with water at high tides. Some years ago the Panama Railroad Company built a small reservoir near Mount Hope, about two and a half miles from the city, and from this water of indifferent character has been, and is still, supplied to what may be described as the official quarter of Colon, the remainder of the population having to content itself with rain water falling upon the corrugated iron roofs and buildings and collected in tanks. At the time of the last available report on the subject the problem of a water-supply for Colon seemed yet unsolved. The same must also be said concerning the design of an efficient system of sewers. The difficulties connected with this will probably have to be met by raising the general surface of the town and utilising for this purpose the excavation from the inner harbour constituting the entrance to the canal. Until recently the authorities appeared justified in regarding the delay as of less moment than would have been equivalent troubles at Panama, for Colon, once reputed to be even more dangerous to health than the Pacific city, enjoyed during the years 1893–1904 comparative immunity from infectious diseases and, indeed, quite escaped the yellow fever epidemics of 1897, 1899, and 1900. This has been attributed by Dr. Lacroisade and others to the minor sanitary works executed in the early "nineties," the filling up of the small swamps in and about the city, and the cleaning of streets which formerly were "veritable sewers," and up to last year, in the opinion of a majority of visitors, continued to merit the same description. Whatever be the value of these explanations as regards the past it is now certain that there should be no undue delay in materially improving the health conditions of the city, for, in addition to a general death-rate higher than for many years past, Colon has recently been visited with an outbreak of yellow fever peculiarly fatal to prominent canal employés, among the victims being Mr. Johnson, the chief architect, and Mr. West, the auditor.

It became evident to the United States authorities, immediately after the transfer of the canal property, that their first duty was to protect the Isthmus from the introduction from abroad of infectious diseases, and that this could only be done by acquiring control of the quarantine and strictly enforcing the necessary regulations. At Panama especially the inspection of shipping had hitherto been very lax, nor did there exist any equipment for the disinfection of vessels or isolation of infected cases. Fortunately, the Panama Government raised no objection, and on May 24th Dr. Claude Pierce was appointed quarantine officer for the port of Panama pending the arrival of Dr. Gorgas. It was not, however, until July 1st and 16th respectively that the Commission assumed control of the quarantine at Panama and Colon. A record of the principal work at these ports from the dates mentioned to the close of the year will be found in Table VI, to which might be added a note concerning the sanitary supervision of the hulks and tenders in the harbours and wholesale destructions of rats, by poison, traps, and fumigation.

Apart from the quarantine service and hospital work, to which fuller reference will presently be made, the energies of the Health Department have been mainly directed to improving the sanitary conditions in the terminal cities and along the canal route. This has very properly been regarded as an indispensable duty, preliminary to the introduction of the army of labourers required for the completion of the entei [illegible] can [illegible] for tl [illegible] of work so [illegible]

TABLE VI.—*Maritime Quarantine Work at the Ports of Colon and Cristobal and the Ports of Panama and Ancon.*

—	July 16th to 31st.	August.	September.	October.	November.	December.
Colon and Cristobal.						
Vessels inspected and passed	20	31	43	40	43	41
Total number of crews inspected	1424	2395	2884	2377	3139	2662
otal number of passengers inspected	888	1847	1445	1951	1885	2719
Persons held under observation to complete period of incubation of yellow fever ...	10	11	—	19	21	11
Persons detained on board ship for refusing to comply with vaccination ordinance	—	—	2	—	—	—
Persons vaccinated	1	—	22	93	120	144
Panama and Ancon.						
Vessels inspected and passed ..	12	13	13	12	11	13
„ detained in quarantine	—	—	2	1	—	—
„ disinfected	—	—	1	1	—	1
„ fumigated for rats ...	—	3	1	7	—	—
Total number of crews inspected...	780	931	958	899	798	947
Total number of passengers inspected	411	614	444	352	491	427
Persons held under observation	—	27	56	39	44	43
Persons vaccinated	—	—	6	12	10	129
Persons sent to hospital (non-quarantine diseases)	2	3	3	2	—	—*

* One small-pox patient was brought ashore, isolated for treatment, and died; all persons on board were vaccinated and all those who had been exposed were kept under observation. The vessel was disinfected and no other cases resulted.

satisfactory to note that, generally speaking, the native inhabitants are accustoming themselves to the demands of the sanitary authorities and are even giving promise of eventual willing coöperation. The first step to this end has been a strenuous endeavour on the part of the authorities to combat the prejudice against hospital treatment which everywhere seems inseparable from ignorance. Dr. Gorgas found in this prejudice his chief difficulty during the severe epidemic of yellow fever in Havana and that the people at first would take the risk of any punishment rather than report their sick. Eventually, however, the reputation of the hospital overcame this trouble. Concealment of cases became more and more infrequent, until at last the disease was to all intents and purposes absolutely stamped out. There no doubt remain in and about Havana plenty of mosquitoes of the stegomyia variety, but they have had no opportunity during the past four years of biting a human being infected with yellow fever and are consequently themselves entirely harmless.

It is not too much to hope that a similar triumph of preventive medicine over not only yellow fever but also the more widely diffused malaria may attend United States' control in Central America. Dr. Gorgas is here employing (but, as has been shown, under more propitious conditions) the same methods which proved so successful in Havana—viz., a systematic cleaning up of the terrain, a no less systematic and wholesale destruction of the stegomyia and anopheles and their breeding places, and the treatment under screening of all infected or suspected cases. During the past ten years or more there have been many instances—e.g., at Ismailia, in Cuba, on the properties of several of the Gold Coast mining companies, and elsewhere in Africa, under Dr. Koch—of malaria being controlled by destroying the breeding places of the anopheles and so treating the infected human being that he could not poison the mosquito. All these trials, however, have been on a small scale as compared with the experiment now in progress on the Isthmus of Panama, which is practically an attempt to free an entire population from the malarial infection. Not the least satisfactory feature of the enterprise is the fact that Dr. Gorgas has approached the problem hopefully but without any false ideas as to its simplicity. "We shall," he has said, "no doubt, meet with many disappointments and discouragements, and shall succeed in the end only after many modifications of our plans and after many local failures."

The extent to which the natives of the Canal Zone are infected with malaria is demonstrated by a series of interesting experiments (Table VII.) made at Bohio and other villages along the canal line during October, November, and December last. The figures indicate (1) that not fewer than from 50 to 60 per cent. of the inhabitants of the Canal Zone are infected by the malarial plasmodium and that consequently the only essential for new arrivals to contract malaria is the presence of anopheles; and (2) the very positive value of quinine as a destructive agent for the malarial parasite. To the virulent character of the types of malaria endemic on the Isthmus striking testimony is given in Table VIII.

TABLE VII.—*Blood Examinations to Determine the Malarial Index of Infection of the Native Population along the Canal Zone.*

No. of cases.	Result.		Re-examined.	Result.		Parasite found.		
	Positive.	Negative.		Positive.	Negative.	Tertian.	Æstivo-autumnal.	Mixed.
*20	13	7	1	—	1	—	12	1
31	21	10	6	4	2	—	—	—
54	33	21	—	—	—	1	32	—
67	49	18	3	3	—	—	18	1
†22	17	5	3	2	1	—	17	—
‡10	9	1	2	2	—	—	—	1
25	15	10	—	—	—	1	14	—
42	12	30	—	—	—	—	12	—
§19	3	16	4	—	4	—	—	—
‖28	18	10	28	—	28	—	—	—
¶16	11	5	16	5	11	—	—	—
40	13	27	—	—	—	—	13	—
**255	126	129	15	6	9	4	125	—

Remarks.—* One patient had tertian, æstivo-autumnal, and crescence parasites. Age one year. † In one case the temperature was 103° F. at 9 A.M. and there were no parasites, while at 2.15 P.M. the temperature was 100° and there were parasites. ‡ Highest temperature 103·8°. § Machete men. Highest temperature 104·8°, lowest 98°. ‖ Schoolgirls. Re-examined after the administration of cinchona ten days later. ¶ Schoolboys. In almost every case the temperature was above 99°, in some it was above 100°. Re-examined after ten days' administration of quinine. ** Summary of cases. All the 15 re-examinations mentioned were made in positive cases and after 21 days' administration of quinine (four grains per day). The result shows nine cases cured.

TABLE VIII.—*Statistics of Malarial Cases Treated at Ancon Hospital.*

—	From June 13th to Oct. 31st.		November.		December.	
	Cases.	Deaths.	Cases.	Deaths	Cases.	Deaths.
Malarial fever, æstivo-autumnal	147	1	49	4	70	1
Malarial fever, single tertian	8	—	5	—	5	—
„ „ double tertian	12	—	3	—	4	1
Malarial fever, æstivo-autumnal and double tertian	2	—	—	—	—	—
Malarial fever, clinical	18	1	3	—	7	—
Hæmoglobinuric fever, æstivo-autumnal	3	1	—	—	—	—
Hæmoglobinuric fever, tertian	1	—	—	—	—	—
Malarial cachexia, æstivo-autumnal	3	—	2	—	1	—
Malarial cachexia, tertian ...	1	—	—	—	—	—
„ „ clinical ...	11	1	2	—	—	—
Total	206	4	64	4	87	2

It will be remembered that this paper was prompted by two questions, of which the first had reference to the probable effects of the pernicious climatic and sanitary conditions of the Isthmus upon the vast army of immigrant labour required to complete the canal. The American authorities, including those charged with the health administration, estimated, when they assumed control of the Canal Zone and cities of Panama and Colon, that one year's work would effect such a wholesome revolution as henceforth to warrant the inclusion of the canal region among the most healthy of tropical countries. It is with unfeigned regret that I reach the conclusion that this anticipation has been woefully frustrated, and this I do without depreciating the gravity of the difficulties which it was only reasonable to expect and of others, infinitely more discouraging, caused by false economies, delays in furnishing supplies, and the inherent faultiness of the law under which the late Canal Commission was appointed. That both in the terminal cities and throughout the Canal Zone great sanitary improvements have been effected during the past 12 months no one can deny; but they fail to constitute a situation sufficiently favourable to justify defiance of the enormous hygienic dangers involved in a precipitate inauguration of the ambitious engineering programme to which I alluded in the introductory portion of this paper.

Evidence of the gravity of the task undertaken by the American sanitary authorities may be found in the fact, now generally admitted, that their energetic efforts have not yet effected any appreciable diminution in the Isthmian death-rate or, indeed, in the percentage of the population demanding medical or surgical treatment. This is the more serious because it cannot be pretended that under the existing Commission they possess inadequate powers or are short-handed to any considerable degree. Indeed, the gravity of the situation becomes more marked when one remembers that, thanks to the general cleaning up which has taken place, the systematic draining work in and about the towns, the removal of brush and long grass, the filling in of low and swampy land and other places admirably adapted for the breeding of the stegomyia fasciata, anopheles, and several varieties of culex, the frequent removal of night-soil pails and garbage cans, the inspection and fumigation of infected or suspected premises, and a widespread distribution of mosquito-proof water containers, the entire region must be unquestionably regarded as in a better sanitary condition than ever in its history. Nevertheless, as will be seen from Table IX., concerning the death-rate of Panama, and the following summaries of the work accomplished by the medical and surgical staffs of the Ancon and Colon hospitals and at the emergency hospitals and dispensaries established along the canal line, the hygienic condition of the people could not well be worse.

Patients admitted into Ancon Hospital from May 4th to Sept 30th, 1904, 477, discharged, 159; died 21 Admitted during October, 230 of

[illegible] During November and December, also, 1021 cases, 472 being employés, were treated at the Ancon free clinic.

annual rate being 30 564, and in December they were 32, the annual rate being 48 65.

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From these figures it would appear that during the course of very few months no fewer than 8756 persons out of a total population, allowing for the latest arrivals, of little more than 40,000 found cause to avail themselves of medical or surgical treatment—and this notwithstanding a marked improvement in the health conditions of the country. Later statistics not only signally fail to suggest a more hopeful outlook but even add to the gravity of the situation, for, quite recently, in addition to rising mortality and sickness returns the Health Department has been called upon to face unexpected and alarming epidemics of yellow fever. These visitations should serve to curb the impatience of many Americans concerning the alleged undue delay in commencing on a large scale the work of canal construction. It must now be evident, even to the most confirmed doubter, that yellow fever is still endemic on the Isthmus and that neither Colon nor Panama can be considered reasonably secure from a recurrence of dangerous outbreaks until each is provided with an ample and wholesome water-supply, for,

TABLE IX.—*Deaths in the City of Panama for October, November, and December, 1904.*

—	October.	November.	December.
General diseases—			
Alcoholism, chronic	3	0	1
Beri beri	10	10	14
Colic	6	9	10
Dysentery	1	1	8
Fever	10	8	16
Fever, bilious	0	0	1
Fever, pernicious	5	2	2
Malaria	2	3	2
Malarial cachexia	2	0	0
Phthisis	0	2	8
Putrid infection	1	0	0
Rheumatism, articular	2	0	0
Rheumatism, chronic	0	0	3
Syphilis	0	1	0
Tuberculosis, lungs	11	8	0
Whooping-cough	1	0	0
Diseases of the nervous system and organs of special sense	13	10	13
Diseases of the circulatory system	3		4
Diseases of the respiratory system	14	10	14
Diseases of the digestive system	8	4	13
Diseases of the genito-urinary system and adnexa	8	4	4
Diseases of the skin and cellular tissue	0	2	0
The puerperal state	4	3	5
Early infancy	0	0	1
Senile debility	0	3	1
Suicide	1	0	0
Accident	0	1	0
Ill defined diseases	20	18	14
—	125	106	134

Of the 125 deaths reported in October 17 occurred in the Hospital San Tomas and 17 in Ancon Hospital. Of the latter ten were of patients sent in from the Canal Zone stations, and should, consequently, in estimating the death rate be deducted, as should also be 14 stillbirths The remaining 101 deaths represent an annual rate per 1000 of 59 80 During November, of the 17 deaths occurring in Ancon Hospital, nine were cases sent in from zone stations Deducting these and eight stillbirths the deaths represent an annual rate per 1000 of 52 70 Deducting six outside cases occurring in Ancon Hospital and ten stillbirths the total for December represents an annual rate per 1000 of 69 816.

pending such improvement, it is obviously impossible to prohibit the use of water containers, the favourite breeding place of the stegomyia mosquito. Nor can it be hoped, until the long-promised waterworks and sewers are in operation, that there will be any sensible diminution in the general death-rate. In view of all the circumstances, and apparently for some time to come, the only possible reply to the first point raised in the present discussion seems to be a direct and unequivocal negative.

In default of immediate and almost heroic measures to develop better sanitary conditions the Canal Commission may shortly find the operations of its engineering and other staffs seriously hindered, not only by difficulty in obtaining additional labour but also by panic among its existing force. Although it should now be matter of almost general knowledge that yellow fever is not contagious in the same sense as is small-pox or scarlet fever, the reported presence of this much-dreaded malady invariably excites an amount of terror quite disproportionate to the actual danger. Reports, no doubt exaggerated, respecting the recent outbreaks on the Isthmus have already produced such effects in Jamaica, Porto Rico, and other potential labour-recruiting fields as materially to lessen the supply of cheap labour arriving from these places. The proposal to get over this difficulty by importing a considerable number of Japanese and Chinese coolies will, it is to be hoped, signally fail, for it is notorious that Asiatics are the most susceptible of any people to yellow fever infection. Within the past few months a remarkable percentage of the Japanese in Panama have been attacked, and it is scarcely necessary to recall to memory the enormous mortality among the Chinese and Indian coolies in the days of the de Lesseps company and during the construction of the Panama Railroad. Even as regards the white employés, recent events have had untoward effects, for, according to Mr. John Barrett, the ex-United States Minister to Panama, himself one of the most optimistic of men concerning the canal, the frequent changes (caused by fear of yellow fever and other illness) among the foremen of all classes, the locomotive firemen and drivers, steam shovel operators, clerks, and engineers, have already much reduced the efficiency of the work accomplished. Unless conditions are improved and wages are greatly increased it is doubtful, says Mr. Barrett, if men of this class can be kept on the Isthmus—"there is no use in obscuring the truth in this respect."

I have left myself but short space in which to refer to the probable effects of the completed canal upon public health, nor indeed is it necessary at this moment to devote considerable attention to the question. Recent events may postpone by many months the recommencement on a large scale of the work of construction, for there is no doubt that in the course of what may be described as the preliminary campaign against climate and disease the American authorities have sustained a regrettable repulse. That they will eventually conquer is equally certain and the more decisive the victory is the more permanent should be its results. In order to insure for the completed canal the confidence and support of commerce its builders must so modify existing health conditions as to deprive foreign ports of legitimate cause specially to mistrust shipping newly arrived from the Isthmus. Even now it is well to remember that there are other places no less notorious for the dissemination of disease. There may be some doubt as to the climatic conditions necessary to propagate yellow fever, but no difference of opinion can exist as to the most favourable local requirements—defective drainage and decomposing organic matter. If supplied with the needful food, in the shape of filth the germs will thrive in spite of quarantine but if starved by cleanliness their development is checked. When, as may be hoped, the United States authorities are able to convince the outside world that, thanks to improved sanitation, yellow fever is no longer endemic on the Isthmus an object lesson will have been provided which should not fail to have widespread influence. With such example of success before them the health officials of ports in the Gulf of Mexico, in Eastern Asia, and on the eastern and western littorals of South America, which are now frequently visited by yellow fever and which by the completion of the Panama Canal will be brought into closer and therefore dangerous relations, may possibly be inspirited to a more comprehensive appreciation of their responsibilities. Thus it may happen that not only may the Panama Canal not endanger public health but even serve as a factor in its general promotion.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 23, 1827.

MAL-TREATMENT OF ASSISTANT SURGEONS IN THE NAVY.

To the Editor of THE LANCET.

SIR,—On a subject interesting to many of your medical readers, particularly those whose object it is to enter the public service of their country, I have taken the liberty to address you; and, as I am convinced from personal experience that many would never enter the naval medical service were they aware of its disadvantages, I hope that the following comparative view of the army and navy medical services will not be unacceptable.

When an assistant surgeon is appointed to a ship, he finds that he is to mess with the midshipmen; and if to a ten-gun brig, he is doomed to eat his meals in a berth about six feet by seven in extent, with from six to nine messmates. This, in a tropical climate, the thermometer ranging from 85° to 90°, is far from being an enviable situation. There is seldom any *scuttle* in the berth to admit air, and at dinner the heat is so excessive, that all are obliged to strip to their shirts. In order to accommodate the captains, and the gun-room mess, the midshipmen are obliged to dine at twelve o'clock, when the heat is greatest. Add to this the privation of fresh meat and vegetables at sea, sometimes for months together, and contrast the navy assistant surgeon's situation with that of the hospital assistant in the army, who sits down to the same mess table with his colonel and brother officers, considered to rank equally with them as a gentleman, dining in a comfortable airy apartment, and enjoying all the luxuries of the shore. For the assistant surgeon in the navy, no cabin is allowed, his place of repose is a hammock;* the lid of his chest must serve him as a dressing-table, and in the open steerage he has to perform all the necessary offices of ablution, &c. Look again at the army medical man, who has his quarters allotted him, with every convenience that can be procured on shore.

It is universally acknowledged, that the sea service is a much harder one than the land, and one would naturally suppose, that compensation would be made to the naval medical man in proportion; but what is the fact? The assistant surgeon in the navy may serve eight, ten, or twelve years before he obtains promotion, and instances have occurred, where the rank of surgeon was not attained until after sixteen years servitude. After all, he finds that only three years of that time will be considered as *servitude*.† Now the army hospital assistant is allowed every hour that he serves. What is the cause of this injustice?

Another thing the naval assistant surgeon has to complain of is, his being degraded to mess in the midshipmen's berth. Surely his education and respectability as a medical man, entitle him to rank with any lieutenant, master, purser, or marine officer in the navy. Why then compel him to mess with unruly boys? He is expected to study, to prepare himself for a second examination; surrounded by such troublesome companions how is he to study? The gunner, boatswain, and carpenter, who have severally risen from the rank of common sailor, are each entitled to a cabin; and yet a medical man is obliged to sleep in a hammock, like one of the lowest rank!

The condition of naval medical men calls loudly for reform, and reform must take place, or the naval service will not be provided with able and intelligent surgeons.

The assistant surgeon should have a cabin, be allowed to mess with the lieutenants, and be entitled to the same advantages of pay as the army assistant surgeon.

To those young medical men whose intention it is to become candidates for the appointment of assistant surgeon in the navy, it is to be hoped that the above observations may be acceptable, and the object of the contributor will be attained.

AN ASSISTANT SURGEON IN THE NAVY.

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* A hammock is composed of a piece of coarse sacking, suspended at either extremity from the inferior surface of the deck, by bunches of cord called clews.

† See Navy List.

THE LANCET.

LONDON: SATURDAY, JUNE 24, 1905.

The Degrees in Medicine and Surgery of the University of London.

ALL those who are interested in the development of the University of London must experience a certain satisfaction in perusing the reports recently presented to the General Medical Council relating to the final examination for the degrees of Bachelor of Medicine and Bachelor of Surgery. It will be remembered that important changes in the regulations have been effected and the first examination under the new conditions was held last October and was attended by an inspector and a visitor on behalf of the General Medical Council. Perhaps the most important of these changes consists in the fusion of the degree of Bachelor of Surgery with that of Bachelor of Medicine. Formerly only a small proportion of graduates in medicine presented themselves for further examination in surgery and although an examination in surgery formed part of the final M.B. examination it occupied a very subordinate position and neither demanded nor received very much attention at the hands of the candidates. So long as it was recognised that the medical degree of the University of London was concerned primarily and essentially with medicine, in which the standard was certainly high, the surgical part of the examination was allowed to continue at a comparatively low level, with the feeling that those who wished for a higher surgical standard and for a degree in surgery could present themselves for the further examination for the degree of Bachelor of Surgery.

But circumstances recently combined to render the neglect of surgery in the examination for the degree of Bachelor of Medicine very inexpedient. The fusion of the examining boards of the Royal College of Physicians of London and the Royal College of Surgeons of England resulting in a Conjoint Board holding one set of examinations for a pass degree in medicine and surgery directed criticism to the methods of the University of London. The possession of the M.B. degree was a qualification to practise both medicine and surgery but the examination in the latter subject being inadequate placed the graduates in an unfortunate position compared to the holders of the double diploma of the English Conjoint Board. The graduates themselves, conscious of some inequality of the conditions obtaining in London as compared with those of other universities, had the right to feel aggrieved that, despite the work of a really high standard which they were called upon to do, they did not receive the attention to surgery which was given to the students at other centres and by other qualifying bodies. Still the surgical examination at the final M.B. examination of the University of London was regarded as a satisfactory test of knowledge despite a good deal of criticism until 1902 when after inspection it was reported to the General Medical Council by the visitor and inspector appointed under the Medical Acts that the examination in surgery "was not such as would secure the standard of efficiency required by the Council." The examination was then described as being on a distinctly lower level than the examinations in medicine, midwifery, and forensic medicine. Such an opinion necessitated change, even though the Council generously postponed consideration of the report of the Examination Committee. If the standard was to be raised to that of medicine there could be no reason for maintaining the separation of the degree of surgery from that of medicine, and the decision thus to raise the standard of surgery and to confer the two degrees has been welcomed on all hands. This, however, is only one of the alterations. The number of examiners has been increased both in medicine and in surgery and two new appointments have been made to allow a separate examination in pathology, while hygiene has been transferred from the examiners in medicine to those in forensic medicine, who are now styled examiners in "forensic medicine and hygiene." The examination, under the altered conditions, was visited and inspected for the General Medical Council in the past winter and the highly satisfactory result was reported to the Council at its last session.[1] The general scope of the different examinations is well illustrated by the papers which were appended to the report of the inspector and the number of marks allotted to each subject was also there given, the candidate having to obtain half marks to be permitted to pass, while the principle upon which honours were awarded lying outside the scope of the Council was not described.

An invariable recommendation of the General Medical Council that "a candidate should not be orally examined, except in the presence of two examiners" appears to have been disregarded, the *vivâ voce* examination being invariably conducted by a single examiner who himself fixed the marks awarded to the candidate. This course of action is condoned, even justified, by the inspector of the Council, by the difficulty and expense which would be otherwise involved when the number of candidates is large; and it is explained by the Academic Registrar that in the subject of medicine alone the work of every candidate was estimated independently by each of the four examiners, and this so thoroughly that it seemed to provide all the checks necessary against the unfair operation of the personal equation in the individual examiner. The knowledge of this will probably prove consolatory to those candidates, if there are any, who leave any part of the examination with a feeling of sorrow or resentment, but we are bound to regard any divergence from the scheme of inspection of which the General Medical Council has approved with some concern. However venial in a special case a relaxation may be, it still remains a good general rule that more than one examiner should conduct a *vivâ voce* test simultaneously. The report of the Examination Committee of the Council draws the attention of the Council to this departure from the usual recommendations, but arrives, nevertheless, at the conclusion that the final examination of the University of London in medicine, surgery, and midwifery is "sufficient," and more than sufficient, within the meaning of the Medical Acts. Such a conclusion must be very satisfactory to all who have had any share in arranging the details of the examination, and it is evident that the authorities are actuated by an ardent desire to make every part of the examination as complete and as practical as possible. The percentage of rejections appears to have been somewhat less than usual, which goes to prove that the new conditions are better adapted to the general teaching of the student.

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[1] THE LANCET, May 27th, p. 1463, and June 3rd, p. 1503.

The Diagnosis of Glanders.

AN able report by Dr. W. B. WHERRY, bacteriologist in the Government laboratories at Manila, has been presented, under the title "Glanders, its Diagnosis and Prevention," to the United States Department of the Interior and published as Report No. 24 of the Bureau of Government Laboratories, Manila, November, 1904. It is of particular interest to English medical readers at this moment when the increase of glanders among us is being made the subject of discussion. The report gives a short account of the general nature and distribution of the disease, including a description of two cases observed in man in the Philippine Islands. Glanders is now somewhat prevalent in Manila, since during the year between Sept. 1st, 1903, and August 31st, 1904, of 3764 horses imported 165 were condemned for glanders, killed, and cremated. Dr. WHERRY'S personal experience, therefore, of a most dangerous plague has been unusally large and his report forms a valuable *résumé* of the chief facts known about the disease. There is nothing particularly novel about his teaching but his words serve to recall to our memory the characteristics of a malady with which but few medical men are familiar.

The organism, the bacillus or bacterium mallei, occurs, of course, in the discharge from the nostrils, in the pus from the specific ulcers, in the more recent nodules in the internal organs, and occasionally in the blood in acute glanders. Although the organism has very feeble powers of resistance outside the body the disease is very infectious and is transmitted by contact, by inhalation, by food and drink, and by infected harness or clothing coming in contact with abrasions of the skin. There are four types of the disease according to Dr. WHERRY'S classification—namely, acute and chronic glanders, in both of which the mucous membrane of the nares, together with the adjacent lymphatic glands and the lungs, are affected and acute and chronic farcy where the process is limited to the skin and its lymphatics. Acute glanders is the common type of the disease in man and in the mule and ass, though less common in the horse. The incubation period, here, is from three to five days, when inflammatory symptoms appear at the site of infection and there are general febrile disturbance and malaise. A day or two later the mucous membrane of both nares becomes hyperæmic and may show punctiform hæmorrhages and later small pustular nodules. There is a copious discharge from the nostrils, at first thin and watery, but later muco-purulent and even streaked with blood. In the horse the submaxillary glands become enlarged on the affected side, nodules form in the lungs, and death occurs in one or two weeks. In man there is often intense pain in the joints and muscles, and abscesses may form in them. An eruption of papules developing into pustules appears on the skin, especially on the face and over joints. These may simulate small-pox pustules and be regarded as such, as occurred in one of the cases recorded by Dr. WHERRY in his report. This form of the disease is invariably fatal, usually within eight or ten days. In chronic glanders, which is rare in man but not infrequent in the horse, the onset is insidious and the course is indefinite. In the horse there is a sticky, muco-purulent secretion from the nose associated with the deposit of greyish nodules on the nasal septum which subsequently break down to form ulcers. Similar ulceration may occur in the frontal sinuses, Eustachian tubes, and larynx, and the lungs frequently present numerous nodules. In these cases, both in man and horses, diagnosis may be only possible by bacteriological tests. In farcy the disease is usually inoculated through the skin, nodules are formed in the skin and subcutaneous tissues and these may develop into abscesses which discharge externally. The neighbouring lymphatic vessels are inflamed and swollen and along their course secondary subcutaneous nodules appear, forming the so-called farcy buds. The neighbouring lymphatic glands become involved and embolic foci may form in the spleen and other viscera. Acute farcy is usually fatal in from 12 to 15 days, while the chronic form may last for months or even years.

The diagnosis can be established by the use of mallein as we pointed out in a leading article last week on the subject This test is of the greatest value in determining the presence of infection in doubtful cases or in "contacts." In healthy horses the injection produces no effect on the temperature or general condition, although a local reaction develops of much less extent than in glanders and lasts about 24 hours. All possible care should be taken in the diagnosis of suspicious cases, as the manifestations are not always typical and it is not uncommon for a case to go unrecognised. The two cases in human subjects reported by Dr. WHERRY illustrate in a marked degree the difficulties of diagnosis which were experienced in the case recently received into St. George's Hospital. Here it may be remembered the case was originally believed to be one of pneumonia. One of Dr. WHERRY'S cases was only suspected after death, when seen by a member of the Harvard Commission on Glanders, to be a case of glanders; it had been previously regarded as one of pyæmia or of acute rheumatism or possibly small-pox; while in the second case the diagnosis was not established until just before death. The prevention of the spread of the disease can only be effected by the systematic stamping out of foci of the disease as they occur, and by the disinfection of infected yards, stables, harness, and utensils.

Wood *v.* Bailey.

THE case of WOOD *v.* BAILEY, heard on June 7th at the Isle of Wight county court, before his honour Judge PERCY GYE, furnishes a curious illustration of the perverted view sometimes taken by the public with regard to pecuniary responsibilities to medical practitioners. The plaintiff, Dr. G. BENINGTON WOOD of Shanklin, sued the defendant, Mr. JOHN BAILEY, a draper of the same place, for £13 10s.

for medical attendance upon his son. With regard to the facts there appeared to be no dispute. The defendant's son returned home convalescent from pleurisy and soon after his return suffered from a fresh attack of the same malady. The plaintiff was called to him in February, 1903, attended him until the 10th of the following April, and had at least one consultation about the case with Dr. T. A. ROSS of the Royal National Hospital for Consumption at Ventnor, who approved of what was being done. On April 10th the defendant wrote to inform the plaintiff that he had decided to put the case into other hands and to have an "unfettered opinion," which he does not seem to have obtained until two days later when Dr. J. COWPER and Dr. J. A. B. HAMMOND were called in and took charge of the case. They performed paracentesis and the patient eventually made a good recovery. The plaintiff, in acknowledging the defendant's letter of dismissal, wrote that he relinquished the case with a clear conscience; and in due course he sent in a claim for his professional charges, which were nevertheless suffered to remain unpaid. When applied to for a settlement in April of the present year, and therefore two years after the termination of the attendance, the defendant not only denied his liability but said that he had been put to an expense of £200 by the plaintiff's "wrong treatment" and that he ought to have compensation instead of being called upon for payment. There was absolutely no defence. Dr. J. WARD COUSINS, Dr. ROSS, and Dr. TURNER all testified to the propriety of the plaintiff's treatment of the case; and Dr. COWPER, who superseded him, declined to criticise this treatment in the witness-box. His honour, of course, gave judgment for the amount claimed, with costs, mentioning the total absence of any evidence that the plaintiff had failed to do what was necessary and adding that it was important for the public to understand that they could not resist the payment of medical fees because the patient died or was not cured. He might have added that there was still less ground for such resistance in the fact that he was not cured within some specified time; and this, so far as we can gather from the report, was all that could be urged on behalf of the defendant.

It is sometimes not uninteresting to try to look dispassionately at the conceivable grounds of an erroneous view. Every practitioner is aware that his charges will occasionally be disputed by people who know them to be perfectly just and reasonable but who do not like to pay them and who trade on the frequent unwillingness of members of the profession to insist upon their rights. This unwillingness has its most usual foundation in the knowledge that illness is more or less a misfortune, and in a feeling resembling that of CHAUCER'S Persoun, who was "ful loth to curse for his tythes." It is strengthened by the press of daily occupations, by the "glorious uncertainty" of the law, by the possibility that a verdict may, after all, be unproductive, and sometimes, perhaps, by a consciousness that strict insistence upon the most undoubted rights may be impolitic. On all these considerations dishonest debtors trade; but we will assume that the defendant in WOOD v. BAILEY was not influenced by them and that he was an honest man who, by some mental twist difficult of comprehension, had really persuaded himself that a medical practitioner ought not to be paid unless the friends of the patient were satisfied with his conduct of the case. He evidently recognised his perfect right to dismiss his son's medical attendant and to employ another, for he acted upon this right, if not as soon as he felt dissatisfaction at all events as soon as the feeling became sufficiently acute. The difficulty is to conceive the course of reasoning, if so it may be called, which led him to believe that his dissatisfaction, which does not appear to have been based upon any suggestion of neglect, could exonerate him from pecuniary liability for the attendance that he had already sanctioned. A medical man is bound, of course, to bring reasonable knowledge and skill to the service of his patient and a manifest failure to do this would necessarily vitiate his claim. Mr. BAILEY does not appear to have had any ground of this description. The plaintiff had called in consultation a well-known physician of the locality, whose fee was presumably paid by the defendant, and who concurred in the propriety of the treatment that was being pursued. It is true that Dr. COWPER and Dr. HAMMOND are said to have performed paracentesis and to have given exit to a collection of pus, but it was also in evidence that Dr. WOOD had previously tested the character of the fluid in the pleural cavity with the aid of an exploring needle, had found it to be serous, and had arrived at the conclusion that paracentesis was not then indicated. That it was indicated and performed on a subsequent occasion is a fact entirely irrelevant to the issue raised at the trial. Even if the question of performing it at any given time had been one as to which Dr. WOOD differed from those who succeeded him he would manifestly have been bound to act upon his own opinion and not upon theirs, even supposing that he had been made acquainted with it. Under whatever aspect we look at the defence we can attribute it to nothing else than sheer wrongheadedness.

We are entitled to suppose that Dr. COWPER, who was called for the defence and who declined to criticise the plaintiff's treatment, was an unwilling witness; and hence we must exonerate him from all responsibility for the defendant's resistance to a just claim. It would, nevertheless, be satisfactory to the profession to hear from him that he had endeavoured to prevent a defence which he must have foreseen to be futile and that he had striven to enlighten Mr. BAILEY with regard to the true nature of his position and his responsibilities. A medical man who supersedes another during the actual progress of an acute illness is placed in an extremely critical and responsible situation, and is bound, so far as may be possible, to guard the reputation of his predecessor. He is not bound to agree with him, in diagnosis, in prognosis, or in treatment; but, more especially if his opinion should appear to be justified by results, he is bound to point out the extent to which, in the given circumstances, a different view might have been entirely legitimate. The public are prone to suppose, when the erroneous character of any medical opinion or medical treatment has been shown by time, that the error must have been obvious from the first to any properly instructed person; but, if this were so, the art of medicine would be much easier than it is. No one but a practitioner can appreciate the anxieties that frequently arise from the obscurity of the conditions with which he is called upon to deal, or the watchfulness necessary to be observed in order to miss none of the indications, veritable straws it may be, but showing the direction of the wind, by which the obscurity may at some given moment be lightened or removed. Reading between the lines of the report it seems highly probable that the defendant in WOOD *v.* BAILEY would try to justify himself to his own conscience by saying, "Dr. WOOD did not perform paracentesis and my son was very ill; Dr. COWPER did perform it and he recovered; therefore Dr. WOOD ought to have done it at an earlier period." Such a course of reflection might not be unnatural in an ignorant person, but it is none the less absolutely unsound; and, as regards the pecuniary liability, the phraseology of the judge leaves nothing to be desired in the way of explicitness. A person who employs a medical man is responsible for paying his proper and customary charges and cannot escape from this liability by pleading any amount of personal dissatisfaction with his conduct of the case. Absolute neglect or malpractice established by skilled evidence would place the question upon a different footing, but neither of these was even alleged as against Dr. WOOD. The profession generally are much indebted to him for his determination to insist upon receiving his proper dues; and the Medical Defence Union, by which the case of the plaintiff was conducted, has given one more proof of its signal usefulness to those for whose protection it was called into existence.

Annotations.

"Ne quid nimis."

ROYAL COLLEGE OF SURGEONS OF ENGLAND: ELECTION OF MEMBERS OF COUNCIL.

FOR the four vacant seats on the Council of the Royal College of Surgeons of England six candidates have been nominated. Two of them, Mr. Edmund Owen and Mr. Rickman J. Godlee, have already served a term on the Council and now offer themselves for re-election. There can be no question as to the propriety of reappointing them. They have both proved useful members of the Council and from their work and their position in the profession they thoroughly deserve a renewal of the confidence of the Fellows, but their election must not be taken for granted because of the unfortunate proclivity that the Fellows have for plumping. We cannot but look upon plumping as a shirking of responsibility and deplore that so many Fellows should be willing to waste their votes. If Mr. Owen and Mr. Godlee are re-elected there will remain two other vacancies, and for these, in order of seniority, the following candidates are presenting themselves: Mr. Andrew Clark of the Middlesex Hospital, Mr. C. H. Golding-Bird of Guy's Hospital, Mr. Harrison Cripps of St. Bartholomew's Hospital, and Mr. W. Bruce Clarke, also of St. Bartholomew's Hospital. Inasmuch as one of the two vacancies on the Council has been occasioned by the retirement of Sir Henry G. Howse it would be only right that Mr. Golding-Bird should be elected in his place. Guy's Hospital is a very important medical school and at present it has only one representative on the Council, Mr. R. Clement Lucas. Mr. Golding-Bird is one of the full surgeons of that institution and occupies a deservedly high place in British surgery. At a previous election he almost secured a seat. Between the three remaining candidates it is somewhat difficult to make a choice. Mr. Andrew Clark is surgeon to the Middlesex Hospital which already has two strong representatives on the Council, Mr. Henry Morris and Mr. A. Pearce Gould. A very similar difficulty confronts us when we consider the claims of Mr. Harrison Cripps and Mr. Bruce Clarke. They are both members of the staff of St. Bartholomew's Hospital and that hospital already has four representatives on the Council. With a full appreciation of the part that the school of St. Bartholomew's plays in the medical world we must confess that we think four representatives are sufficient, but we think also that two representatives are sufficient for the Middlesex Hospital. We must, however, suggest the addition of a representative either to one or the other. A consideration of the relative professional claims of the candidates does little or nothing to diminish our embarrassment, for they all hold a high place in contemporary surgery and have contributed to the literature of the science. We acknowledge that the claims are well balanced, but only one of the three has hitherto manifested any special interest in College politics. Mr. Bruce Clarke had much to do with the Association of Fellows a few years ago and for a time he was secretary and this fact gives him an additional claim on the suffrages of those Fellows who are interested in the well-being and the progress of the College. We venture therefore to think that the vacant seats would be best occupied by Mr. Edmund Owen, Mr. Rickman Godlee, Mr. Golding-Bird, and Mr. Bruce Clarke.

"THE ACCURSED KNIFE."

"THE phrase," writes an Italian correspondent, "is Antonio Gallenga's, who lost no opportunity of impressing on his compatriots the urgency of a radical reform in their penal code if they were not to maintain that 'sinister priority' in homicide which has made them a by-word among the nations. Amid the universal horror at the assassination of the Hellenic Premier there was one note of consolation in Italy that 'the assassin this time was not an Italian'—though his victim's rank, his methods, and the instrument he employed seemed to favour the presumption that he must have hailed from the 'classic land of homicide,' or, at least, have qualified in the school of Caserio, of Luccheni, and of Bresci, the assassins of President Carnot, the Empress of Austria, and King Umberto. The Italian press, in the day now passing, is once more in 'full debate' on the gruesome topic of the 'Codice Penale e le Coltellate' (the Penal Code and Stabbing Cases), welcoming every aid to its discussion, even from outsiders, and giving particular attention to the article in the *Rassegna Nazionale* by Sir Willoughby Francis Wade, sometime a leading consultant in the Midlands and President of the British Medical Association. Sir Willoughby Wade, in his Tuscan *villeggiatura*, has for some years been studying the topic and in a previous article in the same periodical threw out, with practical English sense and the impartiality born of 'detachment,' a series of suggestions embodied in the Bill for penal reform promised last spring by his Excellency Signor Ronchetti, Minister of Grace and Justice, in concert with the Prime Minister and the Minister of the Interior. That artic dealt mainly with the lethal weapon employed and wo ld up with practical indications as to the form of knife ich might be exclusively permitted for sale under Gove ment sanction and be legitimately carried by its owr. Th article now under notice takes cognisance of th enalties attaching to the wounds inflicted and concludes n ano er series of suggestions not less practical, as the omoters o the Bill will doubtless find in its committe age. The are too elaborate and too detailed for env ration or cussion here but their acceptance or a ication wil effective and salutary only in the degree in which certain ethnographic and historical conditions are realised and allowed for by the Legislature. 'Italians,' says Sir Willoughby Wade, 'are of an impressionable and ardent temperament, qualities which are not without their redeeming side. But *corruptio optimi pessima*, and all of us have the defects of our qualities. It is due, in part at least, to this temperament that "vendetta" is so deeply rooted in Italy'—a 'vendetta' of a kind for which the knife is peculiarly adapted. Baron Garofalo, professor of criminal statistics in the University of Naples, attributes the prevalence of vendetta to an ineradicable distrust of the impartiality of the law—a distrust all too closely connected with the miserable remuneration allowed by the State to the heads of tribunals—and to the consequent suspicion of venality and the temptation to 'take the law into one's own hand.' The same authority, in a memorable paper, illustrated the helplessness of 'education' to antagonise this 'vendetta'—in which he has the support of Sir Willoughby Wade, who points out that education in Italy, though leaving much to be desired, has, on the whole, reduced the numbers of the *analfabeti* (absolutely unlettered), while stabbing cases, fatal or non-fatal, are officially declared to be on the increase. The abolition of capital punishment, universal throughout Italy for 30 years, is now being reluctantly admitted to have coincided with an augmentation of *fatti di sangue* (cutting and wounding with fatal result) and it is even recommended in certain quarters that, as an initial remedy at least, flogging, which stamped out the garrotter in the British Isles, might be tried in Italy towards minimising such *fatti*. The whole subject bristles with difficulties, insomuch that a commission to consider it and devise measures *ad hoc* seems to be the first step indicated for the remedy of a state of things which is becoming, in the words of an Italian, a 'European scandal.' Such a commission should be composed of experts in which medicine as well as law and practical legislation should be represented, dealing as it must with details in which the expert in anatomy, surgery, psychology, criminal psychiatry, jurisprudence, criminology, and even the steel industry, can alone be heard with advantage. Signor Ronchetti, honourably associated with the reform of the penal code, might earn further distinction by organising such a commission, 'which,' concludes Sir Willoughby Wade, 'I have great confidence will one day be set on foot.' *Quod felix faustumque sit.*"

THE DEVELOPMENT AND SUSPENSION OF THE JAWS.

IN an interesting paper communicated to the Transactions of the Odontological Society (Vol. XXXVII., No. 5) Mr. J. T. Carter gives the results of his investigations into the development and suspension of the jaws. Mr. Carter's research has been mainly in connexion with fish and reptiles and shows much careful and thoughtful work. At the commencement of his paper he points out that all anatomical investigation to be of value must be based on the evidence of comparative anatomy. Adult skulls of members of each family must be examined and compared but unless this method is associated with an embryological examination of certain species the investigator is liable to be misled by analogies due to convergence of types. Also he should never consider that similarity of gross structure implies community of origin until the embryology of the creatures under consideration has been carefully worked out. With the assistance of a large number of slides and specimens it is shown that the first elements of a skull to appear are a pair of curved flat rods—the parachordals—which abut on each side of the anterior end of the notochord. Anteriorly to the parachordals another pair of cartilaginous rods appear—the trabeculæ cranii. The parachordals and the trabeculæ eventually fuse with the anterior end of the notochord to form a floor for the support of the brain. Three pairs of sense capsules—olfactory, optic, and auditory—next appear and as the sides of the basilar plate grow upwards to invest the brain these capsules enter into intimate relation with the primitive brain case. In addition to the above structures a number of cartilaginous rods, formed in the walls of the pharynx between the gill slits, must also be considered as part of the skull. The anterior pairs of these rods, though primarily connected with the respiratory function, become modified to assist in the prehension and comminution of food and so form jaws. In the selachians all these elements are practically distinct but ascending the vertebrate scale it is found that they enter into closer relation with each other until in the higher animals all are intimately blended. In the elasmobranch fishes the skull consists only of cartilage the perichondrium of which may be hardened by superficial ossification taking place therein. In recent forms there are no true bones. True bones first make their appearance in the cartilaginous ganoids where is seen superficial ossification on, or just beneath, the surface. In sturgeons, polypterus, and so on, these bones do not enter into close relation with the cartilaginous skull. Dermoid ossification appears to affect the underlying tissues and to stimulate a corresponding ossification in the perichondrium, the differently derived bones more or less fusing together. Dr. Ridewood[1] has recently pointed out that there is no essential difference in the two methods and that dermal ossification, whether due to coalescence of denticles or to hardening about sensory canals, was the primitive form. Even in those cases where the bone is pure cartilage bone the ossification of the cartilage owes its origin phylogenetically to a predisposing dermal ossification which no longer appears in ontogeny. So, in the teleostei, there are both ectosteal and endosteal ossification. In the physostomi the ectostoses are still separable from the chondrocranium with its endostoses, but in the remaining orders the investing bones become very closely united. Mr. Carter then shows that from this point upwards in the phylum, through dipnoi, urodela, anura, reptilia, and mammalia, there is a gradual replacement of the primitive cartilaginous cranium by the secondary osseous cranium and that the same applies to the jaws and branchial arches; that the cessation of branchial respiration led to a reduction of the visceral skeleton and that the disused parts were largely utilised in the elaboration of the organ of hearing. In conclusion stress is laid on the great importance of a thorough application of the lessons gained from the comparative consideration of the morphology of the jaws in the treatment of various abnormal conditions which nowadays the dentist is so often called upon to rectify; for the effect of heredity extending back to remote ancestors (how remote the most ardent evolutionist can scarcely realise) is probably far more potent in the causation of variations than is the influence of factors which have only been at work for a few generations.

THE EMPLOYMENT OF CHILDREN.

UNDER the Employment of Children Act, 1903, the London County Council has drawn up a set of by-laws which have been submitted to the Home Secretary for confirmation as required by the Act. These by-laws, which are intended to safeguard the moral and physical well-being of children, can be obtained from the clerk to the council and they deserve the serious consideration of all who appreciate the important bearing which the matter has upon future generations. Some objections having been raised to them the Home Secretary has issued a notice announcing his decision that a public inquiry shall be held into the proposed regulations and Mr. Chester Jones, a barrister, has been appointed to hold the inquiry at the County Hall, Spring Gardens, London, S.W., on Monday next, June 26th, at 11 A.M. On the whole the by-laws seem to us wise and temperate, though there is perhaps some ground of objection to the first, which states that a child under the age of 11 years shall not be the subject of any employment. This may mean some hardship to the very poor, but although the tiny runners of errands may not be asked to do anything beyond their powers children ought not to be looked upon as bread-winners. The by-laws relating to street employment by persons under the age of 16 years should go a long way towards bettering the condition of kerb-merchants and of preventing these young people from being exposed to many of those evils which street trading necessarily implies.

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[1] Proceedings of the Zoological Society, 1904.

RED RUBBER.

IN a letter published in THE LANCET of June 10th, p. 1610, Mr. F. A. Pond drew attention to the fact that sulphide of antimony is an important constituent of red rubber and he produced certain evidence which in his opinion lent colour to the view that there was possibly a connexion between the use of red rubber rings in the stoppers of mineral water bottles and appendicitis and other intestinal disorders. It is not the first time that an indictment against red rubber has been made and the fact that it contained sulphide of antimony was discussed at a meeting of the Royal Medical and Chirurgical Society in 1876[1] in connexion with tracheotomy-tubes. As far back as 1879 some correspondence appeared in the pages of THE LANCET[2] "On Effervescing Drinks and their Effects," in which one writer asserted that acetate of lead was used in the preparation of indiarubber bands for mineral-water bottles and he was of the opinion that some children had been unwell from drinking lemonade from these bottles. In a letter by another writer the use of acetate of lead was denied and in an editorial note to this letter it was stated that "we, too, have made several analyses of them—i.e., vulcanised rubber bands—and in no case have we found even a trace of lead to be present." The vulcanisation of rubber with sulphide of antimony is carried out on a large scale, and every piece of red rubber which we have examined—including rubber bands, washers, tubing, and rings—proved to contain this substance. According to our analysis the average amount was 16·83 per cent. of penta-sulphide of antimony, which is equivalent to about 10 per cent. of metallic antimony and 1·94 per cent. of sulphur in addition to that combined with the antimony. We could find no zinc nor could a trace of arsenic be detected in the sulphide. As to the possibility of mineral waters exerting any appreciable solvent action on the sulphide of antimony we think this is improbable as, excepting by the aid of hot strong acids or strong alkali, sulphide of antimony is with difficulty soluble. However, in order to clear up this point a number of experiments were made in which soda-water (containing sodium bicarbonate), potash water (containing potassium bicarbonate), lemonade (containing citric acid or tartaric acid and sugar), and beer were left in contact with rubber rings containing 16·83 per cent. of penta-sulphide of antimony. The test was somewhat severe as the liquids were shaken vigorously and frequently in contact with a large surface of red rubber and they were left for four days. On testing the liquid for antimony not a trace could be found. Nor was any soluble antimony found in a number of specimens of mineral waters contained in bottles provided with red rubber rings. In some instances, however, small specks of rubber were found in the liquid and the rings showed decided signs of wearing away. This effect of constantly turning the stopper on the rubber ring would, of course, be the same on other materials free from antimony, as, for example, grey rubber, cork, wood, and so on. The question remains whether if these pieces of detached antimonial rubber were swallowed they would set up an irritating action in the direction indicated. Chemically speaking, it is difficult to dissolve the sulphide of antimony out of red rubber. Prolonged treatment in hot strong alkali or acid will, of course, effect solution and will take out some sulphur, but physiological reagents are neither hot nor concentrated. And even if the red rubber were disintegrated the amount of antimony would be small, since it does not exceed, according to our analysis, 10 per cent. of the metal and the wearing away of the ring in the aerated water bottle is spread over a long time. Still, the use of a mineral compound containing an undoubtedly poisonous metal is always undesirable, even in small quantities, when articles of food and drink are concerned and the conviction that no harm is likely to ensue in such cases can only be carried home by doing away altogether with the suspicious component.

THE "FAKING" OF HIGH TEMPERATURES.

OF the value of the thermometer in clinical medicine there can be no question. Before the utilisation of the thermometer in practice some idea could be formed of the temperature of the patient by palpation but to be able to estimate exactly the degree of increase of temperature was an enormous step and, moreover, in some conditions, as in the cold stage of malaria, the sensation communicated to the hand of the physician is a very fallacious guide to the temperature of the patient. The great trust, however, which is placed in the indications of the clinical thermometer is not always justified, for patients have found that it is by no means difficult in one way or another to induce a thermometer to indicate a far higher temperature than that of the body. The motives for these deceits are various. Sometimes it is to obtain treatment as an in-patient of a hospital; sometimes it is merely to excite notice or sympathy, while in other cases the sole motive is to contribute to the amusement of the patient himself. The excitement caused in a ward by the occurrence of a temperature of 106° F. or even higher is not likely to be forgotten by any patient present at the time, and many patients will wish to emulate this achievement. The means by which a thermometer is induced to indicate a pyrexial temperature are numerous. The simplest is the utilisation of hot food. A cup of tea will send the mercury upwards in a rapid and surprising manner, and even hot potatoes or pudding will be equally efficacious. A poultice, too, or a fomentation will serve the purpose, and a hot water bottle has also been requisitioned. This is the easiest method and will suggest itself to the veriest tyro. The next mode that may be mentioned utilises the effects of friction. If a clinical thermometer be grasped firmly near its lower end and the bulb rubbed smartly on any texture—flannel is the most suitable material—the mercury will soon rise and, indeed, the bulb may become too hot to be pleasant. This method puts a good deal of strain on the constriction just above the bulb and the thermometer is likely to give way there. In some instruments the mercury can be thrown up the scale by an energetic jerk but this should never deceive an observant physician, for there will be a very obvious break between the constriction and the lower part of the mercurial column. The desire for thermometers which act rapidly has necessitated the production of instruments the bulbs of which have very thin walls. In these thermometers it is possible by pressure very carefully adjusted to compress the bulb to a minute extent, causing a small portion of the mercury to leave the bulb and to pass into the tube, so that a high temperature is indicated. Malingerers exert this pressure chiefly by means of the teeth and therefore this method works best when the temperature is taken in the mouth. The pressure required is not great when the thermometer is suitable. In some very thin subjects it seems possible that even an axillary temperature can by pressure be made to appear unduly high. These are the methods by which pyrexial temperatures can be "faked" and it is necessary for the physician to be on his guard against them. We do not venture to say that all the cases of very high temperatures, such as 115°, 120°, 125°, and even higher, that have been recorded are fraudulent, but we have no hesitation in declaring that in the vast majority of cases there has been fraud. It is often exceedingly difficult to detect, but it is always possible, if sufficient care be taken, to demonstrate that the thermometric readings are untrustworthy. The most important point is to have several thermometers; one in each axilla, one in the mouth, and one in the rectum. If these all give widely divergent readings it is clear that fraud is being employed. In many conditions, such as hemiplegia, there may be a well marked difference between the temperatures taken in the two axillæ, and this has to be borne in mind, but a marked divergence between the results will infallibly point to deceit. The rectal temperature is by far the most trustworthy, but for absolute certainty the thermometer must be held in position the whole of the time. Should it occur to any of our readers to experiment in the direction of "faking" high temperatures we would suggest the desirability of laying in a good supply of thermometers, for some are sure to be broken. The pressure method is especially fatal.

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[1] THE LANCET, Dec. 2nd (p. 785) and 30th (p. 943), 1876.

[2] THE LANCET, August 9th (p. 225) and 30th (p. 337), 1879, and Sept. 20th (p. 449), 1895.

ACUTE OBSTRUCTION OF THE DUODENUM IN POTT'S DISEASE OF THE LUMBAR SPINE.

IN the *Archives Générales de Médecine* of March 14th Dr. Gaussel has published a case in which Pott's disease of the lumbar spine led to the formation of an abscess behind the duodenum and acute obstruction of that organ—a complication which does not seem to have been recorded previously. A man, aged 46 years, was admitted into hospital under the care of Professor Grasset in August, 1903. Since 1890 the patient had suffered from attacks of bronchitis accompanied by hæmoptysis. In front on the left side the chest was hyperresonant, expiration was prolonged, and there were numerous sibilant râles; on the right side at the apex there were dulness and subcrepitant râles. Behind auscultation gave the same signs. The cardiac dulness was absent and the heart sounds were masked. There was no pyrexia. Chronic bronchitis, emphysema, and tuberculous softening of the right apex were diagnosed. The sputum contained tubercle bacilli. The patient quickly improved and was able to get about and make himself useful in hospital. But in October he complained of pain in the lumbar region which impeded walking and caused him to curve his body to the right. The pain radiated into the left flank and was increased by pressure on the spine at the level of the fourth lumbar vertebra. There was no projection of the spine and radioscopy was negative. The pain persisted in spite of local applications and was not relieved by rest in bed. Indeed, it seemed to the patient to be increased when he lay on his back. At the beginning of December the pains still persisted and there was further weakness of the legs in walking, which was always performed with the trunk curved to the right. On Dec. 4th examination revealed slight atrophy of the left lower limb; Babinski's sign was not present. There was paresis of the flexors of the thighs on the pelvis, for the patient could not raise himself to the sitting posture without the aid of his arms. The presence of this paresis and of the pain at the level of the fourth lumbar vertebra pointed to pressure within the spinal canal on the cauda equina. Tuberculous meningitis at this spot was thought of, for the negative result of radioscopy seemed to exclude caries. Under rest in bed improvement took place and the patient was able to leave hospital in April, 1904. The paresis had not progressed and he could walk better. On June 16th he was readmitted suffering from profuse hæmoptysis and dyspnœa. The hæmoptysis seemed to come from the right apex where there were signs of great congestion. On the left side there was generalised bronchitis which tended to invade the small bronchi. The evening temperature was 101·3° F. On the 20th he complained of acute abdominal pain and vomited a large quantity of greenish liquid containing much bile. The pain was situated in the right hypochondrium and was spontaneous but increased by attempts at palpation. There was also hiccough. The vomiting was continuous; all liquids taken were rejected mixed with bile after a short sojourn in the stomach and injections of morphine and heroin pills had no effect. Duodenal obstruction below the ampulla of Vater was suggested. On the 23rd the vomiting persisted, the pain was always acute, and incessant hiccough exhausted the patient, who lay helpless in his bed. Only nutrient enemata and injections of morphine were given. On the 24th the vomiting had ceased but the pain was always acute and the hiccough continued. On the 26th milk could be taken by the mouth but the hiccough persisted. The patient became weaker and died from the thoracic disease on July 1st. It was thought that the duodenal obstruction was due to tuberculous peritonitis localised in the neighbourhood of the duodenum. The necropsy showed great congestion of the lungs. At the right apex was tuberculous softening; the lung was full of small tubercles surrounded by fibrous tissue. There were no signs of peritonitis, but behind the duodenum, in connexion with the fourth lumbar vertebra, was a chronic abscess of the size of a large walnut. The spinal membranes were normal. The abscess contained tuberculous pus and communicated with a cavity in the fourth lumbar vertebra. A probe was passed into the latter and on slight pressure it perforated the thin barrier of fibrous tissue which separated the abscess from the spinal canal. Although the meninges and nerves at this spot appeared normal microscopical examination showed the existence of neuritis. Dr. Gaussel thinks that the duodenal obstruction was due to spasm provoked by the abscess.

THE PIETERMARITZBURG LABORATORY.

THE annual report of the Government bacteriologist and director of the Pietermaritzburg Laboratory for the year ending in December, 1903, serves to show that in matters affecting the public health at least we can not only "think imperially" but can convert our ideas into labours for the good of the empire. The establishment of such laboratories as this at Pietermaritzburg is primarily intended for the benefit of the colonies in which they are situated, but the work done in them has a far greater area of usefulness. The director, Mr. H. Watkins-Pitchford, reports the growing use made of the laboratory by the health and veterinary departments, the private practitioner, and by the criminal investigation departments. The routine work consists in examinations for the diagnosis of enteric fever, diphtheria, malaria, &c., the analysis of water-supplies, and the preparation and supply of some half-dozen varieties of vaccine. Of the vaccine for quarter evil alone some 17,000 doses were distributed during the year. In addition to the routine work a very valuable bacteriological investigation of plague in Natal in 1902-03 was undertaken. The morphology and vitality of the bacillus pestis as met with in this epidemic were carefully studied. The report is lavishly illustrated with reproductions of excellent photographs and forms a very complete account of the variations in morphology produced by alterations in the composition of the media employed and changes in other cultural conditions. A valuable series of experiments was undertaken to control the important results obtained by Professor W. J. Simpson at Hong-Kong, which showed the possibility of the infection of many varieties of domestic animals by the ingestion of infectious food. The results obtained in Natal were very different from those obtained in Hong-Kong and agree with the earlier observations of French investigators. It was found practically impossible to infect South African herbivora, pigs, and birds. The director is to be congratulated on the issue of this excellent report.

THE THAMES STEAMBOATS.

THE London County Council has done many things; for some of which it has been heartily praised and for others equally heartily condemned. Its latest venture, however, can, we imagine, meet with few detractors. Anything which encourages Londoners to know their own river well deserves warm approbation and anything which serves to relieve their over-congested roads perhaps even warmer praise. A steamboat service which is likely to meet both these ends to a large extent is therefore an achievement on which the Council may be cordially congratulated. It is a truism that those who inhabit fine towns rarely know the fine sights of their own city so well as the occasional visitor does. They do not set about seeing these things, knowing that they are always at hand. Thus it happens that there are thousands of Londoners who have never realised all that there is which appeals to the eye and to the imagination that can be seen in a trip from Greenwich to Battersea even. Such ignorance should now no longer remain possible. From the hygienic point of view as well as from the artistic there is much to be said for the river-way. And the business man or clerk who is fortunate enough to be able to reach his daily destination by water has a boon that is denied to him who travels in a crowded carriage on the Metropolitan or the Tube railway. The air is fresh on the water even though that water runs through the midst of a mighty city.

RADIUM AND VITALITY: "RADIOBES."

CONSIDERABLE publicity has been given in the lay press this week to the results of a remarkable series of experiments made in the Cavendish laboratory at Cambridge by Mr. John Butler Burke on the spontaneous action of radioactive bodies in gelatin media. The first account of these experiments appeared in a signed letter published in *Nature* of May 25th, and in this account the writer promised more details "shortly," but so far as we know no further communication has been published. Briefly the experiment consisted in placing radium salts in sterilised gelatin culture, care being taken to sterilise both the salt and the broth before commencing the experiment. After 24 hours or so in the case of the bromide and about three or four days in that of the chloride a peculiar culture-like growth appeared on the surface and gradually made its way downwards until after a fortnight in some cases it had grown fully a centimetre beneath the surface. The controls showed no growth whatever. At first sight on microscopical examination the growth appeared to be due to microbes but as they did not give subcultures when inoculated in fresh media they could scarcely be bacteria. Their presence would appear to be due to the spontaneous action of the radium salt upon the culture medium and not solely to the influence of anything which previously existed therein. Mr. Burke concluded after a careful and prolonged examination of their structure, behaviour, and development that they are highly organised bodies, although not bacteria, and that they arose in some way from the action of the invisible particles of radium. He has proposed to give these bodies the name of "radiobes" as indicating their resemblance to microbes as well as their distinct nature and origin. It has been suggested that they are, after all, crystals, but Mr. Burke is confident that they are not of the nature of crystals. Whilst admitting the extreme interest of these results the evidence that gelatin culture has been vitalised by purely physical and inorganic agencies, that life has been established out of inanimate materials, is not at the present stage of the experiment convincing and further results will be awaited before the opponents of the "spontaneous theory" may be induced to abandon their position.

THE MEDICAL OFFICER OF HEALTH OF THE GLOUCESTERSHIRE COMBINED SANITARY DISTRICT.

A CONFERENCE of representatives of the urban and rural districts comprised in the Gloucestershire combined sanitary district, convened at the request of the Local Government Board, was held at Gloucester on June 19th. The object of the meeting was to consider the present position, in view of the recent action of the Chipping Sodbury council, in reference to the appointment of medical officer of health. All the councils in the combined district were represented with the exception of Chipping Sodbury. Motions favouring a continuance of the combination were adopted, reference was made to the length of time of Dr. F. T. Bond's services and to the efficient manner in which he had carried out his duties, and the Chipping Sodbury council was urged to reconsider the matter.

CHILDBED MORTALITY.

IN a paper on the Mortality of Childbed read before the Obstetrical Society of London Dr. Robert Boxall compared the records of the York-road Lying-in Hospital and those of the Registrar-General for London, England and Wales, Scotland, and Ireland.[1] The conclusions at which he arrives are interesting. In spite of the large number of severe cases sent in the death-rate in the hospital is much lower than that recorded in the Registrar-General's returns. Both with regard to the accidents of childbed and septic diseases the hospital death-rate is less than that of private practice. If the mortality of childbirth for the last 25 years in the hospital and that for the last three years for which figures are available in England and Wales are compared the ratio is as 3 to 4. During the last 16 years only four fatal cases of septic disease, all introduced from without, have been treated in the hospital. Dr. Boxall in calculating the death-rate has based it upon the number of registered births and from his statistical studies draws the following conclusions. The total death-rate from childbirth has not diminished in England and Wales, in Scotland, or in Ireland, where it is abnormally high as compared with the other divisions of the kingdom, but in London it has declined considerably. The death-rate from the accidents of childbirth has declined slightly in each division of the kingdom but is abnormally high in Ireland and in London has markedly diminished. The death-rate from puerperal septic diseases has, if anything, shown a tendency to increase in each division of the kingdom but in London has been declining for at least the last decade. It is most interesting and encouraging to note that the total death-rate in these cases is diminishing in London and we may justly draw the conclusion that the stricter training of both students and nurses is at last bearing some fruit. No doubt in Ireland the ignorance of the midwives and the difficulty of obtaining proper medical attendance are both very great and this may well explain the abnormally high death-rate prevalent in that country. We may certainly hope that in another ten years' time, when the influence of the new Midwives Act begins to make itself felt, the death-rate not only in London but all over the kingdom will show signs of a steady decrease. In view of the very high death-rate in childbed which Dr. Boxall has shown to prevail in Ireland it is all the more to be regretted that the new Act does not apply to that country.

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[1] THE LANCET, May 13th, 1905, p. 1269.

A MEMORIAL TO THE LATE DR. GEORGE VIVIAN POORE.

WE have much pleasure in announcing that it is proposed to place a memorial in University College Hospital to Dr. George Vivian Poore who died in October, 1904. For 30 years he was on the hospital staff as assistant physician and physician and at University College he was for nearly 20 years professor of medical jurisprudence and afterwards professor of medicine. His distinguished services to the hospital and medical school, his personal merits, and the practical value of his literary work justify an appeal to his numerous friends and old pupils to establish a permanent memorial of him. If a sufficient sum is collected a bed in the hospital will be named after him, as was done in the case of his friend, the late Mr. Marcus Beck, and a medallion portrait will be placed in some appropriate position. The necessary arrangements are being made by a large committee, consisting of past and present members of the hospital staff, together with the Right Hon. Lord Reay, President of University College, the Right Hon. Lord Monkswell, vice-president of University College and treasurer of University College Hospital, Sir Richard Farrant, treasurer of University College, Dr. T. Gregory Foster, principal of University College, and Mr. Henry Lucas, chairman of the hospital committee. Dr. Sidney Martin is the secretary to the committee. Subscriptions may be sent to the treasurer, Mr. R. J. Godlee, F.R.C.S. Eng., 19, Wimpole-street, Cavendish-square, London, W.

RECURRING SUBLUXATION OF THE FEMUR AFTER INJURY.

IN the *New York Medical Journal* of June 3rd Dr. P. Le Breton has published an important case in which recurring subluxation of the femur followed an injury which he regards as "incomplete fracture of the neck of the femur" but which probably would be more correctly described as impacted fracture. A girl, aged 15 years, was seen on Nov. 17th, 1903. 14 months before she had fallen on the left hip in the street. Although in considerable pain she was able to walk home. She did not go out for three weeks but limped about the house. After the injury she always walked with the leg and thigh flexed and stepped on the ball of the foot, rotating the leg slightly outward. After the three weeks she began to go to school again. She complained of slight pain which was relieved by adopting the attitude described for walking. Five months later she received a push from another girl which strained the hip and increased the pain. For the last three months she had noticed on attempting to extend the thigh while in the upright position a sudden jerk or slip at the hip which caused sharp pain. On examination she was found to be a well-developed, strong girl. While standing or walking she kept the thigh and leg somewhat flexed and the heel off the ground. There were slight outward rotation of the limb and prominence of the great trochanter. On lying down the limb was easily placed in a normal position but on rising the deformed position was immediately assumed. On attempting forcibly to straighten the thigh in the upright position the trochanter suddenly moved forward and became less prominent. It seemed as if the head of the femur slipped into its socket over the edge of the acetabulum or an abnormal ridge. A fulness could be felt under the gluteal muscles which disappeared as the slipping occurred. The sensation resembled that produced on reducing a congenital dislocation. Voluntary muscular spasm resisted every movement of the thigh but there was no limitation of motion. The left leg was three-eighths of an inch longer than the right, which was probably due to overgrowth. Slipping of the bone did not occur in the prone position. A skiagraph showed thickening of the neck of the femur and diminution of its angle but not enough to give rise to the symptoms of coxa vara. As the parts were in a normal position when the patient was recumbent a modification of Lorenz's treatment was advised. A plaster-of-Paris bandage was applied in this position to fix the leg in place until the tendency to subluxation was overcome. To prevent the patient from assuming her old position it was found necessary to extend the plaster from the lower ribs to the ankle. She walked well without pain and brought the sole to the ground for the first time in over a year. After three months the plaster was removed and she walked normally except for a limp which later disappeared. There was no tendency to subluxation and the slipping movement could not be reproduced. All the movements of the hip were normal but the knee was stiff from its confinement. Some months later recovery was complete. Dr. Le Breton thinks that the accident caused an incomplete fracture of the neck of the femur which nature repaired and that to favour repair the girl adopted a position which resulted in stretching of the capsule of the hip-joint and finally in subluxation, so that on standing the head of the femur was not in the acetabulum. But it seems more probable that the injury involved the capsule as well as the neck of the bone and that some tear in the former was the cause of the subluxation.

VOYAGES D'ÉTUDES AUX EAUX MINÉRALES.

THE annual "voyage" of medical men and students will this year comprise the most important stations in the Western Pyrenees. It will start from Luchon on Friday, Sept. 1st, and will terminate at Arcachon on Thursday, Sept. 14th. The price to be paid, which includes everything between these two places, is £12. There are no extras of any kind. The travelling is by first-class special train and the accommodation is the best which each place has to offer. In order to reach Luchon a ticket (first- or second-class) at half-price will be issued from any selected point on French territory and a similar reduction will be made on the ticket from Arcachon to the point of departure from French territory. The district to be visited is remarkable for its extreme beauty and interest as are the stations for their therapeutic value. Among them are such well-known resorts as Luchon, Cauterets, Saint-Sauveur, Eaux Bonnes, Pau, Biarritz, Dax and Arcachon, together with many of minor importance. The particular features of each place are briefly described by Dr. Landouzy, professor of clinical medicine at the University of Paris. Medical men (who may be accompanied by their wives), medical women, and students in medicine are eligible to take part in the trip. Names must be sent in so as to reach Paris on or before August 15th. They should be accompanied by the subscription (£12) which may be in the form of an ordinary English cheque payable to Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, or to Dr. Leonard Williams, 8, York-street, Portman-square, London, W., from either of whom any further particulars may be obtained. Dr. Boyd B. Joll writes to us to say that Luchon may be reached *viâ* Bordeaux by the General Steam Navigation Company's boat which will leave London on Saturday, August 26th, and which will return to London on Sept. 19th, but those wishing to proceed to Luchon *viâ* Paris will be able to cut the trip shorter by about five days.

THE FRENCH HOSPITAL.

OUR London contemporary, *La Chronique*, gives an excellent account of the French Hospital in London and the convalescent home at Brighton. The former is still further to be enlarged, as the committee, through the energy of M. Pondepeyre, the secretary, has been fortunate in acquiring the freehold property adjoining, so that when the new addition is completed it will occupy the whole block situated between the present site and the junction of Shaftesbury-avenue with Great St. Andrew-street. A large addition has been made to the convalescent home which is now completed and is to be opened by the French Ambassador. The annual banquet was held two weeks ago and in spite of the present financial depression the sum of £3600 was collected for the benefit of the charity. The Ambassador proposed the toast of "Le Corps Médical" and in thanking him on behalf of his colleagues Dr. George Ogilvie concluded by referring as follows to the hospitality which they had received in Paris: "Cette fête fut splendide, et nous fûmes reçus avec une hospitalité toute Française. Que dire de plus!"

EXPERIMENTS ON LIVING ANIMALS.

A RETURN showing the number of experiments performed on living animals during the year 1904 has been issued as a Parliamentary paper. In addition to the reports of the inspectors for England and Scotland and for Ireland, appointed under the Act, it contains lists of registered places, the names of licensees who performed experiments and of those who, though possessing certificates, did not perform experiments, and the number and the nature of the experiments. The total number of experiments performed in England and Scotland, both with and without anæsthetics, was 32,562, being 13,478 more than in 1903, the principal increase being in the number of simple experiments, such as inoculations, hypodermic injections, and some few other proceedings performed without anæsthetics. In Ireland there were 155 experiments which were for the most part inoculations or injections. Only 11 were of a physiological and 11 of a pathological nature. As the certificates differ in their nature and many licensees hold more than one certificate it is to be expected that there should be an occasional error of judgment on the part of the licensees but only the following cases occurred in England and Scotland while in Ireland there was none:—

1. A licensee, who held Certificate A for the performance of inoculation experiments without anæsthetics, made injections into two rabbits under a local anæsthetic. 2. A licensee, who held the necessary certificate, made injections into guinea-pigs for testing samples of milk at a registered place for which his licence had not been made available. 3. A gentleman, whose licence expired on Feb. 29th, performed ten inoculation experiments on mice before his licence was renewed. 4. A licensee, who held a certificate entitling him to perform eight such experiments, made inoculations for the purpose of diagnosis from eight cases of suspected disease into 17 rabbits. These must be counted as 17 experiments, in accordance with the principle laid down by the Secretary of State that the number of animals used shall not exceed the number of experiments allowed.

In each of the divisions of the United Kingdom the report states that the animals were always found to be suitably lodged and cared for, while the licensees acted in every way in accordance with the letter and spirit of the Act.

THE annual prize-giving of the London (Royal Free Hospital) School of Medicine for Women will take place on Thursday next, June 29th, at 4 P.M., when Mr. H. T. Butlin will present the prizes. The annual distribution of prizes to the students of the Medical School of St. Mary's Hospital will take place on the same day at the same hour. The prizes will be distributed by Sir John Gorst. The distribution of certificates and prizes at King's College, London, will be made by the Rev. James Gow, Litt.D., Headmaster of Westminster School, on Wednesday, July 5th, at 3 P.M. The museums and laboratories will be open to visitors.

THE Epidemiological Society of London will celebrate the fifty-fifth anniversary of its foundation on Friday, June 30th, when the annual dinner will take place at the Grand Hotel, Trafalgar-square, London, at 7.15 P.M. The President, Dr. B. A. Whitelegge, C.B., His Majesty's Chief Inspector of Factories, will take the chair.

THE Bishop of Ripon, chairman of the executive committee of the proposed National League for Physical Improvement, will give a dinner, "to meet the members of the League," at the Hotel Cecil, Strand, London, to-day (Saturday) at 7.30 for 8 P.M.

WE deeply regret to announce the death of Professor Mikulicz, the celebrated Austrian surgeon, at the comparatively early age of 55 years.

THE ARMY MEDICAL REPORT FOR 1903.[1]

FIRST NOTICE.

WE congratulate the Director-General of the Army Medical Service on having to submit to the Secretary of the Army Council a favourable report, which has just been published, on the health and the sanitary condition of the army for the year 1903. The report is a full and voluminous one and, as usual, includes records of the health of every home and foreign station where troops are serving.

If we remember aright it was Anthony Trollope who, regardless of the first principle of statistical science, jocosely remarked that he did not believe any statistics above six. And notwithstanding that statistical safety is only to be found in large numbers it must be confessed that to the general reader statistical reports—and these annual volumes are necessarily largely made up of statistics—can scarcely be regarded as a pleasant and diverting form of light literature. Still, there is much interesting information concerning the health of troops serving at home and abroad which can obviously only be obtained in this way. It is therefore necessary to deal with it and we shall strive to do so as succinctly as practicable and in close adherence to the report itself. In the first place, then, and as a broad, bald statement of fact, the average strength of European troops serving at home and abroad in 1903 was 242,182 warrant officers, non-commissioned officers, and men. The total number of admissions to hospital was 183,598, the total deaths were 1881, and the total number of men finally discharged from the service on account of disease and injuries was 4922. The admissions represent a ratio of 758·1 per 1000 of strength; the deaths one of 7·13 per 1000 on a strength of 263,888, which includes detached men not shown in the returns received. These ratios compare very favourably on the whole with those of the preceding year and with those for the decennial period from 1893 to 1902.

The troops serving in the United Kingdom in 1903 numbered 110,565. The admission, mortality, and constantly sick rates were 586·9, 3·41, and 35·23 per 1000 respectively. The report states, as in our opinion it is quite warranted in doing, that the admission-rate, seeing that the returns include all classes of sickness, both mild and severe, compares favourably with that of other armies, while the death-rate cannot be regarded as excessive when it is borne in mind that it is not merely a rate resulting from sickness originating in the United Kingdom but that the deteriorating effect of conditions of tropical service has also to be taken into account. The returns, moreover, include many diseases contracted during service abroad—and we need scarcely point out how serious and fatal these often prove to be. In these respects no real comparison can be made between the British and other armies. Taken as a whole the figures for 1903 make a good record, especially as compared with 1902, when the strength was less than in 1903. For England and Wales the admission- and death-rates show a decrease; in Scotland the admissions to hospital were less but the death-rate was higher; while in Ireland both rates were reduced.

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[1] Army Medical Department Report for the year 1903. Vol. XLV. London: Printed for His Majesty's Stationery Office by Harrison and Sons, St. Martin's-lane [illegible] His Majesty. And to be purchased, either [illegible] y bookseller, from Wyman and Sons, Limited, [illegible] Oliver and Boyd, Edinburgh; E. Ponsonby, 116, Grafton-street, Dublin; or Eyre and Spottiswoode, London, E.C. 1905. Price 2s.

Only two cases of small-pox occurred in 1903 and the admission-rate for other eruptive fevers was lower than in the preceding year and as compared with the decennial average rate. There were 92 admissions and 28 deaths from enteric fever (a relatively high mortality). Aldershot had 27 cases and, as illustrating what we have already said, 16 of these are reported as having probably contracted the disease in South Africa or on the voyage home.

Turning to foreign stations and passing these rapidly in review, there is nothing calling for special attention at Gibraltar. At Malta the most noticeable point is that the prevalence of Mediterranean fever was much in excess of previous years; it caused 404 admissions, with nine deaths amongst the men, and 133 had to be invalided. 54 cases occurred amongst the officers, 21 of whom were invalided, while there were 70 cases amongst the women, with one death, and 33 cases amongst the children, also with one death.

In the South African command, with an average strength of 27,680, the admission, death, and constantly sick rates were 797·8, 11·06, and 60·03 per 1000 respectively. One [illegible] There were 145 cases of [illegible] been introduced into the [illegible] from England. Enteric [illegible] It caused 1155 admissions, 138 deaths, and the invaliding of 212 men. The disease shows, we are told, a regular periodic prevalence which is associated with the hot and wet season. Its prevalence usually begins in October and declines about May and invariably the fever is in almost complete abeyance during the dry cold weather of June, July, August, and part of September. The key to the prevention of the disease in South African experience, as in that of India, is to be found, the report says, in the *prevention of soil pollution.*

It is noteworthy that at Mauritius, in which colony plague was very prevalent during the later months of the year, only one case (the patient recovered) occurred among the European [illegible] ises amongst the non- [illegible] he troops in Ceylon was [illegible] for enteric fever.

Passing on to India, we are glad to call attention to the fact that the health statistics for the year were exceptionally [illegible] that for any of the [illegible] decrease in the [illegible] rates. The chief [illegible] venereal diseases. As regards enteric fever there was an increase in the [illegible] indeed to sanitarians generally.

In connexion with this we may refer the reader to the report "On the Health of the European Troops serving in India," *vide* pp. 219 to 252. There is no need to enter any further into this subject now. It suffices to say that the sources of infection are manifold and as having a close bearing on this subject the reader is referred to THE LANCET [illegible] review of the "Report on the [illegible] Fever in United States Military [illegible] r of 1898." Considering the very extended period during which the bacillus may be detected in the urine (typhoid bacteriuria) of those who have suffered from the disease, the infection is very difficult to be guarded against. In addition to the rigorous system of sanitation and hygiene enforced in the Japanese army and to the great attention paid to personal cleanliness, the Japanese soldiers are said to have recourse to creasote pills with which they are supplied on field service as a prophylactic, but whether their use has contributed to the relative immunity of the Japanese troops to enteric fever in the present war is more than we can say.

In the remarks on dysentery in India, which caused 1133 admissions and 42 deaths as compared with 1238 admissions and 44 deaths in 1902, it is stated that— [illegible]

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XVII.[1]

REFORM IN THE MEDICAL PROFESSION.

A Recapitulation of Prominent Grievances.—The Organisation of the Medical Profession.—The British Medical Association.—Local Medical Unions.—Medical Defence Associations.

THE object of writing these chapters has been to display the present state of the medical profession from a sociological point of view rather than to suggest methods of reform for admitted abuses, though in many instances the remedy for such admitted abuses has been pointed out. This has been done only when there was no doubt about either the existence of the evil or the procedure which should be used to combat it. The cause of reform generally, however, should be benefited by the bringing together of material for debate where subjects of dispute are touched upon, and by an attempt to appreciate the grievances of the medical profession at their proper value and to regard them with some sense of proportion. Although the main aim has been not to inaugurate any course of action so much as to furnish material upon which action can be taken, certain obvious directions in which reform should occur immediately may now be indicated. Most of them depend upon two things. Medical union is wanted—medical combination in an intelligent and liberal form, a professional union based upon the public needs and not a trade union directed towards the amelioration of a class as against the community. And a better understanding with the public is also sorely needed. When these tw [illegible] hat is now hard [illegible] and unj [illegible]

Take, for example, [illegible] ice in the navy, in the army, and in the Indian army. They can be altered at a moment's notice at the instance of the respective powers that be; all that is necessary is to convince those authorities that such alterations are advisable. Substantial improvements have been made in the conditions of employment in all three services of late, as has been shown, and it is necessary that allowance should be made for the things that have been done when the plea for more is put forward. It is impolitic as well as inaccurate to continue to speak as if no self-respecting medical man could accept commissions in the three services. Talk of this kind, as well as threats of boycotting, perpetuate and confirm the most unfortunate thing in the present position—viz., the social disadvantage under which the services seem to lie. It is a fact that the recent failure of a popular service club in London has been attributed openly to the action of the committee in electing medical officers. Consider the significance of such a statement even though it contains not a modicum of truth! It stands to reason that candidates for the services may be prevented by such stories from entering for commissions, which may be a very serious thing for the services, although there has been of late more competition to join them. The matter is one that is not much discussed in the medical press, for many who have the dignity of the profession at heart consider that in commenting upon the exclusion from clubs of medical officers undue stress is laid upon a mere act of snobbery, but I think no excuse is necessary for referring to it again here. The natural dislike of a young man to being reduced, through no fault of his own, to a position of social inferiority is one of the chief things that has kept commissions vacant, while the undermanning of the services, especially of the Royal Army Medical Corps, has been at the bottom of many of the troubles that have occurred of late years. It is no answer to the objectionable action of certain clubs to say that *if a medical man is a good fellow* he is never left out in the cold. Every other officer is admittedly the social equal of his brother officers *unless he is a very bad fellow*, which is a completely different thing. The situation, however, bids fair to be altered. Recently one of the best service clubs in London, at a special meeting, revised the ill-considered attitude of a previous election which had resulted in the exclusion of the medical officers, and there is good reason to suppose that this particular trouble is now over. It would never have occurred if the public, as represented by the army, had been in the least cognisant of medical aims and ideals and if the spokesmen for the Army Medical Service had kept those ideals in the van of their arguments. The various directions in which the warrants might be amended—nay, should in justice be amended—have all been mentioned in the chapter dealing with the military and naval medical service and there is not an alteration asked for that could not easily be granted. No opportunity should be lost by any member of the medical profession in pressing the just claims of the medical officers of the navy, the army, and the Indian army, but exaggerations and threats of boycott should be eschewed. The sense of the country is all in favour of a good medical service both in the army and the navy, and if the country could see that the civilian members of the medical profession were in complete sympathy with the equitable claims of the service members there would be less reluctance to reform on the part of the Government departments.

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[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., and XVI. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), 22nd (p. 1089), and 29th (p. 1151), May 6th (p. 1218), 13th (p. 1287), 20th (p. 1373), and 27th (p. 1449), and June 3rd (p. 1533), 10th (p. 1584), and 17th (p. 1657), 1905, respectively.

In a similar way, if the country and the Houses of Parliament could be made to understand that the difficulties of medical officers of health and Poor-law medical officers in different parts of the kingdom are not only very real but form sources of danger to the community at large those difficulties would soon receive attention. There is at the present moment before Parliament a little Bill[2] which has the support of the British Medical Association and which has two simple objects. It would insure that none but those properly qualified should be appointed as medical officers of health or sanitary inspectors, and it would give to all such officers and inspectors similar security in their tenure of office to that enjoyed by London medical officers of health. Security of tenure for medical officers of health and sanitary inspectors, so that the public health of the community may not be dependent upon the caprice of imperfectly constituted authority, would seem at first sight to be a measure of reform about which there need be no hesitation. There need not be any confirmation in office of unsatisfactory officials and there need be no difficulty about the removal of anyone who did not do his duty. No one suggests that the cause of sanitation demands such over-protection of medical officers; but to secure the public safety it is necessary that the executive officers should have a position commensurate in some degree with the importance and responsibility of their posts. The medical officers of health all over the country should be placed somewhat in the position which they enjoy in London—that is, they should be safe from individual spite and should be able to carry out a well-considered policy extending, it may be, over a term of years. No private interests of theirs or of anybody else should conceivably come between the public officers and their public duty. The community should see this, when Parliament would at once see it. The differences between the job work of the tradesman and the professional work of the sanitarian are not clear to the public but surely they could be made so if the medical profession were, as a whole, resolved that they should be.

The special grievances and drawbacks under which the medical profession labours in Ireland and Scotland can be removed at once by direct legislation aimed at patent abuses, but again the necessary prelude is unanimous opinion on the part of medical men. The eccentric subordination of the Scottish parish officers to a parish council and the harsh treatment of the Irish dispensary officers, who form nearly half the general practitioners of their country, are matters which require no further discussion to make clear the immediate necessity for their remedy. The Irish dispensary medical officer should have proper pay, proper pension, and proper treatment as a Government officer; the Scottish Poor-law medical officer should be fairly subsidised in the districts where subsidy is needed and should be protected from parochial tyranny. The position of education in Ireland, and the warring of the two great divisions of the Christian faith, produce in that part of the United Kingdom particular complications, and it must be recognised that the question of creed accounts for some of the difficulties in Ireland that may have only a professional aspect. It is rash to make any suggestion of reform here, for, in respect of Irish affairs, whoever does not agree with a proposition always considers its proposer an ass, and generally says so. However, it seems to me that the institution and subsidy of two new universities in Ireland would meet all the troubles due to the lack of higher education in that country. The need of a Roman Catholic University in Ireland arises from a feeling on the part of the Roman Catholics against the education of their children with the children of other faiths. The logicality of this feeling is much in dispute, but it is a strong and general one on the part of the majority of the inhabitants of Ireland and must be respected as such. The endowment of a university for the north of Ireland which, though nominally upon non-sectarian lines, would tend to become a Protestant institution must accompany the extension of privileges to the Roman Catholic community, and probably the course which would give the greatest satisfaction would be the re-establishment (as has been suggested by Sir William Whitla) of the old Queen's University in headquarters at Belfast.[3] The educational position arising out of the mixed religions of the community has been dealt with more or less successfully in Canada. In Ontario, where the majority is Protestant, and in Quebec, where the majority is Roman Catholic, good educational standards are obtained by a dual system. Why should politicians despair of obtaining the same in Ireland?

In all the circumstances so far alluded to, reform should follow immediately upon the definite action of a superior authority, whether it be Imperial Parliament, the War Office, or one of the Local Government Boards, having the desire to remove the abuse. And if the medical profession were properly organised, so that a common opinion upon many matters of medical politics were seen to be held, it would not be so difficult as it is to move Parliament or any constituted authority in the proper direction. A steady plea for justice, made with determination and moderation and backed by incontrovertible argument, has told already in several directions, but a unanimous expression of opinion from the medical profession would make the cause of reform much simpler. This, however, is lacking and it sometimes seems as if the medical profession were without a coherent view upon some of its most vital interests. A man may know what affects him personally in his professional life, but he seems never to appreciate that a similar thing may also affect his professional brother, while the medical men who do think about the conditions under which they work in something of a statesmanlike manner are rare. This is easy to understand, though it is none the less regrettable. Those who have few or no grievances cannot be expected to press for front places in the ranks of reform, and it happens that those who have few or no grievances are exactly those who would have most influence in obtaining redress, while those who suffer from the existing conditions have no time to make protest or no position from which to do so influentially. They possess no individual power and absence of organisation deprives them of the power of their numbers. Isolated members of this class see the immediate evil that threatens themselves and lift their voices in protest. But they do not see the troubles of other members of their own profession and they fail to take into account any general social factors that may be playing a part. Unbacked by any following of their own profession and unprepared with any arguments (save arguments that tell in favour of a limited class) why they should be listened to, they have no chance of effecting anything. Legislation will never be obtained for the benefit of medical men as a class, and no apology is needed for repeating this fact. What is good for the medical profession is good for the public, for it is to the public advantage to be served by a properly paid, properly organised, and self-respecting medical body. Demands for the redress of medical grievances on this ground will command weight, but here again it must be noted that neither the public nor Parliament can be stirred to the quick by generalities. It must be shown to Parliament that the public will be benefited certainly, and benefited primarily before legislation will occur, and to demonstrate these things requires organisation.

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[2] THE LANCET, March 4th, 1905, p. 587.

[3] The University Question in Ireland, by Sir W. Whitla, M.D. Irish University Education, by William Delany, S.J.

The medical profession is not, of course, entirely without organisation, and there are grounds for thinking that its power for safeguarding its interests is growing. The British Medical Association was newly constituted in 1902 with the distinct intention of forming a more vital medium of union between members of the medical profession, and sufficient time has not yet elapsed to show how far this intention will be fulfilled. By the new articles of the Association the central government is kept ingeniously in touch with the whole constituency, and representatives, whose travelling expenses are paid by the Association, can make the wants of medical men in all parts of the country known to the centre. That is to say that the British Medical Association in its present shape possesses a fine fighting machinery. Take, for example, the question of contract practice. If a member of a division of the Association intimated through that division to the branch of which it formed a part, and so to the council of the Association, that he was resigning a certain post because the conditions of tenure were unprofessional, it would be possible for the Association to ostracise all members of the Association who accepted the post which had been resigned. Again, every branch might constitute itself into a court of honour and so a system of ethical conduct might be evolved. The British Medical Association is in short a powerful combination. It has numbers, it has a sound working scheme, and all its members are, perforce, educated people who do not hanker after trade-union methods, but who merely desire the fair treatment that will enable them to do their work under proper conditions. With all these advantages we are right to expect great things from the British Medical Association in the direction of reform, but the body of members, if their attitude at general meetings may be taken as a criterion, are not yet sufficiently interested in the matter. They have, perhaps, not yet learned the powers of the body to which they adhere.

In the meantime a fair number of medical unions have been called into being with a view of establishing a consensus of professional opinion upon such matters as contract practice. Their members have perceived the conditions and the necessity for combined action. It is important that these societies should not cease from their task, although in the future the British Medical Association may be in a position to supersede them. At the present moment it is conceivable that the very completeness of the scheme of the Association is against its smooth working in the case of local troubles. The all-important thing in local troubles is speedy action, while the developments of the Association are towards a concentration of responsibility at headquarters which usually leads to delay. The time may come when the branches or divisions of the Association may be so familiar with the details of medical defence, with the methods of sanitary authorities, and with the aims of medical-aid associations as to be able to muster with promptitude behind an injured practitioner the full force of the Association. But at the present time this is not what occurs, and much of the work of protecting the practitioner from the effect of unfair competition has fallen upon local organisations.

In one direction the members of the medical profession can make use of machinery that has been ably and successfully planned for their protection. There exist in the Medical Defence Union and the London and Counties Medical Protection Society means whereby medical men can secure themselves against unjust treatment at the hands of the public, while the disciplinary functions of the General Medical Council can be assisted at the same time. Each of these two bodies is excellently managed and each has met with distinct and meritorious success in championing oppressed medical men. The ease with which accusations against the moral character or professional skill of medical men can be made is well known and swiftly perceived by all with a taste for *chantage*. To read the annual report of each of the two associations is to see how manifold are the risks which the medical man runs at the hands of the unscrupulous in the daily work of his life, while the many cases of triumphant defence prove that against organised resistance the tactics of the blackmailer are almost bound to fail. The Medical Defence Union and the London and Counties Medical Protection Society, covering the same ground in their efforts and located in the same city, would probably gain in utility to their clients by amalgamation, and such a fusion of funds and interests has long been debated as a policy that would make alike for economy and effectiveness; but, though the joint work that the two societies could do might more than double the total that they now accomplish separately, the value of their labours must not be belittled on this account. These two societies represent the best corporate attempt in the medical profession to deal with existing hardships, and the fact that they have been able to do so with a large measure of good fortune shows how much might be achieved by corporate effort of a more general character.

One of the principal objects of the change in the constitution of the British Medical Association was to place at the service of the medical profession an institution which should combine the advantages of a local medical society with those of an imperial organisation. The probability is that in time this object will be realised, but the present is a period of interregnum and only such already existing local societies as feel that they have not accomplished their aims are likely to exterminate themselves before seeing that the Association will be willing as well as able to fight their battles for them. There are several local societies which watch over the interests of their members with keenness and success. None of them is a particularly strong or influential body, but all have the merit of being prompt to act and familiar with the situations that may arise in the locality. I may mention, for example, the Northumberland and Newcastle Medical Association which has secured for medical men the respectful attention of mine-owners and miners who had previously regarded them as fair game for exploitation. Reform, if the word is to imply doing rather than talking, for the present depends, it seems to me, upon the multiplication of such bodies. This does not imply the creation of a crowd of new associations. In every populous centre the medical society—there is always such a body—should be prepared to deal with ethical questions and might be erected into an authority to decide upon professional matters. This would in no way change the character of the society as a scientific body, for the political and scientific sides could be kept apart in their working, while each would gain by the union. Thus, each section of the medical profession would become familiar with the needs of other sections, the stupidity of dissension would become patent, and the public would range itself on the side of well-founded demands for reform. Then reform would follow.

(To be continued.)

EPSOM COLLEGE.

A BRIEF ACCOUNT OF ITS FOUNDATION IN 1851, WITH PARTICULARS CONCERNING THE BENEVOLENT AGENCIES OF THE PROFESSION FROM 1840 TO THAT DATE.

IN view of the celebration of the jubilee of the opening of Epsom College on July 1st, when the council and the head-master will entertain a large party of old Epsomians at the College, our readers will no doubt be glad to have a brief sketch of the foundation of the College by Mr. Propert in 1851 and of the efforts made for some years before to inaugurate institutions to transact the two branches of work which are now so successfully carried out by the College—namely, the provision of a first-rate education for the sons of medical men at a moderate charge and the relief of medical men and their families when in distressed circumstances. Many old boys who were present at the opening of the College, or who went there very soon afterwards, have accepted the council's invitation and it is easy to imagine the satisfaction which they will experience at calling to mind the buildings of their time which were just sufficient to accommodate 150 boys and stood in about 17 acres of land, whilst comparing them with the numerous buildings now standing in close upon 80 acres of land, comprising the hostel, a lower school to accommodate 100 junior boys, a head-master's house, a chapel providing 380 seats, three laboratories, a very large swimming bath, a carpenter's workshop, a reading and art room, a lecture theatre, a detached sanatorium, a library, and a gymnasium.

To take as a starting point the year 1840, there were at that time numerous medical benevolent agencies in existence, the most important of which was the Society for the Relief of Widows and Orphans of Medical Men. Having been in existence 57 years it possessed in 1845 217 life members and 126 annual subscribers and was giving assistance to 35 widows of deceased members and to 22 of their children. The British Medical Benevolent Fund was established as the "Medical Benevolent Fund" in 1836, but the scope of its work in the early days was very restricted, the receipts for the year 1841-42 being only £202 and the disbursements £56. The Surrey Medical Benevolent Society, founded in 1812, had from the first been judiciously managed, the result being that it possessed in 1855 funds amounting to £5500, at which time the claims upon the society did not exceed one-eighth of its income from dividends. Its committee therefore negotiated the purchase of four scholarships at the College in order to further the objects of the society. The "Medical Benevolent Society for the Town and County of Leicester" was founded in 1788, but no meetings having been held since July, 1818, and as no claims had for many years been made the trustees handed over to the College the residue of their funds. There were also the Devon and Exeter Benevolent Medical Society; the Birmingham Medical Benevolent Society, established in 1821; the Essex and Hertfordshire Benevolent Medical Society, founded so far back as 1786; the Kent Benevolent Medical Society, established one year later; the Lincolnshire Medical Benevolent Society, founded in 1804; and the West Riding of Yorkshire Medical Charitable Society, founded in 1828.

In 1844 a committee was appointed at the annual meeting of the Provincial Medical and Surgical Association, which was the title of the British Medical Association prior to 1854, to consider the establishment and organisation of schools for the education of sons of members of the medical profession on such low terms of expense as might be consistent with a course of education of a high character. The committee, which was requested to lay its proposals before the council of the Association or before the next general meeting of the members, consisted of Dr. Forbes, Dr. Kerr, Dr. Heygate, Dr. Edwards, Dr. Hodgkin, Dr. Hardwick, Dr. Budd, Mr. Hodgson, Mr. Nunneley, Mr. Daniell, Mr. Wallace, and Mr. Martin. Dr. Forbes of London was appointed chairman and Mr. Thomas Martin of Reigate secretary. The appointment of the committee took place at Northampton, but it was found that most of the members were too far apart from each other to admit of convenient meetings being held, hence it was decided to form a subcommittee of those gentlemen residing in or near London—namely, Dr. Forbes, Dr. Hodgkin, Dr. Hardwick, Mr. Wallace, and Mr. Martin, any subjects of great importance to be laid before those members living at a distance by letter. The salient features of the scheme which was eventually proposed were as follows:—that a sum of £10,000 should be raised in shares, donations, and benefactions; that at first only one school, to educate from 200 to 300 boys, should be established in London; that pupils should be admitted by nomination only, the sons, grandsons, nephews, or wards of members of the medical profession to be admitted at the charge of 30 guineas per annum for board and education, with an entrance fee of £3 3*s.*; other boys to be admitted at the annual charge of 40 guineas, with the same entrance fee, but the latter not to be nominated in a larger proportion than one in three; that the government of the institution should be in the hands of a council consisting of 24 medical men, the members to continue in office three years and to retire in sections of thirds, but to be immediately eligible for re-election; and that the annual meetings of shareholders and donors should be held in London, at the school, or wherever the council might consider to be most eligible.

In presenting the scheme to the members of the Provincial Medical and Surgical Association and to the profession generally, the committee observed that it entertained no misgivings as to the probabilities of its being successfully carried out and it appended to its report the names of 12 subscribers and benefactors as follows: Dr. A. Robertson, £100 donation; Mr. E. Daniell, one share of £25; Mr. Thomas Martin, one share of £25 and £100 donation; Mr. J. Hodgson, £100 donation; Sir Benjamin Brodie, Bart., £100 donation; Dr. John Forbes, £100 donation; the Misses Wallace, £25 benefaction; Mr. Edward Wallace, one share of £25 and £20 benefaction; Dr. A. Hardwick, £20 donation; Sir James Clark, Bart., £100 donation; Mr. T. Nunneley, one share of £25; and Mr. P. J. Martin, £25 donation. It may be added that the first idea of the committee was to raise the whole sum by means of shares only, but finding that there were strong objections against this plan in the minds of some it proposed the alternative in the form of donations. The class of benefactions was created for those who did not wish to incur the responsibilities and duties of the shareholders and donors. This report, signed by the chairman and the secretary, was dated Dec. 26th, 1844, but in spite of the generous offers referred to the scheme eventually fell through. It is interesting to note, in view of statements which have been made that Mr. Propert intended Epsom College to be exclusively for the sons of medical men, that in this scheme, proposed some years before the initiation of the College, it was intended that more than one-third of the boys should be sons of those not members of the medical profession.

The General Medical Annuity Fund.

In the following year Mr. Edward Daniell of Newport Pagnell delivered an address at Sheffield on the thirteenth anniversary of the Provincial Medical and Surgical Association containing proposals for establishing a General Medical Annuity Fund for disabled members of the medical profession, their widows and orphans, and at the conclusion of his speech proposed the following motion which was seconded by Dr. Robertson of Northampton and carried unanimously:—

> That a committee of the Association be appointed immediately to consider, discuss, and arrange the best preliminary steps for the establishment of a self-supporting institution connected with the Provincial Medical and Surgical Association, to be called an "Annuity Fund for Decayed Members of the Association and for Widows and Orphans of Members."

The first meeting of the committee was held on Sept. 8th, 1845, when there were present: Dr. A. Robertson (in the chair), Dr. W. Kerr, Mr. E. Daniell, Mr. H. Terry, Mr. John Faircloth, Mr. Robert Ceely, and Mr. John G. Appleton. It was ultimately resolved to establish a fund for the payment of annuities to superannuated or disabled members of the medical profession, their widows and orphans, the title of the institution to be "The General Medical Annuity Fund," the appointment of officers to be vested in the Provincial Medical and Surgical Association. It was decided that an annual subscription of one guinea should entitle a legally qualified medical man in the United Kingdom to become a member of the Fund and at the expiration of the fifth consecutive year of his subscription such member, or his widow or orphans, would become eligible to receive an annuity. For every 100 subscribers there were to be three annuities, not exceeding £25, for superannuated or disabled members, and three annuities, not exceeding £15, for widows and orphans. It was decided that the directors of the fund should report the general state of the affairs of the institution at the annual meeting of the Provincial Medical and Surgical Association, and that elective members should consist of not fewer than ten members of the Provincial Medical and Surgical Association, of whom not fewer than four were to be resident in the district where the annual meeting of the Provincial Medical and Surgical Association was to be held. The officials selected were as follows:—President: Dr. Charles Fox Favell. Treasurer: Dr. Archibald Robertson. Managing Director: Mr. Edward Daniell. Elective managers: Mr. Richard Faircloth, Mr. J. G. Appleton, Mr. J. G. Crosse, Mr. Thomas Paget, Mr. Francis Elkington, Dr. William Budd, Dr. Charles Cowan, Dr. Edward Holme, Mr. Peter Martin, and Mr. W. Kent. Secretary: Mr. Joseph Staines (Newport Pagnell).

By the end of the second year some modifications of the rules were made. It was decided that a subscription paid in advance for 20 years, or a donation amounting to 20 guineas, should constitute the subscriber a member for life and that for every 100 subscribers the directors should grant four annuities of £25 each; but it was provided that no member or his widow or children should be eligible for an annuity unless the subscriber had been a member of the society five years from the payment of his first subscription. Ultimately the society was severed from the Provincial Medical and Surgical Association. Although in the course of four years from the foundation of the society Mr. Daniell obtained 182 subscribers and received a considerable sum in donations it was acknowledged that he had failed in carrying out his object in founding the society to any practical purpose. As its severance from the Provincial Society rendered the remodelling of the fund necessary, apart from the fact that it was difficult to carry on the work in the country, and ascertaining that there were some practical defects in the original plan, Mr. Daniell resigned the direction of his society in 1849. A committee was appointed to place the institution on a new basis and in October of that year a new title, "The National Medical Annuity and Relief Fund Society," was proposed, but it was ultimately decided in July, 1850, to adopt the designation, "The British Medical Fund, a Provident and Relief Society for Medical Men, their Widows and Orphans." The institution was enrolled as a benefit society, Mr. Hawtayne was [illegible] members of the society to assure for themselves deferred annuities, to effect assurances upon their lives in sums not exceeding £200, to afford the means of securing for themselves a certain weekly provision during sickness or other bodily or mental infirmity, and to secure a definite annual provision by way of maintenance for their widows or children. The object of the relief branch was to provide by donations, subscriptions, bequests or otherwise, a fund for the purpose of granting temporary or permanent relief to persons who were or had been members of the society, or to their widows or families. Sir Benjamin Collins Brodie, Bart., was elected President and the following were appointed directors: Dr. John Forbes (chairman), Dr. J. R. Bennett, Mr. J. Bird, Mr. T. B. Curling, Mr. H. Hancock, Mr. E. Headland, Mr. J. Propert, Dr. E. H. Sieveking, Dr. J. Spurgin, Mr. G. J. Squibb, Mr. S. Stedman, and Mr. T. Taylor.

In spite of the carefully thought out programme and of the unremitting efforts of the directors the society was doomed to failure. Members of the profession generally did not avail themselves of the advantages offered by the society; there can be no doubt that the lack of a substantial reserve fund was an important factor in its failure and perhaps the ambitious programme of the reconstructed society had a share in its failure, since its rules, tables, &c., filled 40 octavo pages. Nevertheless, the directors had faith in their scheme, for in their report submitted to the special meeting of members on June 2nd, 1852, at which the society was dissolved, they wrote as follows:—

> [illegible] and vigour.

Commenting on the directors' report the *Medical Times and Gazette* of June 12th observed:—

> Judging from some statements in the report we should imagine that, if the sum of £2000 could be at once subscribed, it would be sufficient to accomplish the great end in view.

The London and Provincial Medical Protection and Benevolent Society.

It was probably about 1847 or 1848 that a society was founded under the above title, the objects of which were to create a higher tone in the public mind towards the medical profession and to secure the more regular payment for professional services from those who possessed the means but not the disposition to remunerate medical men. There was also a proposal to establish a fund to be devoted to the erection and support of a college for the education of the sons and daughters, orphans or otherwise, of medical men and also to provide houses for the reception of distressed members of the medical profession or their widows. Mr. Propert consented to be its president; the bankers appointed [illegible] eet-street, E.C.; [illegible] Robert Gosling; [illegible]; Mr. T. Ballard, Mr. A. B. Barnes, Dr. Adolphus Barnet, Mr. T. T. Campbell, Mr. F. Clarke, Mr. G. W. H. Coward, Dr. W. Crellin, Mr. R. Dunn, Mr. R. Edgcumbe, Mr. George Fincham, Mr. F. Godrich, Mr. G. Harwood, Mr. J. Ince, Mr. F. G. Johnston, Mr. C. F. J. Lord, Dr. W. Major, Mr. W. C. Meates, Mr. S. Pearce, and Mr. J. Sharp.

In an article which appeared in THE LANCET of April 5th, 1851, the history of this unfortunate society was given. It seems that Mr. Propert lent the influence of his name in every legitimate manner to forward the interests of the institution and, as he believed, of the great body of its members, having full confidence in the integrity of the immediate movers of the scheme. But the society proved to have been mismanaged and the liabilities of the conductors were great, the result being, as might be expected, the irretrievable ruin of the institution. With great generosity Mr Propert undertook to pay out of his own pocket all debts due to members under £10 in amount. The investigation of the accounts of the defunct society brought to light the fact that one of the causes of the impoverished condition of medical men was their inability to obtain payment of their accounts. When it is stated that the books of this single society showed that the enormous sum of considerably over a quarter of a million was due to its members for unpaid debts, it will be seen that there was certainly scope for the foundation of a school where the sons of medical men could obtain efficient education at a lower rate than that charged by the leading public schools of England.

It was on the failure of this society that Mr. Propert contemplated the foundation of Epsom College and in an article which appeared in THE LANCET of April 5th, 1851, an extract from which is given below, the matter was referred to; in fact, this was the first notice of the proposed College which appeared in the press; but at that date Mr. Propert had not definitely settled the details of his scheme. The Editor wrote as follows:—

> Could the veil be uplifted fron [illegible] of the now humble homes of thos [illegible] though now widowed and orphane [illegible] the scenes presented would quail [illegible] the history of a country surgeo [illegible] eloquence in the *Times*, in conne [illegible] that picture, far from being overcharged, might have been painted in still darker colours. The after-history of such a family, particularly where there are six or seven, instead of two children, would be too painful to dwell upon. Honour, then, to those who would avert such calamities! And especially at this time would we do honour to the efforts that are being made by that most respectable member of our profession, Mr. Propert, to establish an institution to remedy the evils of which we have spoken

With regard to the reference to the "iniquitous income-tax" it will be remembered that this tax was reimposed by Sir Robert [illegible] een in abeyance for 26 years; [illegible] was imposed on all incomes exc [illegible] practitioners, with their heavy necessary expenses, bad debts, and unpaid accounts, were probably more affected by the tax than members of any other profession.

The scheme for the establishment of Epsom College, as foreshadowed in this article, was somewhat indefinite, for reference was made to a school for both the sons and daughters of medical men, and it was implied that the College would be to some extent a reconstructed medical protection society with a debt-collecting department. However, Mr. Propert must have lost no time in applying himself to the details of the proposed institution for within one month he had definitely settled his scheme and it has ever since been carried out on the broad lines then decided upon—namely, a school for the sons of medical men and others, the former to be educated and maintained at as moderate a cost as possible, and the support of pensioners. In the early part of the nineteenth century the favourite mode of maintaining pensioners was to provide them with furnished apartments in almshouses, yet it is surprising that a long-sighted man like Mr. Propert, who succeeded in launching an institution when, as we have seen, others had laboured indefatigably but failed, did not see the incongruity of placing the failures of the profession permanently before the eyes of schoolboys, many of whom would aspire to follow that profession. In an article in the *Provincial Medical Journal* in 1851 attention was drawn to the fact that objections had been raised to the idea of almshouses as being degrading to the medical profession. Referring to Mr. Propert's scheme, the Editor of THE LANCET on May 3rd, 1851, wrote as follows :—

> We highly approve of the plan of supporting a number of medical pensioners, but we give our special support to the collegiate department of the proposed institution. The school for "the education and maintenance" of the sons of medical men ought to entitle the proposed college to the support and peculiary contribution of every legally qualified medical practitioner in the kingdom.

Another extract from this article will prove of special interest to old Epsomians and others who for many years wished the title to be changed from "The Royal Medical Benevolent College," an alteration which was effected at a special general meeting of the governors in 1903.

> We wish, then, the proposal of Mr. Propert good speed. We should like to see the term "Benevolent" omitted from the title, but for the objects of the institution, whether for eleemosynary or educational purposes, we have but one word and one thought, that of hearty cooperation and support.

There are probably few persons living now who were present at the general meeting of members of the medical profession and others which was held at the Hanover-square rooms on Wednesday, June 25th, 1851, under the presidency of Earl Manvers, to consider the propriety of establishing a "Medical Benevolent College." A complete list of those present on that occasion does not appear to have been preserved but the following were amongst those who attended: Dr. Aldis, Dr. Allison, Mr. John Bowling, Mr. Henry Cancellor, Mr. Nathaniel Clifton, Mr. Benjamin Bond Cabbell, M.P., Dr. John Forbes, Mr. James William Freshfield, M.P., Mr. George J. Guthrie, Mr. Henry P. Fuller, the Rev. Thomas Garnier, Sir Robert Harry Inglis, Bart., the Rev. J. Jennings, the Rev. David Laing, the Bishop of London, Mr. Charles F. Lord, Sir Thomas Phillips, the Rev. George Pocock, Mr. John Propert, the Bishop of Ripon, Dr. Spurgin, and Dr. James Arthur Wilson. In his address to the meeting Mr. Propert adverted to the many cases of distress which existed in the medical profession and in families of medical men deceased, arising in many instances from premature widowhood and other contingencies which were peculiar to the profession, and having informed the meeting of the principles upon which it was proposed that the Medical Benevolent College should be founded he briefly alluded to the success which had up to that period attended his exertions in furtherance of the object. He pointed to the benefits likely to follow the establishment of such an institution and appealed to the public and to the profession in its support.

At the conclusion of Mr. Propert's speech, it was moved by the Bishop of London, seconded by Sir Robert Harry Inglis, Bart., and resolved unanimously :—

> That this meeting, under a sense of the claims of the medical profession upon the public at large, hereby declares the formation of the Medical Benevolent College on the plan suggested by John Propert, Esq., and pledges itself to promote its success by every means in its power.

Earl Manvers consented to accept the office of President, Mr. Robert Gosling was appointed treasurer, and it was decided that the council should consist of the President, the vice-presidents, and 26 gentlemen appointed at the meeting. The public initiation of the College having taken place Mr. Propert lost no time in organising his enthusiastic band of workers. A few months after the initiation of the College a rumour became current that it was to be essentially a "class" school and as this was contrary to the intentions of the founder and was likely to be prejudicial to the success of the institution the council lost no time in contradicting the rumour through the columns of THE LANCET. In the issue of Nov. 29th, 1851, the Editor wrote as follows :—

> It has gone abroad as an objection to the scheme that the school will not only be exclusively for the sons of medical men but for those sons only who are intended for the profession. The idea is monstrous. We have authority for stating that the school will not be confined to the sons of medical men but the foundation will be exclusively for the orphans and sons of distressed members of our own profession, whatever be their future destination, and that they will be educated in a manner to fit them for first rate mercantile pursuits, Government offices, or any of the professions or respectable trades.

Those who were present at the special general meeting of the governors in November, 1903, when the title of the institution was changed to "Epsom College," will recollect that a letter was read from Mr. John Lumsden Propert giving his views as to the intentions of his father in establishing the College. It is remarkable how closely these views approximate to those held by the founder as expressed in the article quoted above. But though money came in freely it was not without unremitting work on the part of friends throughout Great Britain. The lack of interest which proved fatal with other medical benevolent societies was conspicuous in the case of the College and in commenting on this THE LANCET frankly stated in its issue of Jan. 3rd, 1852, that at the outset of the scheme many medical men doubted its final success and therefore declined to attach their names to what they conceived to be a failing cause. This hesitation was but natural, since both the London and Provincial Medical Protection and Benevolent Society, which had failed, and the reconstructed General Medical Annuity Fund, which was wound up in 1852, had enjoyed the support of some of the most eminent men in the profession. THE LANCET therefore appealed to those who had not so far come forward to permit their names to be added to the list of contributors and the appeal evidently bore fruit, for in the issue of Feb. 7th, 1852, it was stated that the final success of the College could not be doubted in any quarter, its failure being no longer a possible contingency. Between £6000 and £7000 had already been collected and subscriptions were pouring in every day and almost every hour. Local secretaries were multiplying—volunteer collectors were starting up in every part of the country and some who had been once cold, cautious, and doubtful had become warm and zealous.

On Dec. 1st, 1852, the council formally took possession of the land at Epsom, on which occasion there was a gathering of friends. After the ceremony the party proceeded to the Spread Eagle Inn, where about 80 sat down to dinner. Mr. J. W. Freshfield, M P., was in the chair, Mr. John Propert, who had succeeded Mr. Gosling as treasurer, was vice-chairman, and amongst the company were the Rev. G. Pocock Dr. Conolly, Dr. Cooke, Dr. Sieveking, Dr. Gibson, Dr Goodfellow, Dr. Tuke, Dr. Price, Dr. Power, Dr. Semple Mr. H. Pownall, Mr. N. Clifton, Mr. G. T. Dale, Mr. W Self, Mr. John Lewis, Mr. R. D. Edgecumbe, Mr. Joh Chippendale, Mr. G. Fincham, Mr. S. Roots, Mr. G. Pilche Mr. T. Hunt, Mr. W. Carr, Mr. C. F. J. Lord, Mr. W. C Meates, Mr. Robert Dunn, Mr. John Ince, Mr. Georg Curtiss, Mr. J. F. France, Mr. P. Martin, Mr. W. Hart, M W. T. Iliff, Mr. J. Churchill, Mr. John Harris, Mr. E. Clifto Mr. T. J. Ryder. Mr. G. W. Driver, Mr. H. T. Davies, Mr. F Crew, and Mr. T. F. Clarke.

On July 6th, 1853, the President, Earl Manvers, very kindl undertook to lay the foundation-stone of the College at a fe hours' notice. His Royal Highness Prince Albert ha graciously promised to perform that function and in view c the Royal visit triumphal arches had been erected and a ver large gathering of friends of the institution had assemble But about 4 o'clock a rumour was circulated that His Roya Highness could not attend and shortly afterwards M Propert read to the assembled visitors the following lette from Colonel Grey :—

> Buckingham Palace, Wednesday, July 6th, 1853.
>
> DEAR SIR,—I regret to have to write to you, by command of th Prince, to say that it will be quite impossible for him to attend th ceremony to-day for laying the first stone of the Medical College. H regrets much the disappointment this may occasion to the promoter of this institution and was anxious himself to make every effort t attend, but His Royal Highness has a severe attack of indispositio and his medical advisers are peremptory in their directions, that h should not think of leaving the Palace.

The numerous ladies present showed their interest in th College by presenting the sum of £1600 in donations of fi guineas each.

On Sept. 6th, 1853, the contract for the building wa signed, all legal arrangements having been duly made. I was originally proposed to build almshouses for 100 pensioners but the impracticability of providing accommodatio for this large number was evidently realised in course o time, for 24 residences was the largest number built and te years elapsed before even all these were erected. At th annual festival dinner held on Feb. 27th, 1855, the followin letter was read announcing that Her Majesty the Queen ha graciously extended her patronage to the College :—

> Buckingham Palace, Feb. 27th, 1855.
>
> DEAR SIR,—I have had the honour to submit to Her Majesty th Queen the purport of the conversation which I had with you th morning with respect to the Medical Benevolent College and I have th pleasure to inform you that Her Majesty has been pleased to grant he patronage to the College and to approve of the alteration of its designation to that of the Royal Medical College.—Yours truly,
>
> C. B. PHIPPS.
>
> To John Propert, Esq.

Was it by accident or by design that Colonel Phipps omitte the term "*Benevolent*" in mentioning the new title of th institution which had been approved of by Her Majesty? I the first part of the letter to Mr. Propert he referred to th institution by its existing title "The Medical Benevolen

College" but at the conclusion he clearly stated that the Queen had approved of the alteration of its designation to that of "The Royal Medical College."

It should be mentioned that Mr. Henry Tudor Davies rendered invaluable services as honorary secretary in these early days of the College and both Miss Propert and her sister, Miss Harriet Propert, laboured incessantly in assisting their father. Mr. Davies was succeeded by Dr. Edward H. Sieveking in 1853, who continued in office until 1856, when Mr. Robert Freeman was appointed secretary. The first office of the College was at 4, Hanover-square, but in September, 1853, it was removed to 37, Soho-square, W., so that the council has held its meetings for over 50 years in the present handsome room facing Soho-square.

On June 25th, 1855, the ceremony of opening the College was performed by His Royal Highness Prince Albert who was accompanied by H.R.H. the Prince of Wales (His present Majesty the King). Prince Albert was attended by the Marquis of Abercorn, Colonel the Hon. C. B. Phipps, Captain the Hon. de Ros, and Sir James Clark, and having been received at the entrance porch by the officers and council His Royal Highness was conducted by Earl Manvers, Mr. Propert, and Mr. Hancock to an apartment prepared for his reception. The proceedings of the formal opening commenced at the entrance of the building where the following address was read by the Bishop of Oxford:—

Royal Highness is aware, by the voluntary subscriptions of many connected with the Medical Profession, who know and feel for the

with all who suffer, and believe that you are in this especial case further not unwilling to testify your gratitude to that Profession which aims, with God's blessing, at removing disorders and relieving suffering from which, in this world of sorrow, the highest in virtue and the most elevated in rank can claim no more exemption than the poorest or least worthy of the common family of man. May God abundantly return into your own bosom the kind assistance you have this day rendered to us!

To this address His Royal Highness replied in the following terms:—

[illegible] back to their families.

The Bishop of Winchester then read a psalm and offered up prayers, after which His Royal Highness formally declared the Royal Medical Benevolent College to be opened. He was then conducted over the principal parts of the building; on returning to the reception room he received the company assembled, and soon after 5 o'clock the Royal party left. About 500 visitors partook of a *déjeuner*, at which Earl Manvers presided. After the loyal toasts had been enthusiastically received and the toasts to the Army, Navy, Bishops, Clergy, and Chairman had been drunk, Mr. J. Lloyd Davies, M.P., proposed the health of "The Founder." Mr. Propert's reply, as under, cannot fail to be interesting, and it is needless to say that on rising he was repeatedly cheered:—

I am quite sure that the warmth of human kindness which has brought you here to [illegible]

[illegible] our profession, to console the afflicted widow, and to rescue bereaved orphans from the bonds of indigence and want, and to put them in a way of procuring a livelihood so as to be a credit to themselves and an ornament to society. When I look back upon what has been done I cannot find words to thank you for your kind support to the undertaking. There is one circumstance connected with the day's proceedings of which I cannot but feel proud, and that

rising to its present position. You have all done your duty—and I hope and trust that our building will endure and be a blessing to generations yet to come.

After some other toasts the party adjourned to the dining hall, where, as the report of the day's proceedings states, dancing was enjoyed until the time arrived for the departure of the special train. Thus ended the day of the opening of Epsom College, the jubilee of which will be celebrated on July 1st.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7437 births and 4016 deaths were registered during the week ending June 17th. The annual rate of mortality in these towns, which had been 14·6, 14·7, and 13·5 per 1000 in the three preceding weeks, further declined last week to 13·4 per 1000. In London the death-rate was 13·3 per 1000, while it averaged 13·5 in the 75 other large towns. The lowest death-rates in these towns were 5·1 in Handsworth (Staffs), 5·1 in Leyton, 5·6 in Hornsey, 6·6 Ipswich, 8·0 in East Ham and in Great Yarmouth, 8·1 in Devonport, 8·2 in Brighton, and 8·5 in Croydon; the highest rates were 17·0 in Middlesbrough, 17·1 in Birkenhead, 17·3 in Newcastle-on-Tyne, 18·5 in Preston, 19·1 in Merthyr Tydfil, 19·8 in Sunderland, 20·5 in Wigan, 22·5 in Barrow-in-Furness, and 23·3 in Tynemouth. The 4016 deaths in these towns last week included 355 deaths which were referred to the principal infectious diseases, against 414, 410, and 413 in the three preceding weeks; of these 355 deaths, 134 resulted from measles, 77 from whooping-cough, 66 from diarrhœa, 32 from diphtheria, 25 from scarlet fever, 19 from "fever" (principally enteric), and two from small-pox. In Croydon, Hornsey, Portsmouth, Walsall, Rochdale, Blackburn, South Shields, and in eight other smaller towns, no death from any of the principal infectious diseases was registered; while they caused the highest death-rates in Hanley, West Bromwich, Coventry, Warrington, Barrow-in-Furness, and Middlesbrough. The greatest proportional mortality from measles occurred in Walthamstow, West Bromwich, Coventry, Birkenhead, Warrington, Barrow-in-Furness, Sheffield, and Merthyr Tydfil; from whooping-cough in Middlesbrough and Tynemouth; and from diarrhœa in Middlesbrough and Rhondda. The mortality from scarlet fever, from diphtheria, and from enteric fever showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Derby and one in Preston, but none in any other of the 76 towns. The number of small-pox patients remaining under treatment in the Metropolitan Asylums Hospitals, which had been ten, nine, and nine on the three preceding Saturdays, had further declined to seven on Saturday last, June 17th; three new cases were admitted during the week, against one and three in the two preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2200, 2268, and 2285 at the end of the three preceding weeks, had further risen to 2356 at the end of last week; 292 new cases were admitted during the week, against 312, 351, and 269 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 218, 235, and 191 in the three preceding weeks, further declined last week to 189, but were 47 above the number in the corresponding period of last year. The causes of 49, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Leeds, Newcastle-on-Tyne, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, St. Helens, Manchester, Sheffield, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·1, 16·9, and 16·4 per 1000 in the three preceding weeks, further declined to 15·7 per 1000 during the week ending June 17th, but was 2·3 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·6 in Leith and 12·5 in Aberdeen to 18·3 in Paisley and 24·4 in Perth. The 528 deaths in these towns included 29 which were referred to whooping-cough, 26 to measles, 15 to diarrhœa, two to "fever," one to scarlet fever, and one to diphtheria. In all 74 deaths resulted from these principal infectious diseases last week, against 76, 80, and 62 in the three preceding weeks. These 74 deaths were equal to an annual rate of 2·2 per 1000, which was 1·0 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 24, 24, and 23 in the three preceding weeks, rose again to 29 last week, and included 14 in Glasgow, eight in Edinburgh, five in Paisley, and two in Dundee. The deaths from measles, which had been 33 and 17 in the two preceding weeks, rose again last week to 26, of which 16 occurred in Glasgow, eight in Edinburgh, and two in Perth. The fatal cases of diarrhœa, which had been 16 and 14 in the two preceding weeks, rose again to 15 last week, and included ten in Glasgow and two in Aberdeen. The deaths referred to different forms of "fever," which had been three in each of the three preceding weeks, declined last week to two, both of which were registered in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 107, 88, and 89 in the three preceding weeks, further declined last week to 63, and were 30 below the number in the corresponding period of last year. The causes of 16, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·0, 19·4, and 19·3 per 1000 in the three preceding weeks, declined to 17·2 per 1000 during the week ending June 17th. During the past four weeks the death-rate has averaged 18·7 per 1000, the rates during the same period being 14·1 in London and 16·2 in Edinburgh. The 125 deaths of persons belonging to Dublin registered during the week under notice were 15 fewer than the number in the preceding week and included three which were referred to the principal infectious diseases, against four, eight, and five in the three preceding weeks; of these, two resulted from whooping-cough and one from diphtheria, but not any from small-pox, from measles, from scarlet fever, from "fever," or from diarrhœa. These three deaths were equal to an annual rate of 0·4 per 1000, the death-rates last week from the principal infectious diseases being 1·2 in London and 2·6 in Edinburgh. The two fatal cases of whooping-cough corresponded with the number in the preceding week. The 125 deaths in Dublin last week included 17 of children under one year of age and 27 of persons aged 60 years and upwards; these numbers were respectively five and 24 below those recorded in the preceding week. Five inquest cases and two deaths from violence were registered; and 56, or nearly 45 per cent., of the deaths occurred in public institutions. The causes of three, or more than 2 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: G. Ley to the *Juno* and H. L. Penny to the *Argonaut*, on recommissioning. Surgeons: W. B. Maurice to the *Egmont* for the *Maine*; J. S. Dudding to Haslar to assist in instruction of surgeons on entry; and C. M. Woods to the *Juno*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. G. MacNeece, from Dublin, has been appointed Principal Medical Officer at Malta, with promotion to Colonel. Lieutenant-Colonel H. W. Hubbard takes up temporary duty under the Director-General of the Army Medical Service. Captain E. C. Hayes is appointed member of a medical board for examination of university candidates for commissions in the Regular Army.

VOLUNTEER CORPS.

Rifle: 20th Middlesex (Artists'): Surgeon-Captain H. D. Brook to be Surgeon-Major (dated May 29th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Seaforth and Cameron Bearer Company: John William Mackenzie to be Lieutenant (dated June 17th, 1905).

ROYAL ARMY MEDICAL CORPS EXAMINATION.

An examination of candidates for not less than 40 commissions in the Royal Army Medical Corps will be held on July 27th next and following days. Applications to compete should be made to the Secretary, War Office, 68, Victoria-street, London, S.W., not later than July 17th, on which date the list will be closed. Candidates who are over the regulated limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after Oct. 1st, 1899, that they could reckon towards retired pay and gratuity if such deduction will bring them within the age-limit. The presence of candidates will be required in London from July 25th.

THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The June number of this journal is a good one and is well illustrated with plates, diagrams, and tables. Among the original communications and clinical and other notes we may call attention to the article by Lieutenant-Colonel A. M. Davies, R.A.M.C., dealing with the Direct Transmission of Enteric Fever, to the continuation of Researches on Malaria contributed by Major Ronald Ross, C.B., F.R.S., D.Sc., and to the paper On the Further History of Five Cases of Arterio-venous Aneurysm of the Neck, with some Remarks on the Condition Generally and its Treatment, by Mr. G. H. Makins, C.B., F.R.C.S. Eng., surgeon to St. Thomas's Hospital. There are several other papers which are also well worth reading.

VENEREAL DISEASE IN INDIA.

The Army Medical Report for 1903, just issued and dealt with in another column (p. 1740, contains a table showing the admission-rates for all forms of venereal disease per 1000 of strength of European troops serving in India from 1897 to 1903. From this it will be seen that there has been on the whole a large decrease of this class of disease since 1899. Notwithstanding this reduction, however, and despite the efforts of the military and medical authorities, the admission-rate for 1903 was still as high as 249·5 per 1000.

THE WAR IN THE FAR EAST.

There is an absence of any trustworthy news regarding the peace negotiations. There are no signs of any immediate armistice; on the contrary, Marshal Oyama has apparently commenced his final movement against General Linievitch and the greatest battle, as far as stupendous numbers are concerned, remains to be fought. Will it prove to be a final *débâcle* like that of Sedan? As far as can be gauged by what has appeared in the Tokio press public opinion in Japan is, and quite naturally, strongly opposed to any armistice. Nothing will now satisfy Japan short of granting her the full rights of a victor and the placing of peace in the Orient on a durable and permanent basis. The Japanese leave nothing to chance and their success has not simply been the result of their patriotic courage but of the application of science to the art of war, and in no respect, perhaps, has this been more observable than in their medical, sanitary, and hospital arrangements.

PROPOSED NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.—On Wednesday, June 28th, at 4.15 P.M., at the Mansion House the Lord Mayor will preside at a public meeting with the object of forming a league to stimulate public interest in the physical condition of the people throughout the kingdom; to establish close association and centralisation of all societies and individuals trying to combat such influences as tend to produce national physical deterioration; to aid existing organisations; and to start organisations for physical health and well-being wherever none exists. The movement will be on strictly non-political and undenominational lines and the council is formed of representatives of all orders, professions, and institutions throughout the kingdom. Further information can be obtained on application to the interim secretaries, care of Twentieth Century League, 28, Victoria-street, London, S.W.

Correspondence.

"Audi alteram partem"

THE METROPOLITAN HOSPITAL SUNDAY FUND.

To the Editors of THE LANCET.

[illegible] places of worship of the metropolis on behalf of the hospitals and dispensaries for the treatment of the sick poor.

This year the council has 220 institutions seeking to participate in the Fund. The needs of all these charities, if only to reimburse them for last year's outlay on the London poor, would not be covered by £100,000.

Mr. George Herring has again promised to add 5*s.* to every sovereign raised this year in places of worship or in the City up to a total of £100,000. This means that the hospitals can receive up to £125,000 towards the maintenance of their patients (not anything for building). The whole collection last year was £63,000.

There are 10,000 beds in the various London hospitals and 105,000 in-patients occupied them last year.

There is happily no necessity for me to enlarge on the merits of these institutions, but I desire to point out the unique character of this annual collection and the oppor- [illegible] practical sympathy [illegible] [illegible]spective of creed, is offered the privilege to easily gratify his sympathy with the suffering poor. He is not subjected to pressure, and of imposture there can be no fear.

Should any of your readers be absent from public worship, or not in London on Sunday next, they may remit their contributions to me at the Mansion House.

I am, Sirs, yours faithfully,
JOHN POUND, Lord Mayor.
The Mansion House, E.C., June, 21st, 1905.

INFANTILE SPLENIC ANÆMIA.

To the Editors of THE LANCET.

SIRS,—Having read the extremely interesting and carefully investigated case of Infantile Splenic Anæmia, recorded by Dr. S. G. Scott and Dr. W. H. Maxwell Telling in THE LANCET of June 17th, p. 1638, I should like to point out that, as it seems to me, the case belongs to a group which is by no means limited to infants. In fact, there appears to me nothing peculiarly "infantile" in the main features of the case except the fact that the patient was a baby. The case fits in with some of those which have been described in Germany under Leube's heading "leukanæmia" and in France by Vaquez and others as "myeloid splenic anæmia." In this group grave anæmia, with or without a moderate increase in the total number of white cells, is combined with "myeloid" changes in the spleen, &c. In my case of leukanæmia, described in the Transactions of the Pathological Society of London (1904, vol. lv., p. 288), the patient was a man, aged 58 years. There was at one time an absolute leucopenia, yet at the necropsy the enlarged spleen and liver were found loaded with erythroblasts, myelocytes, and large mononuclear cells, the liver in addition containing a considerable number of giant cells. The enlarged hæmolymph glands, besides lymphocytes and erythrocytes, contained erythroblasts and large mononuclear cells similar to those permeating the splenic pulp and likewise a few coarsely granular eosinophile cells and giant cells. In my case the bone marrow had undergone a connective-tissue change which, though probably not an essential feature of such leukanæmia cases, doubtless contributed towards the transformation (reversion) of the spleen and liver into blood-producing organs. On the whole, it seems likely that cases of leukanæmia in adults similar to mine are to be regarded as instances of grave anæmia from any cause in which the [illegible] some of the lymph gland [illegible] which is partly of a co[illegible] Dr. Scott and Dr. Telling it also appears that at least some cases of grave "splenic anæmia" in infants are to be explained in the same way.

I am, Sirs, yours faithfully,
Harley street, W., June 17th, 1905. F. PARKES WEBER.

THE PRINCIPLES OF HEREDITY.

To the Editors of THE LANCET.

SIRS,—It is hardly fitting that I should enter into a discussion concerning the demerits of my own book. But perhaps Mr. M. D. Eder will allow me to trespass a little on his kindness. He states that "a Bolivian garrison on the upper Amazon, to which I had been sent as medical officer, was besieged for six months. The garrison consisted originally of some 350 Bolivians, mainly Indians, and some 40 civilians, North Americans, Italians, Swiss, &c. Beri-beri broke out during the siege, a disease unknown both to the Indians who were from the Bolivian highlands and to the Europeans. Although all were exposed to similar conditions, insufficient food, sleep, &c, over 100 of the Indians died, whilst of the Europeans only one had it (mildly) after having been taken prisoner and severely ill-treated."[1] The remarkable circumstance here is not that the Indians suffered greatly under the very severe conditions but that the Europeans did not. Observers seemed tolerably agreed that in other parts of the world Europeans have no special immunity. For example, to quote Sir Patrick Manson: "*Race.*—This has probably no influence one way or another further than that the superior hygienic conditions of the European in tropical climates imply a less frequent and less intense exposure to the specific cause than is the case with the coloured native. The European enjoys no absolute immunity; under suitable conditions he contracts the disease readily enough."[2]

Assuming that Mr. Eder is not mistaken in his observations it would seem, then, that there is some surprising peculiarity in the waters of the Upper Amazon or the neighbourhood which confers all but absolute immunity on Europeans, even under the most "suitable conditions," though not on the natives. If Mr. Eder could amplify his account so as to elucidate this interesting point he would confer a valuable service on science and humanity.

I am, Sirs, yours faithfully,
Southsea, June 18th, 1905. G. ARCHDALL REID.

To the Editors of THE LANCET.

SIRS,—I have not yet read Dr. Archdall Reid's new book and therefore hold no brief for it, but Mr. M. D. Eder's criticisms seem themselves to require some explanation. For instance, the fact of drunken *individuals* being found among the Jews is supposed to controvert a general principle that the Jews as a *race* are not hereditarily drunken. Surely it is recognised by us all, whether we agree with Dr. Reid or not, that a man may obtain from out of his environment that which has not descended to him from his ancestors. And I think, moreover, that as a fact, and quite apart from any biological significance it may have, it is universally admitted that the Jews as a race *are* exceedingly moderate drinkers.

With regard to malaria, Dr. Reid's critic is not justified in attempting to demolish the law of the establishment of immunities (by continuous elimination of the unfit) by saying that under this law the English should now be malaria proof, because "until quite recently malaria was very prevalent in our island." First of all, malaria was never general in England; it was confined within comparatively narrow limits over what in those days was a very isolated tract of country, inhabited by an exceedingly sparse population. We know, too, that up to comparatively recent times—a century at the outside—it was the habit of the people of the countryside to [illegible] in consequence [illegible] contact with the disease would be strictly limited to an exceedingly narrow section of our population, and that, too, a section which hardly supplies the probable visitors to malarial countries. At any rate, if it does it is quite fair to assume that the few impervious members of the white communities so situated are derived from it and that the susceptible persons are derived from that greater mass of

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[1] THE LANCET, June 17th, 1905, p. 1675.

[2] System of Medicine, Allbutt, vol. ii., p. [illegible]

Englishmen which has never been exposed to the malarial influence.

Shifting his ground, Mr. Eder says: "There is nothing to suggest that the parasite that once flourished here was different from that now existing in other countries." Then why does he suggest it? As a matter of fact, it is a suggestion well worth our consideration, judging from the analogies presented by proved and established conclusions as to the effects of different environments upon the *causæ causantes* of other parasitic diseases. It is quite conceivable that the malaria parasite in this country was as modified in its relation to the malaria parasite of the West Coast as the red grouse of Scotland is modified from the willow grouse of the continent. I am, Sirs, yours faithfully,

June 19th, 1905. W. GEORGE CRESWELL.

To the Editors of THE LANCET.

SIRS,—I observe that Mr. Eder (in his letter on the above [illegible] in THE LANCET of June 17th, p. 1675) [illegible] principle of natural selection, denies that heredity has any influence in the causation of tuberculosis, and even doubts whether it plays a part in causing insanity. *May I ask his reasons?—I am, Sirs, yours faithfully,*

Wimpole-street, W., June 19th, 1905. HARRY CAMPBELL.

THE CENTRAL MIDWIVES BOARD AND THE BELFAST UNION MATERNITY HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I have read with much interest and appreciation your very just and well-deserved strictures on the action of the Central Midwives Board towards the Belfast Maternity Hospital in refusing to recognise the nurses who have been trained there. Allow me to bring to your notice what seems to me its equally unjust and harsh action in regard to the nurses trained in the Belfast Union Maternity Hospital.

This hospital has been recognised by the Central Midwives Board as a training school for the future as the conditions existing there fulfil all its requirements, but it has refused to enrol any of the nurses trained in this hospital prior to March 31st of this year, except those who were in *bonâ-fide* practice for one year prior to the passing of the Act and (this is what makes it so absurd) who had exactly the same training as those who were refused. The Central Midwives Board has taken this action notwithstanding that it was pointed out to it: (1) that no change has been made in the conditions of training in this hospital for the past ten years, except that formerly the period of training was six months instead of three as required by the Central Midwives Board; (2) that all these nurses before obtaining certificates had to pass the very severe examination of the Ulster Examining Board of Midwifery, a board composed of such eminent men as Professor J. W. Byers, Dr. John Campbell, Dr. Brice Smyth, Dr. Alexander Dempsey, Mr. Andrew McConnell, Mr. Robert Hall, and Dr. J. Lynass, all of them, except the last three, being unconnected with the hospital; (3) that all these nurses prior to beginning their obstetrical course had had two years' medical and surgical training and passed a searching examination in these subjects; and (4) that many of the nurses go each year to England to follow their profession.

It seems to me that no nurses could undergo a more thorough preparation, that this is the class of nurse the Midwives Act was intended to encourage, and that a great injustice has been done by the Central Midwives Board in refusing to place these thoroughly trained and experienced nurses on its roll of certified midwives.

I am, Sirs, yours faithfully,
JOHN MCLIESH, M.B., D.P.H. R.C.P.S. Irel.,
Physician in Charge of Belfast Union Maternity Hospital.
Belfast, June 17th, 1905.

DEATH CERTIFICATION.

To the Editors of THE LANCET.

SIRS,—All who correctly appreciate the national value of accurate and uniform certification of causes of death to public health and sanitary progress must feel grateful to "A Provincial Surgeon" for his timely and useful suggestion, in THE LANCET of June 17th, p. 1677, that every medical student should receive, before completing his curriculum, systematic instruction as to the manner of filling up death certificates and for calling the attention of medical practitioners to the gravity of their responsibilities to the public, imposed upon them by statute, to certify "to the best of their knowledge and belief" the cause of death of each patient attended by them during his or her last illness. There can be do doubt that this responsibility has recently been rendered increasingly onerous, among other causes, by the phenomenal development of industrial insurance, which has to a great extent degenerated into a most dangerous form of gambling. It is an open secret that medical practitioners are now frequently urged by relations or friends of deceased patients to certify the cause of death in such a way as not to endanger the payment of insurance money or even to alter a certificate accurately filled up in order to facilitate the payment of such money. This and other unpleasant and inconvenient consequences of the responsibilities to which "A Provincial Surgeon" calls attention appear to have borne fruit in the deliberate and startling suggestion to eliminate the Cause of Death column from the death register. That such a fatal blow to sanitary progress would ever be sanctioned by statute it seems impossible to believe. It would, however, be well for those who have favoured this suggestion to consider seriously what its effect would be on public health administration.

While fully recognising the value of your correspondent's letter it is impossible to endorse his opinion that the present system of death certification, governed by the Births and Deaths Registration Act, 1874, "would be absolutely perfect" if the medical practitioner, the legal informant of the death, and the registrar were to carry out their respective duties in strict accordance with that Act. It has long been urged and fully admitted by all those interested in public health and in the value of mortality statistics that the Act referred to urgently requires amendment, at any rate, in the following directions: (1) to secure the due certification of the cause of death of any person dying without the attendance during his or her last illness of a registered medical practitioner, if an inquest is not held concerning such death; and (2) to secure the more satisfactory certification and record of all alleged cases of stillbirth. I am, Sirs, yours faithfully,

Surbiton, June 20th, 1905. NOEL A. HUMPHREYS.

MEDICAL CERTIFICATES IN RESPECT OF SCHOOL ATTENDANCE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 27th, p. 1442, you have an annotation with the above title upon the fees offered by the Kent education committee to medical men for supplying certificates of sickness to parents whose children are unable to attend school. I should like to state that I am in entire agreement with the remarks you have made on the subject and to point out that the fee which this division of the British Medical Association proposed as suitable for acceptance by medical men was 2*s*. 6*d*. for examination and certificate at the house of the medical man and 5*s*. if a visit were necessary to the child's home. I am induced to publish our conclusions in the hope that further action by education committees in the future may be met in a similar way in other parts of the kingdom to prevent the evils you have pointed out.

I am, Sirs, yours faithfully,
OSBORNE D. MARRIOTT, M.D. Glasg.
Sevenoaks, June 19th, 1905.

A NEW ELECTRO-CYSTOSCOPE.

To the Editors of THE LANCET.

SIRS,—Under this title Dr. W. K. Otis of New York describes his new cystoscope in THE LANCET of June 10th. He claims that the area visible with his cystoscope is as large as the ring A (diameter 75 millimetres) and with a Nitze-Leiter cystoscope as small as the ring B (diameter 43 millimetres). As far as the instruments made by Leiter are concerned this is a mistake, as the diameter of the area seen is 65 millimetres, while the prism is at a distance of 40 millimetres *from the object.* Dr. Olis's instrument does, therefore, not give a field four times as large, as he claims; it is only 1·3 times as large.

The diameter of the field has been altered twice in the Nitze-Leiter cystoscopes. When they were first brought out

17 years ago it was rather narrow, but a few years afterwards the lenses were altered at the instigation of Mr E Hurry Fenwick and the diameter of the field was for many years quite as large as *that of Dr Otis s instrument*, but it was found that better optical results—i e a more perfect and uniform sharpness over the whole field—could be obtained by reducing the field a little and other lenses were therefore adopted a few years ago Nearly all the European cystoscopes of normal size give now the same size field of 65 millimetres diameter

It seems to me that the Nitze Leiter cystoscope which Dr Otis compared with his new instrument must have been an old pattern The other improvements which he mentions—i e the possibility to inflate the bladder with air, to withdraw the whole optical apparatus to wash out the bladder and cold lamps with central pin contact—have been in use here some years already

I am Sirs yours faithfully

New Cavendish street W K SCHALL

THE ALTERED TREATMENT OF PNEUMONIA DURING THE LAST QUARTER OF A CENTURY

To the Editors of THE LANCET

SIRS—I can confirm Mr H Ivers Kirkpatrick s statement in THE LANCET of June 10th p 1609 as to the good results obtained by blistering in pneumonia For the last 30 years I have invariably applied this form of counter irritation and the longer I live the more convinced I am of its efficacy in most cases (not all) As a country practitioner in my early career I found pneumonia and pleurisy to be the most common of the acute diseases and had many cases through my hands in 14 years These were chiefly of the sthenic or active type, attended by well marked physical signs and often urgent symptoms. When

returning as the first sign towards resolution I can recall more than one case apparently desperate where the consultant held out no hope of recovery but which pulled
and the aid of brandy to keep
sease subsided When I mention
I am generally met with a faint
smile and the remark that ' blistering is not necessary I will however, trust the " bridge that bears me safely over The emp lytta spread on sticking plaster leather or thick brown paper acts better than any liquid vesicant It is longer in its action but more pronounced in its effect of causing absorption of the exudation in the air cells

I am, Sirs yours faithfully

June 12th, 1905 CYCLOPS

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Hospitals and Endowments

ONE rarely looks at a hospital report without finding two
work has increased and is
that funds are wanted so
Two recent cases may be
taken During the present month an appeal from the committee of the Ancoats Hospital for £15 000 appeared in the papers It is an admirable institution, with 114 beds and cots with wards for men women, and children and a convalescent home near Alderley Edge for 26 patients This home was built, through the great generosity of an anonymous friend on land given by the Lewis trustees and also equipped at a cost of £12 000 The convalescent home is found to cost in maintenance about £800 a year The committee ' wish to collect at least £15 000—£10 000 to form an endowment fund for the convalescent home and the remainder to clear off the debt The other case is that of the Children s Hospital The in patient department at Pendlebury can admit 168 patients and is well known to be one of the best in the kingdom but the out-patient department at Gartside street which was built 30 years ago, is ' wholly inadequate to meet the demands on it In order to bring the latter up to the condition necessary to meet these demands and to remedy imperfections at Pendlebury, the public of Greater Manchester is being asked to subscribe £20 000 It is not only right but very desirable to devote a considerable sum to form an endowment fund as the Ancoats Hospital is attempting to do for its convalescent home An endowment fund is also being formed in aid of the Delamere Sanatorium for Consumption which was built by the munificence of Mr W J Crossley A question arises on which there may be differences of opinion but it is one that deserves consideration as to whether a new charity should be established without reasonable endowment A rich man or a generous public builds a hospital and equips it and so far a good work has been done but without more money it is useless Is it quite the best way of doing good to saddle posterity with the maintenance of a charity in the establishment of which they have had no voice? The locality may remain prosperous or otherwise and if bad times come there is the unhappy spectacle of a hospital striving to keep open its doors for the calls on it for aid are then the most numerous and urgent when its resources are steadily diminishing There would always be plenty of outlets for the bounty of the charitably disposed even if the hospitals were in less dire straits financially than most of them seem to be at present

The Manchester Volunteer Medical Corps

For the last week or ten days Manchester and the Lancashire towns generally have been much given up to making holiday The people pour out in their thousands to the various holiday resorts chiefly those at the seaside such as Blackpool and the Isle of Man (to name two only) so that the dwellers therein have had abundant opportunities of hearing their native tongue ' as Lancaster doth speak it The volunteers to their great credit, have been doing work and hard work in North Wales at Bare and on Salisbury Plain But the Manchester Medical Corps is the only one that specially concerns our profession The volunteers generally seem to have received a good deal of praise and it is gratifying to know that the medicals came in for a very fair share of it About 600 of them were paraded on Salisbury Plain on June 15th and were inspected by Colonel May the principal medical officer of the Southern District, who highly commended them for their smartness He saw them go through various exercises They marched past with transport wagons and full equipment and then he expressed his satisfaction
ling that his only regret was
for home service Upon this
who has done so much for the
Manchester Corps asked how many men would volunteer for foreign service in case of need, and the answer came that the whole of them were willing to go We are by other nations and by many in our own land, not esteemed as a
the sense of duty
d on as showing
that with a little encouragement instead of the systematic discouragement which the Volunteers are said to have received for some time past the number of our defenders might be very greatly increased Colonel May also inspected the lines and saw bearer companies at work under the direction of Major J J K Fairclough and the field hospital work carried out under Major Mann In the afternoon the annual sports in connexion with the Royal Army Medical Corps (Volunteers) took place and the prizes were afterwards presented by Colonel Coates

Plague in Manchester

The occurrence of a case of plague in Manchester has startled quiet citizens and the event has been chronicled by newspapers all through the country It is hoped however that the calamity will go no further than it has done already The official statement issued on June 15th did not say whether the sick man had come to his home in Manchester by boat, up the Ship Canal or by train, but simply that the assistant cook on a vessel which arrived at Middlesbrough from Buenos Ayres *via* Hamburg on June 8th was taken ill on June 9th and died on the 12th On the 9th he was so ill that Mr J Tempest of Whalley Range was called in to see him He at once communicated with Dr T C Railton, the medical officer of Withington and Dr J Niven the medical officer of Manchester who on examining the patient agreed with Mr Tempest that the case was one of bubonic plague The patient was at once removed to the Monsall Hospital where he died on the morning of June 12th. The diagnosis was confirmed by Professor S. Delépine and the medical officer at the hospital, and in London by Dr. Klein, acting on behalf of the Local Government Board, who made independent bacteriological examinations. All necessary measures have been taken to prevent the spreading of the disease and there seems to be no reason to fear any further outbreak. It is stated that in consequence of dead rats being discovered on board measures were taken to destroy all rats and to disinfect the ship. Precautions have been taken at Middlesbrough as well as in Manchester to guard against the extension of the disease. The Ship Canal was, of course, suggested to many minds as the route by which the plague would come to Manchester, but the patient, a lad 17 years old, after leaving his ship at Middlesbrough, travelled on the Thursday night by train to Manchester and reached his home on the morning of Friday, June 9th. The house was thoroughly disinfected "and so also were all the persons with whom he had come in contact." There seems no cause, therefore, for any general alarm and there is no evidence that any is felt.

June 20th.

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Sanitation in the Rhondda Valleys.

THE Parliamentary Bill promoted by the Rhondda urban district council, which has now passed the House of Commons and which is passing unopposed through the House of Lords, is of special interest because it is not many years since Dr. R. Bruce Low made a very detailed inspection of the district in consequence of a representation addressed to the Local Government Board by the Glamorgan county council to the effect that the Public Health Acts had not been properly enforced in the district. Dr. Bruce Low did not endorse this grave conclusion of the county council but he pointed out a series of insanitary conditions which required to be remedied. Within the last few years much has been done in the direction indicated by the Board's inspector. Extensive sewers have been laid, water carriage is almost universal, a well-equipped isolation hospital has been erected, and a refuse destructor has been installed, and when the provisions of the district council's Bill are in force many difficulties in administration will be swept away. Great difficulty was often experienced in compelling owners of property to pave backyards unless a very distinct nuisance could be proved but the Bill empowers the council to require the paving of these yards to the extent of 150 square feet. The clauses referring to infectious diseases include a prohibition of infected persons carrying on any trade or business in such a manner as to be likely to spread infection, the council having authority to compensate any person affected by this prohibition. The same clauses confer (1) power on the medical officer of health to examine school children and to exclude them from attendance at school, parents and others being liable to a penalty if they send an excluded child to school without the permission of the medical officer of health; (2) power to require from school teachers lists of the names and addresses of children in attendance at school, suitable payment being made; (3) power to require the disinfection of all infected articles; and (4) power to provide nurses for attendance upon any person suffering from an infectious disease in the district. Dairymen who supply milk within the district are required to notify to the medical officer of health all cases of infectious disease among persons engaged in their dairies and they must also report the existence of any case of tuberculosis of the udder among their cattle and they are prohibited from selling for human consumption the milk of any cow suffering from tuberculosis of the udder. A very important provision of the Bill requires a common lodging house and the keeper of such a house to be registered for one year only and enables the council to refuse to re-register at the end of each year either the house or the keeper. Existing registered houses are affected by this clause. An attempt has been made to deal with the vexed question of combined drains by empowering the council in certain circumstances to require two or more houses to be drained by means of one drain but it is specifically stated that this is to be considered a drain and not a sewer. The difficulties attending the enforcement of Section 19 of the Public Health Acts Amendment Act, 1890, are overcome by extending the powers given by that section in relation to two or more houses belonging to different owners so that they shall apply to two or more houses belonging to the same owner.

Typhoid Fever at Bridgend.

There is some evidence of an abatement of the epidemic of typhoid fever at Bridgend. During the first week in June 17 cases occurred, making a total of 46 cases between May 20th and June 10th. The patients are distributed all over the town, about half a dozen being among the well-to-do and the remainder are of the working class. The house drains of the houses concerned are all connected with the sewerage system of the town. The main sewer outfall discharges directly into the sea, but for some time past, during the carrying out of repairs at the outfall, the sewage has been discharged into the river about one and a half miles below the town. In a special report upon the outbreak the medical officer of health (Mr. Wyndham Randall) gives sufficient reasons for excluding the water-supply, milk, or shell-fish as a cause of the epidemic. By a process of exclusion he attributes the outbreak to the exceeding dryness of the early months of the year indirectly leading in some way to the specific pollution of food.

Water-supply of Glamorganshire.

Although the rainfall in many parts of the county of Glamorgan is considerably above the average of the rest of England and Wales there are some districts which are very inadequately supplied with water. There is quite enough water but difficulties are found in securing proper storage grounds especially in the coal-fields. In order to consider what steps should be taken to remedy the conditions indicated a committee of the county council recently decided to confer with the sanitary authorities and to discuss the desirability of forming a water board for the whole county.

Health of Cornwall in 1904.

The annual report of the sanitary committee of the Cornwall County Council, which has just been issued, states that the rural population was 186,376 and the urban population 136,329. During the year 1904 there were 7201 births registered, giving a rate of 22·31 per 1000, against 22·69 for 1903. The total number of deaths registered was 4752, giving a general death-rate of 14·72 per 1000, compared with 14·21 for 1903; the separate death-rates of the rural and urban districts were 14·12 and 15·54 per 1000 respectively. 185 deaths occurred from zymotic diseases (equal to a rate of 0·573, against 0·357 in 1903). 806 deaths were those of children under one year (inclusive of 149 premature births), equal to 111·92 per 1000 births. 428 deaths were due to phthisis and 106 to other forms of tuberculosis, compared with 445 and 106 respectively in the previous year.

Taunton Isolation Hospital.

At the meeting of the Taunton town council held on June 13th considerable discussion took place over the action of the Taunton rural district council in reference to the management of the joint isolation hospital, this action having led to the resignation of Dr. H. J. Alford, the medical officer of that institution. At a previous meeting, as already mentioned in THE LANCET of May 27th, p. 1462, the town council had decided to terminate the dual control of the hospital and Dr. Alford had decided to continue to hold his appointment under the town council. The rural district council, in a letter which was read at the meeting, refuses to consider any question of severing the joint management of the hospital and suggests that the whole subject should be referred to the Local Government Board. The town council eventually decided to ask the Local Government Board to hold an inquiry into the matter.

June 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

"Medicine: the Mother of Many Humbugs."

THIS was the title of a lecture advertised to be delivered in the Queen's Hall, Edinburgh, on June 13th by the Rev. H. E. Cantel, who was described in the posters as "Overseer for the United Kingdom of the Christian Apostolic Church in Zion." This lecture was the fourth of a series delivered in the Queen's Hall, the previous three not having attracted any special attention. The theme of the fourth lecture attracted the attention of the medical students and some hundreds of them were present at the place of meeting. They were quite decorous in their behaviour for some time but when it became known that the lecturer was not to appear they burst into the hall and conducted themselves in that riotous manner which in past times was not uncommon but which has been rare in recent years. They destroyed many of the hall fittings and eventually found themselves in collision with a considerable body of policemen, who finally had to charge them with their batons. Several students were injured and eight were arrested This type of rowdyism is of course strongly to be condemned and, fortunately for the sake of Edinburgh and her medical students, it is now of very rare occurrence

University of Edinburgh · Resignation of Professor Simpson

It has been unofficially known for some time that Dr A R Simpson, professor of midwifery and diseases of women and children, proposed to resign his chair At the meeting of the University Court on June 12th an application was received from Professor Simpson for permission to retire from the chair as at August 31st next Professor Simpson has occupied the chair for over 30 years and notwithstanding the immense changes and advances which have been made, especially in gynæcology, in that time he has kept well abreast even of this department and is recognised by his colleagues as an able, expert, and successful operator It is hoped that if the resignation be permitted there may be important changes in the chair It is universally held that both gynæcology and diseases of children ought now to be separated definitely from obstetrics, and it is hoped that the University may be able to carry through this very important and pressing change. There ought to be no difficulty from the financial side in carrying through the changes indicated, for chairs which carry with them a status in departments of the practice of medicine or surgery do not necessarily require endowments.

Fourth Centenary of the Royal College of Surgeons of Edinburgh.

The preparations for this celebration are being rapidly completed Invitations have been issued for the commemoration ceremony which is to be held in the McEwan Hall on Thursd.
the body of the
who are requeste
Invitations have also been issued for a reception in the Royal College of Surgeons on the evening of the same day, the reception is given by the President and Fellows of the College There is further to be a garden party on the afternoon of July 21st in the grounds of George Heriot's Hospital, the invitations in this case also being sent out in the name of the President and Fellows of the College

Glasgow and District Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis.

The fourth annual general meeting of this branch was recently held in Glasgow. The council reports that during the past year public meetings have been held at various centres with the object of instructing the public and encouraging individual effort to prevent the spread of the disease Signs are not wanting to show that the public, especially in large cities, are becoming educated to the need of abating the practice of spitting. The Bellefield Sanatorium has been in active operation throughout the year and with very satisfactory results Since the sanatorium was opened 50 cases ha
treated and dismissed,
accommodation for 30,
afford, has from the first been found quite inadequate for the very numerous applications received Plans are, however, in course of preparation for the erection of an additional pavilion, together with a laundry and other accommodation Of course, it is not desirable that patients in the advanced stages of the disease should be admitted to the sanatorium, and in order to help this class of patients it has been determined to institute a dispensary where special advice and treatment may be given to patients suffering from pulmonary tuberculosis Until funds can be raised to establish, to equip, and to maintain a separate dispensary negotiations have been entered into with the health committee of the corporation, which, it is expected, will result in temporary arrangements being completed which will enable dispensary treatment to be carried on in the meantime

Reconstruction of the Royal Infirmary, Glasgow

In THE LANCET of June 10th, p. 1616, attention was drawn to the objections to this scheme which are being raised on the one hand as regards the plans of the new building and on the other hand as regards the damage likely to be done to the appearance of the Cathedral Within the last few days there has been published in the *Glasgow Herald* a letter dated Jan 6th, 1903, and written by Dr. James Finlayson, ex President of the Faculty of Physicians and Surgeons, Glasgow, and at that time a member of the board of the Royal Infirmary, to the chairman of the board In that letter Dr Finlayson says "My opinion all along has been entirely opposed to any scheme for the rebuilding of the infirmary on its present limited area, in which the numbers of the patients were to be increased and in which the difficulties could only be dealt with (I don't say overcome) by piling up six storeys of sick people in such a locality That 660 sick persons should be piled up in six flats with a dense population of the living on the one side and of the dead on the other, and with chemical and other works in the near vicinity, is a plan against which, as a physician, I must protest" Dr Finlayson goes on to add that he is entirely in favour of having a central infirmary of limited size on the present site especially for the treatment of accidents He also approves of rebuilding the front or south house as a new surgical house with every modern idea carried out, leaving the north house, which is little more than 40 years old, for medical wards The letter concludes with the remark that "extensions of hospital accommodation should clearly be sought elsewhere"

Defective Hearing among School Children.

At the annual meeting of the friends and supporters of the Glasgow Ear Hospital Dr T Barr pointed out that one third of the patients treated during the year were children under 15 years of age Most of these children were suffering from adenoids which not only produced mouth breathing and ear disease but also in many cases had a dulling effect on the intellectual faculties There was no doubt that the 892 children who had come for treatment formed a very small proportion indeed of the school children who were suffering from these conditions and who were thereby placed under a great disadvantage at school Of 600 children examined by Dr Barr some time ago in connexion with two board schools in Glasgow about 25 per cent were found to be suffering from more or less defective hearing associated in many cases with nasal obstruction. What a serious effect this must have upon the education of a child one can understand when one bears in mind that the organ of hearing is really the organ of education and the chief medium through which children at school receive their mental impressions

Burial Reform in Scotland.

The movement in favour of cremation seems to be gaining ground in Scotland The Scottish Burial Reform and Cremation Society, Limited, reports that 22 cremations were carried out at Maryhill during the year, making 167 since the opening of the crematorium It was pointed out at the general meeting of the society that what occurred was really a decomposition of the body by hot air, and that there was nothing in the process from which the most sensitive mind could recoil. Those who advocate this method of interment are convinced that it only needs a little further enlightenment on the part of the public to make it more popular The small cost is certainly in its favour, 30*s* being charged for cremation, and this includes half a square yard of ground which would contain the ashes of a family From the sanitary point of view the method has everything to commend it, and when the public come to realise this and overcome their prejudice against it no doubt it will be universally adopted It is worthy of note, and as it should be, that at the general meeting of the society the adoption of the report was moved and seconded by medical men.

Montrose Asylum Board

The annual general meeting of the managers of the Montrose Asylum and Infirmary Board was held in Montrose on June 13th Dr J G Havelock, physician superintendent at the asylum, reported that during the year 66 men and 80 women were admitted, bringing the total number of cases under treatment to 833. 85 inmates were discharged and 37 men and 34 women died On May 14th last there were on the register 297 males and 380 females—total 677, showing a decrease of ten during the year. In dealing with the causes of insanity Dr. Havelock, in his report to the managers, says:—

> There is no subject more beset with difficulties than the estimation of the factors which go to produce the complex variety of symptoms and diseases known under the common term of insanity. Two persons were stated to have succumbed to a new disorder, known as "motor mania," a condition said to be induced by the strain of driving mechanically-propelled vehicles on the roads. It is probable that in a large number of cases where the cause of the insanity is attributed to moral and physical agencies the prime factor is a strong hereditary predisposition.

Continuing, Dr. Havelock states that the general health of the patients has been good and that no accident of a serious nature had occurred during the year. At the infirmary the admissions last year totalled 208, a decrease of two; and the number who had received advice and medicine at the infirmary was 1598, a decrease of 129.

Morningfield Hospital, Aberdeen.

The annual meeting of the subscribers was held at the institution on June 7th. The committee of management reported that at the beginning of the year there were in the hospital 77 patients, consisting of 28 adult males, 44 adult females, and 5 children. During the year the committee had under consideration the cases of 35 applicants for admission, of whom 13—namely, 8 adult males, 4 adult females, and 1 child—were admitted. In the course of the same period 8 patients—6 adult males and 2 adult females—died, and 6 patients—5 adult males and 1 adult female—were discharged. The number of patients in the hospital at the close of the year was 76, the average number throughout the year having been 75. During the year the ordinary expenditure on the maintenance and management of the hospital amounted to £2326 10*s.* 6*d.*, while the ordinary income was £1361 15*s.* 4*d.*, leaving a deficiency of £964 15*s.* 2*d.* During the same period legacies were received to the amount of £126 17*s.* 7*d.*, and a special donation of £500 whereby the deficiency was reduced to £337 17*s.* 7*d.* On the other hand, payments were made for additions and alterations to the hospital to the amount of £353 3*s.* 9*d.*, so that during the year the funds of the institution were reduced by a total of £691 1*s.* 4*d.* The average cost of each patient's maintenance during the year was £29 8*s.* 2*d.*, the average daily expenditure per patient having been 1*s.* 7*d.* These figures compared very favourably with those of kindred institutions and the committee was satisfied that the hospital had been maintained and managed with economy. Notwithstanding the economy which had been constantly practised it had been necessary for many years to apply to ordinary expenditure legacies which from their nature ought, in a large measure at least, to have been reserved and added to capital. Even on the assumption that legacies are available for ordinary expenditure, it must be kept in view that they form a very uncertain source of income and one which from various causes had been on the decline. The amount received from legacies last year was £126 17*s.* 7*d.*, as compared with £770 5*s.* 3*d.* in 1903. The ordinary income of the hospital during the year was sufficient for the maintenance of only 47 patients, whereas the average number maintained was 75. In view of the unsatisfactory position of the ordinary income and expenditure, and in order to restore, as far as possible, the large amount of capital expended on the recent additions and alterations to the hospital, the committee issued, towards the close of 1903, a special appeal for increased public support. The appeal, though widely circulated, did not meet with the support that the committee expected; but it was reasonable to hope that those to whom the appeal brought home the urgent need of the hospital for increased support would continue their contributions in the future, and it was the earnest desire of the committee that they would do so. The committee does not suppose that it is the wish of the public that the benefits of the hospital should be reduced, but it cannot be too clearly understood that if the usefulness of the hospital is to be maintained on the existing scale the subscriptions and donations must greatly exceed their present standard.

New Hospital for Peterhead.

On June 17th the foundation stone of the new infectious diseases hospital for the borough of Peterhead was laid with full Masonic honours by Provost Leask. The hospital, which is on the north side of the town, is of the villa type and contains 16 beds, a provision against epidemic disease which the Peterhead community and its worthy provost consider excessive in view of the fact of the freedom enjoyed by Peterhead from epidemic disease.

June 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Dublin.

ON June 17th a meeting of the University of Dublin was held in the theatre of the College buildings for the purpose of considering the adoption of the honorary degrees proposed by the Provost and Senior Fellows. The University Caput consisted of the Vice-Chancellor (the Right Hon. Mr. Justice Madden), the Provost (Dr. A. Traill), and the senior master non-regent (Mr. George Cathcart), who presided. It was officially intimated that the following degrees had been accepted by the Senate:—

[illegible] rs, Principal of Victoria College, Belfast; [illegible] White; Sir Thomas Drew, President of the [illegible] demy; and the Right Hon. Sir Arthur Wilson, B.A., K.C.I.E.

M.D.—Sir Richard Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London; and Henry Rosborough Swanzy, M.B., Ophthalmic Surgeon to the Victoria Eye and Ear Hospital and Adelaide Hospital, Dublin.

Sc.D.—Edward A. Schafer, Professor of Physiology, University of Edinburgh; and Sydney Young, Professor of Chemistry, Trinity College, Dublin.

Litt.D.—William Graham, M.A., Professor of Jurisprudence and Political Economy, Queen's College, Belfast; and the Hon. Emily Lawless, the well known author of "Hurrish."

Mus.D.—Michele Esposito.

Outbreak of Glanders in Dublin.

In connexion with the recent death of a man infected with the poison of glanders and the leading article in the last issue of THE LANCET showing that the disease was very serious and prevalent in many parts of England, it is unsatisfactory to note that an outbreak of the affection has recently occurred among the horses of a large firm in this city. At a meeting of the public health committee of the corporation, held under the Diseases of Animals Act at the municipal buildings on June 14th, a report of Mr. Watson, M.R.C.V.S., the inspector of the executive committee, was received stating that a serious outbreak of glanders had occurred among the horses of a large city firm. The animals had been tested by hypodermic injections of mallein and in six cases up to the present a positive reaction had resulted. Alderman M'Carthy, J.P., made an order with the authority of the committee that those animals should be slaughtered at once. He stated that, in his opinion, prompt measures should be taken to stamp out the disease which was of such a highly infectious character and was now such a serious menace to the horse owners of the city. The other horses which may have been infected have been removed from their stables to isolated quarters in which they are kept for further observation and re-testing. The stables have been disinfected by the staff of the public health department, all the public drinking troughs in the city have been closed, the county council has been requested to empty those in the county, and, in short, every precaution has been taken to prevent the further spread of the disease.

The Irish Medical Association.

The annual meeting of this association was held in the Victoria Hotel, Killarney, on June 7th, the out-going President, Mr. R. F. Tobin, occupying the chair. The sixty-sixth annual report was submitted and adopted. At the close of 1904 there were 869 members on the roll, being an increase of 35 over the number for the previous year. The accounts closed with a balance of £90 7*s.* 5*d.* but against this sum and the income expected for 1905 liabilities and law costs estimated at £645 must be set. The incoming President, Dr. William MacSweeny of Killarney, delivered his inaugural address, in which he referred specially to the grievances of the dispensary medical officers—their insufficient salary, absence of compulsory superannuation, and want of certainty about annual holiday. He pointed out that their demands were: increase of salary, compulsory superannuation, and compulsory annual holiday. On the motion of Professor R. J. Kinkead (Galway), seconded by Mr. J. J. Curran, the thanks of the association were conveyed to the retiring President, Mr. Tobin. Dr. Macnamara proposed and Professor Kinkead seconded the following motion:—

> That, in the opinion of the meeting, £200 per annum for dispensaries, £120 for workhouse officers, £300 for both, are the lowest salaries that medical men should be asked to work for, but since, owing to the effect of Section 6 of the Local Government Amendment Act, salaries fall on the local rates, members should not be penalised for non-compliance with the Mayo-Enniskillen resolution, pending a settlement of the question.

After some discussion an addition was made that the salary should be satisfactory to the local branch and approved of by the council Mr P Dounellan proposed and Mr J W Olpherts seconded, the following motion which was carried —

> That the council be instructed to formulate a policy that will enable the association to carry to a successful issue measures which may be adopted for the improvement of members

After a discussion in reference to the issue of the Irish Medical Directory it was agreed to discontinue its publication A motion proposed by Dr Samuel Agnew and seconded by Mr Olpherts was carried in favour of the appointment of a deputation to wait on the Chief Secretary and bring before him the more serious grievances of the Poor law medical officers The resolution also requested the council to make representations to the Local Government Board to lay down a satisfactory basis for the formation of scales of graded salaries The extraordinary general meeting for the amendment of the articles of association was postponed to October The annual dinner was held in the evening in the Victoria Hotel Killarney Dr MacSweeny the President, occupying the chair there was a large attendance and a pleasant evening was passed On the next day (Thursday June 8th) there was an excursion to the famous Gap of Dunloe and in the evening Dr E J McWeeney delivered a lecture on Tuberculosis It is doubtful whether this last annual meeting will really advance the cause of the Poor law medical officers of Ireland A mere repetition of their admitted grievances is not enough, what is wanted is really a lead or some kind of 'fighting policy' Beyond the mere resolution in reference to the Medical Directory little else was accomplished except the expression of pious opinions as to the necessity for some strong line of action

The Direct Representative on the General Medical Council

Dr G L J Greene has declined to go forward as a candidate so up to the present all the candidates in the field are Sir W Thomson (Dublin) Dr L Kidd (Enniskillen) and Dr R B Mahon (Ballinrobe)

An Action against a Medical Man

In the King's Bench Division Dublin on June 9th an application was made on behalf of Alfred Ernest Vaughan to have set aside a verdict obtained by the defendant Mr C K Darrell of Bangor co Down at the last assizes (March) of Belfast, a full report of which appeared in the columns of THE LANCET It was an action claiming damages for negligence and it was now sought to have the verdict set aside and a new trial ordered on the ground that it was against evidence and also on the ground of misdirection and non direction on the part of Mr Justice Wright who tried the case After counsel had been heard the Lord Chief Baron Palles delivering the judgment of the court refused the application and decided that the verdict must stand

The Belfast Foreshore Nuisance

A conference has been arranged between the Holywood urban council and the Castlereagh urban council and the Parliamentary agent of the Local Government Board in reference to the proposed provisional order constituting these two authorities and the Belfast corporation a joint board for dealing with the nuisance existing on the Belfast foreshore

June 20th

PARIS

(FROM OUR OWN CORRESPONDENT.)

Excision of an Arterio-venous Aneurysm in the Axilla

AT a meeting of the Surgical Society held on May 31st M Mignon showed a male patient on whom he had performed this operation The aneurysm which was the sequel of an old wound inflicted with a knife in the cavity of the axilla, resulted from a communication of the axillary artery with a collateral external vein The internal axillary vein was also wounded but arterial blood did not make its way

ombosed for a distance of four
plied two ligatures and in the
collateral external vein and the
of about two and a half centi

metres Recovery followed without complications although the axillary artery had been tied in a part of its course where there are no collateral branches—namely below the inferior scapular in the portion which is commonly said to be dangerous for ligature At the present time all the signs of aneurysm have disappeared but the patient has no radial pulse

Return of Dr Charcot to France

Dr Jean Charcot has had a splendid reception on his arrival in France When the vessel was off Toulon his friends and a deputation from the Geographical Society of Paris went on board in boats sent by the maritime prefect and the travellers on landing were received at the Mairie They had an enthusiastic greeting in Paris at the Lyons railway station where representatives of the Academy of Sciences the Museum of Natural History and the Geographical Society had assembled Dr Charcot was welcomed by Admiral Humann and then by M Bouquet de la Grye and M Perrier in the name of the Institut and of the Museum of Natural History The Minister of Marine afterwards presented Dr Charcot with the insignia of Chevalier of the Legion of Honour at the same time addressing him in complimentary terms The Geographical Society received Dr Charcot and his party at a special meeting held at the Sorbonne on June 16th

Apparatus for Anæsthesia in Operations on the Head, Face, and Mouth

At a meeting of the Surgical Society held on June 7th M Delbet showed an ingenious simple, and practical apparatus for bringing anæsthetic vapours to the laryngeal opening in operations on the face nose and mouth Vapour of chloroform ether or ethyl chloride may be employed The apparatus consists essentially of a flattened hollow plate shaped like a tongue depressor and jointed in several separate portions at one end an arrangement which gives it somewhat the appearance of a lobster's tail This jointed extremity passes over the base of the tongue and resting on the epiglottis forms at the same time a cap over the laryngeal opening and a nozzle for the supply of anæsthetic vapour which is brought through the 'lobster's tail' by india-rubber tubes connected with any of the various kinds of chloroform or ether apparatus For operations on the tongue and on the soft palate which would be difficult if not impossible with this instrument M Delbet has devised a special form which acts on the same principle and can be used easily in such cases

Neglect to Notify Infectious Diseases

At a meeting of the Academy of Medicine held on June 6th M Vaillard complained that non observance of the law with respect to the compulsory notification of infectious diseases was only too frequent and had a bad effect on the health of the army At the present time small pox was rare among soldiers but unfortunately, the same thing could not be said with respect to measles scarlet fever and contagious parotitis the prevalence of which increased from year to year notwithstanding all the prophylactic measures which were adopted Statistics showed that the annual numbers of these cases during each of the last 12 years were 6000 of measles 3513 of scarlet fever and 11 000 of contagious parotitis No similar statistics in other countries approached these figures It seemed to be proved that a soldier very often brought the initial case of an epidemic into barracks after having contracted the disease among the civilian population either in the garrison town or in a place to which he had gone when on furlough Epidemics were therefore most commonly met with at the expiry of the leave given at New Year and Easter Now these initial cases might perhaps be avoided if the military authorities were regularly and accurately informed as to the existence of contagious diseases among the civilian population It would then be possible for the military authorities to declare an infected part of a town to be out of bounds and to refuse the men permission to visit places where eruptive fevers were known to exist The prevention of infectious diseases would be easy if the law as to compulsory notification were observed

Medical Aid for Native Women in Algeria

In order to provide medical aid for native women who are either unable or unwilling in consequence of their special customs to consult male practitioners the Governor of Algeria is making arrangements for giving advice free of charge in the towns of the colony where the Mussulman population is sufficiently numerous The practitioners will be females holding the diploma of Doctor of Medicine The Government will supply them with consulting rooms and the requisite instruments as well as with medicines for the use of necessitous patients They will have an annual salary of

2400 francs rising to 2700 and 3000 francs, and those who have charge of infirmaries for natives will have an additional allowance of 600 francs. The Government of Algeria has made an urgent appeal to all female practitioners who may be disposed to second its views by undertaking this work.

Experiments on the Food of Tuberculous Dogs.

M. C. Richet, M. Lassablière, and M. Lesné communicated a paper on this subject at a meeting of the Biological Society held on June 3rd. M. Richet proved long ago that raw meat gave excellent results as a food for dogs in which tuberculosis had been artificially produced but that cooked meat without any addition was the worst of all kinds of food. Of dogs inoculated intravenously with human tuberculosis all those which were fed on cooked meat died, while those which were fed on raw meat, milk, and *bouillies* survived. All the dogs fed on cooked meat lost their appetite and became thin but with raw meat the case was reversed.

June 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Mikulicz.

Dr. von Mikulicz-Radecki, ordinary professor of surgery and chief surgeon to the University Clinic of Breslau, died in that city on June 14th. An Austrian by birth the deceased received his medical education at the University of Vienna, where he qualified in 1875, and afterwards became an assistant to the celebrated surgeon, Professor Billroth. His first work related to the details of antiseptic methods in surgery, which were modified and simplified by him, and studies on antiseptic and aseptic methods were conducted by him during nearly all his surgical career. He showed that the use of the antiseptic spray during the progress of an operation was unnecessary, he replaced carbolic acid by iodoform, and finally he devised methods of sterilising dressing materials and avoiding the infection of wounds by the hands and the respirations of the surgeon. As an assistant of Professor Billroth Professor Mikulicz, following his master, enlarged the field of abdominal surgery, which was then in an early stage, by a number of new operations. He was also much interested in operations on the joints. He was co-editor of the *Beiträge zur Chirurgie* and *Mittheilungen aus den Grenzgebieten der Chirurgie und Medicin;* and, together with Professor von Bergmann and Professor von Bruns, he edited the "Handbuch der Praktischen Chirurgie." After his assistantship in Vienna he became ordinary professor of surgery at the University of Cracow, where he lived from 1882 to 1887, but afterwards left his native country for Germany and became ordinary professor of surgery at the Universities, first of Königsberg and then of Breslau. Professor Mikulicz, who was only 55 years of age, was generally esteemed by both his patients and his professional brethren, who elected him President of the Breslau Medical Society and a member of the committee of the German Surgical Association.

University of Berlin.

At present there are 6279 students matriculated at the University of Berlin as compared with 6096 last summer and 7774 last winter. In the winter semester there is always in Berlin a far greater number of students than in summer, for, according to German custom, students often change their university and in winter prefer the large towns, whilst smaller ones, especially when situated in a fine country, are more popular in summer. The number of students attending the various faculties are as follows: theology, 248; medicine, 924; philosophy, 3255; and law, 1852. Of the students 4538 are Prussians, whilst 765 come from the other German States. The number of foreigners from Europe is 823, of whom 394 are Russians, 179 are Austrians and Hungarians, 43 are Swiss, and 24 are British; 93 come from America, 42 from Asia, five from Australia, and three from Africa. In addition to the matriculated students 4982 persons are authorised to attend the lectures of the university, this number including the students of the technical, veterinary, and other academies and 365 female students who, according to the by-laws, cannot be duly matriculated.

Sanatoriums for Tuberculous Patients.

The German committee for sanatoriums for tuberculous patients held its annual meeting in Berlin on June 8th, the Secretary of State, Count Posadowsky, being in the chair. The secretary, Dr. Nietner, reported that during last year seven new sanatoriums were opened, whilst seven others are now in construction. The number of beds available for tuberculous patients was 9113. The secretary stated that this number was sufficient so far as persons insured under the workmen's insurance laws were concerned, but that for other classes of the population additional accommodation was needed. The committee will henceforth give attention to the provision of asylums for incurable patients, of dispensaries, and of *Walderholungsstätten*—establishments where patients spend the whole day in the healthful air of forests. These *Walderholungsstätten* have recently been kept open not only in summer but also in winter. Dr. Nietner finally made reference to compulsory notification of tuberculosis and compulsory disinfection by the public authorities. Dr. Mannkopf (Remscheid) described the development of the "dispensaires antituberculeuses" in Germany. Of these there were at the present time 42 in existence, the majority being managed by the workmen's insurance institutions (*Landes-Versicherungs-Anstalten*) and by various municipal authorities. He recommended that the dispensaries should become municipal institutions and that they should be established not only in connexion with the cities but also in the country districts. Dr. Weber of the Imperial Health Office then gave an account of the progress that has been made with the researches carried out on behalf of the office on the relationship existing between human and bovine tuberculosis. He said that the "bacillus tuberculosis humanus" and the "bacillus tuberculosis bovinus" were two different species but that the bacillus bovinus might occasionally be present in the human subject also, though only in children under ten years of age. It had been ascertained that the bacillus bovinus might produce general miliary tuberculosis and that it was present in the lymphatic glands of children. As regards the measures to be taken against the spread of tuberculosis he said that the destruction of the bacillus tuberculosis humanus ought to be aimed at principally but that the bacillus bovinus was also injurious to the human species and therefore must not be neglected. The proceedings concluded with an address delivered by Dr. Kayserling on the subject of tuberculosis.

June 19th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Care of Imbeciles.

The fifth annual Swiss conference on the care of imbeciles took place at St. Gall on June 5th and 6th, when the President of the association, M. Auer of Schwanden, presented a report on the work which is at present being done. There are now in Switzerland 26 institutions for the care of imbeciles accommodating 1011 children. In 24 towns and large villages there are attached to the State schools special classes in which children of weak intellect receive tuition. In 1897 only 567 children attended these classes, but the number now amounts to 1236. The State makes grants of money to insure that efficient teachers may be placed in charge of these classes and may also themselves receive competent medical and other instruction. Professor Furcher, national councillor, spoke on the legal aspect of the care of the weak-minded and the special provisions made under the new Federal law. Schulrat Dr. Sikknegir of Mannheim described his proposals which are being practically carried out in Mannheim in the State schools. He pleads for a further division in the form of intermediate classes, in which children of exceptionally feeble mental capacity should be placed and should receive special instruction in smaller classes under the best teachers. This system, which is most rational, will be introduced next year in the Zürich town schools.

Zürich Sanatorium for Tuberculosis.

Dr. Staub, medical director of the Zürich Sanatorium for Tuberculosis at Wald, has presented his report on the work of the year 1904. Of 260 patients who made an average stay of 129 days at the sanatorium 41 per cent. were in the first stage, 24 per cent. in the second stage, and 35 per cent. in the third stage of pulmonary tuberculosis; 80 per cent. left the establishment in an improved state of health, 62·7 per cent. being fit for active work again. For the purpose of tracing the after-histories Dr. Staub continues to keep in correspondence with about 600 patients who have been at the sanatorium. Of the patients who were under treatment two years ago, 62 per cent. were still fit for work; of those who were under treatment three, four, and fiv[illegible] numbers fell to 52, 48, and [illegible] instructive to note the rela[illegible] stages of consumption. Of the patients in the first stage, from 79 to 90 per cent. were still at work from three to six years after admission, while of those in the second stage from 38 to 62 per cent. and of those in the third stage only from 6 to 24 per cent. were able to work. From this it appeared that even some almost hopeless cases could be rescued. As there were often 50 cases waiting for admission Dr. Staub was proposing to discharge slight cases which were making satisfactory progress after two months' treatment. The good results of the Bernese Sanatorium in Heiligenschwende encouraged him to take this step in the interest of urgent cases waiting for admission.

Zürich, June 20th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Destruction of Mosquitoes in New Jersey.

OWING to the swamps which abound in parts of New Jersey mosquitoes are present in the summer in countless swarms and are responsible for the malaria which is so prevalent. During the past few years attempts have been made to diminish the number of these pests but owing to the efforts being limited in their scope but little success has attended them. Drainage on a wide scale is the only sure means of abolishing mosquitoes. The Board of Health of Elizabeth, New Jersey, has recently decided to drain the low-lying meadows between that town and Newark. A sum sufficient to do about two-thirds of the necessary work this season has been appropriated, while the Central Railroad of New Jersey will be requested to coöperate to the extent of placing culverts under road bed wherever the ditching plan will render that needful.

Insanity in New York State.

The New York State Charities Aid Association has submitted recently to the State Commission of Lunacy a report which shows that in New York State the total number of insane persons in State hospitals and licensed private asylums on Oct. 1st, 1904, was 26,861, an increase of 927 over the figures for the previous year. Of this whole number 25,019 were in the 14 State hospitals. An important feature of the report is the recommendation that improvement should be made in the methods of deporting insane aliens and that in the case of such persons there should be more coöperation between the State hospitals and the United States immigration authorities. The State Charities Aid Association asserts that it has found that insane aliens deported by the Government have not always reached their homes as promptly as they should have done and on more than one occasion they have not reached their homes at all. When the census was taken it was found that the insane population of Manhattan, containing 2,139,632 people, was 7427, while Long Island, with a population of 1,555,152, had 4168 insane.

Alcoholism and Insanity.

The May number of the *New York Post-Graduate Journal* is wholly devoted to articles from the clinic of Dr. Joseph Collins, professor of nervous diseases in the New York Post-Graduate School. The first article is on the Comparative Anatomy of the Anterior Cerebral Artery and is by Dr. William Leseur. This article is exhaustive and accurate and beautifully illustrated. Perhaps the most interesting article of the series is that by Dr. Collins on the Commoner Varieties of Alcoholic Insanity. He maintains that the intemperate use of alcohol is directly or indirectly the commonest cause of insanity. Indeed, he goes so far as to say that it is nearly the sole cause, and that if the drinking of alcohol were stamped out for a century insanity would undoubtedly shrink 75 per cent. Dr. Collins also points out that it is not so much the amount of alcohol that a person consumes as the idiosyncrasy of the consumer that stands in causal relationship to insanity.

Fear inspired by Cats.

Dr. Weir-Mitchell has written on the above subject in a recent number of *American Medicine.* He states that at least one-fourth of his cases of cat terror in grave forms is a family peculiarity. Five in a family of seven had it. In another case, a maternal grandfather, two great aunts, an uncle, and a sister were all thus troubled, and in other families where one had it, at least one other, brother or sister, was more or less affected. Sex appears to have no marked influence but the extreme symptoms are more frequent in women. Dr. Mitchell concludes that the cat emanations may affect the nervous system through the nasal membrane, although unrecognised as odours. A susceptible person who is told that a cat is near when none is in the room may experience the same unpleasant consequences as when the cat is present. It is perhaps worthy of note that many of the victims of cat fear declare that even strange cats seem to have an unusual desire to be near them, jump on their laps, and follow them.

Milk-supply in New York.

The Governor of New York State has signed a Bill requiring owners or operators of milk stations for the sale of [illegible] rocure licences fro[illegible] The applicant mu[illegible] not participate in [illegible]

June 10th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Directorship of the Pasteur Institute, Kasauli.

Colonel D. Semple, who has just retired from the Royal Army Medical Corps, will remain as director of the Pasteur Institute, Kasauli. His salary has been fixed at Rs. 2000 per mensem. This is very satisfactory as the work of the institute has developed very largely under Colonel Semple's management and a great variety of experimental, as well as instructional, work is being conducted. Madras is provided for with the King Institute and Bombay with the Plague Research Laboratory but Bengal is at present neglected. In this last presidency very little encouragement seems to be given to original workers. There are no men regularly told off for research work and there is no properly equipped laboratory for experimental work. For such a large province and with such an enormous population and for a presidency which prides itself upon attracting the pick of the services this absence of encouragement to original work is hardly creditable.

5000 Deaths a Day from Plague: the Course of the Epidemic.

Over 5000 deaths a day are still recorded as the ravages of plague. There has been a decline in the mortality during the last few weeks and a further decline may be expected. The Punjab returned 25,340 deaths for the week ending May 20th, as compared with 29,385 deaths for the previous seven days; United Provinces, 5132, as against 9220; Bengal, 1069, as against 1660; Rajputana, 2142, as against 3292; Bombay districts, 585, as against 838; Burmah, 58, as against 74; Kashmir, 200, as against 295; Bombay city, 594, as against 679; and Calcutta, 172, as against 324. The decline is general and belongs, therefore, to the life of the outbreak, whatever determines its course. The general recrudescence of plague throughout India, which seems now to occur regularly every spring, follows a very similar course to the annual outbreaks which show themselves in Calcutta and Bombay, and these in their turn are like the less extensive outbursts which occur in the smaller towns, the only difference being that the larger the area or the population affected the less rapid are the rise and fall and the longer is the duration of the outbreak.

June 2nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Infantile Mortality.

SOME time ago the Government statist for Victoria took except[illegible] statement by your correspondent as to the [illegible] aid that com- excess [illegible] While it may pared [illegible] high to call not be relatively excessive it is [illegible] for inquiry and improvement and the Sydney press has recently taken the matter up. In a leading article in the *Sydney Morning Herald* it was pointed out that between the years 1896–1900, roughly, one out of nine infants under one year of age died. In the period 1881–85 about one in eight died; the total mortality of infants under one year for 23 years was over 80,000 in New South Wales, while the other States show much the same record. The article considered that the figures indicated "a quite unnecessary waste" of child life. The Sydney Women's Progressive Association requested the Premier to give assistance for the establishment of a hospital for infants under two years of age and pressed on his attention the statement that over 4000 babies under one year die annually.—At the thirteenth annual meeting of the friends and supporters of the Infants' Home, Ashfield, Sydney, the report showed that the infantile mortality at the home was only 9 per cent., and Dr. C. K. Mackellar, who presided, and Sir James Graham stated that it was clear that a large amount of really good work had been done in the institution.

Friendly Societies in New South Wales.

The annual session of delegates from the various branches of the Australian Natives Association was held recently in Sydney. The President said that the association had had uphill work to keep its affairs straight during the past 12 months. Alluding to the trouble with the New South Wales branch of the British Medical Association, he regretted that the council of that body had not yet seen fit to recognise the association. He had recently asked the council not to come to a definite conclusion before again conferring with the board of the Natives Association, but was amazed to receive a letter stating that the council would not discuss the matter further. He denied that the association was political except in an educative sense. It did not enter into party politics. In the subsequent discussion it was stated that "it was no use blinking the fact that the A.N.A. could not get on without the concurrence and support of the doctors." Some surprising allegations were also made "that the Sydney Hospital refused to admit an unfortunate woman simply because she had been attended by an A.N.A. doctor," that "a woman who had been attended by a medical officer of the association was turned out of the hospital before she was well," and "when they heard of medical men who were paid by the Government refusing to consult with a brother doctor, even where it was a case of life or death, it was time for a Parliamentary inquiry." The session, however, took no fresh action in the matter.—The twenty-fifth annual session of the Independent Order of Oddfellows was also held recently. The report congratulated the brethren on the progress of the Order. There were seven grand lodges, 350 subordinate lodges, and an aggregate membership of about 35,000 under the jurisdiction of the Grand Lodge of Australasia. The membership in New South Wales was 9409. The total net funds of the Order in New South Wales were £72,449.

The Water-supply of Sydney.

The medical officer to the Sydney water and sewerage board, Dr. E. S. Stokes, has submitted a report on the workmen's camp at the cataract dam for the Sydney water-supply, recommending the removal of the camp and that the board should be vested with full control of the camp both in sanitary and disciplinary matters. The engineer-in-chief concurred in the views of the medical officer. A minute by the president of the board set out that the camp had been improperly and injudiciously pitched on a site which presented a danger to the purity of the water-supply, and the board resolved

> That in the opinion of this board it is desirable to have the workmen's camps at the cataract dam and works removed to a site outside the catchment area.

The Teeth of School Children.

The Dental Association of New South Wales has decided to intrust the arrangements for inspecting the teeth of all the school children in New South Wales to a committee of seven. It is proposed to visit each school once. A lecture on teeth and their care will be given and the children who have defective teeth will be made aware of the fact and be tendered advice. The work of inspection is to be carried out gratuitously, the various members of the association volunteering their services.

May 15th.

Obituary.

FREDERICK JAMES GANT, F.R.C.S. ENG.

Mr. Frederick James Gant, whose death took place on June 6th at his residence, 16, Connaught-square, London, W., had for many years occupied a prominent position among London surgeons and was, moreover, well known as an industrious author, not only of strictly professional treatises but also of works on miscellaneous questions—theological, social, and ethical, some of the latter being of a pronounced controversial nature. Mr. Gant was born in Acton-place, Kingsland-road, London, N.E., in December, 1825. In the "Autobiography" which he published in 1905 he describes himself as "born two months before I was due" and makes frequent reference to the weakness of his constitution in early life. His childhood was passed at Eastbourne, on the south coast, to the great advantage of his health. Losing both his parents while a young man, he became assistant to a pharmaceutical chemist in Shoreditch and afterwards entered as a student of medicine at University College, London. In 1849 he took the diploma of M.R.C.S. Eng. and was admitted a Fellow of the College in 1861. In 1852 he commenced practice as a consulting surgeon at 13, Old Cavendish-street, W., and lectured on physiology at the short-lived Hunterian School of Medicine in Bedford-square, W.C. In 1853, on the discontinuance of the Hunterian School, he migrated to the Royal Free Hospital in Gray's Inn-road, where he did a great deal towards the improvement of the pathological museum and lectured on anatomy and physiology. During the Crimean war—namely, from March, 1855, to the conclusion of peace in the spring of 1856—Mr. Gant held the office of civil surgeon in the military hospitals in the Crimea and at Scutari, rendering services for which he eventually received a medal with a clasp for Sebastopol. The subject of his first book, which was published in 1858 was suggested by a casual visit to the Smithfield Club Cattle Show held in London in December, 1857. It was entitled "The Evil Results of Overfeeding Cattle—a New Inquiry," and showed that fatty degeneration of the heart and other muscles was frequent among the prize animals. He had already published in THE LANCET in 1857 a series of ten papers with the title "What has Pathological Anatomy done for Medicine and Surgery?" and these appeared in book form in 1864 as "Principles of Surgery—Clinical, Medical, and Operative." His "Science and Practice of Surgery," published in 1871, was one of the earliest text-books, if not the earliest, to contain an account of the antiseptic methods in surgery which had been originated by Lord Lister in the Glasgow Royal Infirmary about five years previously. He also wrote "Diseases of the Bladder, Prostate Gland, and Urethra" which reached a fifth edition in 1884; "The Student's Surgery," which appeared in 1890; and a "Guide to the Examinations by the Conjoint Board in England and for Diploma F.R.C.S. England," the seventh edition of which, revised by Mr. Willmott H. Evans, was published in 1899. The Lettsomian lectures on the Excisional Surgery of the Joints for Disease delivered by him before the Medical Society of London were published in THE LANCET of May 13th and June 3rd, 1871. In consequence of his position at the Royal Free Hospital Mr. Gant, although not at first in favour of the movement for the medical education of women, became a teacher of the students belonging to the London School of Medicine for Women who were admitted to the practice of that hospital in 1878. In the end of 1890, when he resigned the position which he then held as senior surgeon of the hospital, the addresses presented to him included a very sympathetic and cordial one from the lady students in attendance at the time. In 1899 Mr. Gant received a serious shock in consequence of the death of his wife whom he had married in 1859 and to whom he was devotedly attached. From this time his health gradually failed and his friends were probably not surprised to read the news of his death.

WILLIAM OGLE, M.A., M.D. CANTAB., F.R.C.P. LOND., J.P.

Dr. William Ogle of Derby, who died there on May 16th after a protracted illness, was one of the most respected members of his profession and had been happy in the enjoyment of a long life devoted to good works. He was born in

January, 1824, at Skirbeck Vicarage, near Boston, in Lincolnshire his father being vicar of the parish He was educated at Rugby School under Dr Arnold and subsequently matriculated at St Catharine's College, Cambridge, of which college he was afterwards elected a Fellow, having become a Master in Arts in [illegible] medicine, first at [illegible] at the Rotunda Hosp[illegible] He came to London and was for five years physician to the Royal Pimlico Provident Dispensary, being also attached to St George's Hospital In 1858 he took the degree of M D at the University of Cambridge and in 1868 was elected a Fellow of the Royal College of Physicians of London In 1860 he removed to Derby as acting physician to the Derbyshire Infirmary, which post he held until his resignation in 1891 when he was appointed honorary consulting physician to the same institution In 1894 he was placed on the commission of the peace for the borough Besides many occasional contributions to medical journals he published a series of papers on "Preventive Medicine In Derby, in addition to his professional and hospital duties to the latter of which he devoted much time and trouble he organised and carefully watched over the well known Nursing and Sanitary Institution of that town, of which he was indeed the founder He was an ardent supporter of the Young Men's Christian Association, interesting himself not only in the Derby branch but in other branches elsewhere, and he never lost an opportunity of pressing upon young men the reality of the spiritual life He was a deeply religious man and was greatly beloved by the many friends who understood his strong, yet simple character In 1860 before going to Derby, he married Miss Margaret Lambert of Bradford who survives him His two sons are the Rev Hugh Lambert Ogle, vicar of Plumstead Kent and the Rev Philip Douglas Ogle of Nottingham The funeral took place at the old cemetery, Derby, on May 19th

JOHN MATTHEWS, M D EDIN, L R C S EDIN, L S A

BY the death on June 4th of Dr John Matthews Tyneside has lost one of the oldest members of the profession for he was in his eighty fourth year Although one of the oldest residents of Tynemouth he was a native of Gloucester and went to Tynemouth 47 years ago He took his M D degree at Edinburgh in 1853 He was a man very well known and respected On the foundation of the Tynemouth Volunteer Life Brigade he was made honorary surgeon and he was also medical officer to the Tynemouth pier works Dr Matthews was thrice married and leaves a widow In 1877 he retired from practice and being a keen sportsman he spent much of his time in fishing and shooting, as well as being occupied with his hobbies of wood and ivory turning He was a benevolent gentleman and will be missed by many of the poor of Tynemouth

Medical News.

UNIVERSITY OF CAMBRIDGE—At the examinations for medical and surgical degrees, Easter term the following candidates were successful —

FIRST EXAMINATION

Part I Chemistry and [illegible] H J Baldwin B A Emman[illegible] [illegible]lkin Kings, N L Clarke [illegible]hman and R Ellis Catharine [illegible] Grice Hutchinson and H K [illegible] Caius A L Hobhouse Trini[illegible] R H Hutchinson B A Clare H G G Jeffreys Trinity A C Jepson Pembroke R F Jones K T Khong and G Q Lim St Johns M Maclaren Trinity O de R Marsh Pembroke G Moore Clare P A Ogle Caius C H G Philip, St Johns F A Powell Trinity J B Pulling Christs A L Rayner, Caius T L W Rogers Emmanuel J B Reynoldson and F G [illegible] St Johns W J D Smyth Pembroke G N Stathers and C J Stocker Trinity F J Thorne Jesus I H Watson Caius and N S Williams Clare

Part II Elementary Biology—G W M Andrew Emmanuel H W Barber Clare H G Baynes Trinity A H Birks Caius A M Bodkin Kings, H H Brown, Caius W T C Canning, Pearce Emmanuel D G Cherrington Trinity N L Clarke Christs R F P Cory and H J Couchman Caius J A de Souza and J Ellison Downing, A E Evans St Johns A W Gaye Caius A C Gemmell B A Trinity R W B Gibson Jesus [illegible] S Goodwin Caius S W Green Clare H K Griffith Trinity L S M Habich St Johns, A L Hobhouse Trinity A C Jep[illegible]

Pembroke [illegible] O Kidd, Christs [illegible] Malden, non collegiate [illegible] C G H Morse Em[illegible] e Caius C H G [illegible] T E G Poynder, [illegible]harlson, St John's [illegible] s F P Saunders [illegible] nd A W Stott Trinity A D Taylor St Johns F J Thorne, Jesus W W C Topley, St Johns F Tweedale Downing J van Schalkwijk Caius R H Vercoe St Johns L C Walker, Christs J M Wallace Downing P B Wallis Pembroke F H Watson Caius H M Whiting Downing N S Williams Clare and H F Wilson Christs

SECOND EXAMINATION

Human Anatomy and Physiology—A C Anderson Downing, K R Armstrong and A Barker B A Trinity, O T V Benson B A Kings V J Carr B A Trinity A L A Carver R M Collinge B A and R Cox Caius A H Crook Christs A L Cullen St Joh[illegible] [illegible]len B A Caius S Dixo[illegible] Pembroke A J S Fuller [illegible] B Haigh B A Caius A [illegible] and R L Ingleby B A [illegible]ster, B A Pembroke C [illegible] ean B A Caius W Mathies[illegible] F E Paget Tomlin[illegible] Pembroke L B P[illegible] A V Poyser B A Roberts Queens J [illegible] B A L W Sharp[illegible] Stone B A Emma[illegible] G W Twigg B A [illegible] B A R W S Walker B A and H K Waller Trinity, and J N Wheeler B A Christs

THIRD EXAMINATION

Part I Pharmacology and General Pathology—A G Atkinson Trinity G B Bartlett B A Sidney Sussex H Beckton M A, Clare H J D Birkett B A Trinity W T Briscoe B A, H Selwyn R Burgess B A Caius H Chapple, B A St Johns, R G Chase and G G Collet B A Trinity S H Daukes B A Caius L T Dean B A Sidney Sussex G H Drew B A, Christs G W Dryland B A T W N Dunn B A and T G Elger B A Caius A W Lving B A Christs R L Gamlen B A and J J Gaskell M A Caius H J Gauvain, B A St Johns H L Graham B A, Jesus M Grundy B A and H Hardwicke Smith B A St Johns F N Hart B A Sidney Sussex N G Horner B A Caius A L Kerr B A Christs E Lloyd B A and J H B Martin B A Emmanuel, L Nicholls, B A Downing G W le P Nicholson M A, Jesus H F G Noyes B A Caius A S M Palmer B A Jesus P R Parkinson, B A and M Phillips B A Caius L Slack M A Pembroke A C H Suhr B A Caius B S Taylor M A and C H Treadgold B A Clare A Walker B A and A C Warren Emmanuel H N Webber B A St Johns, C J Wilson B A, Christs and J T Windsor B A H Selwyn

Mr G F C Searle, Peterhouse has been appointed a University lecturer in physics, Dr L E Shore, St Johns, in physiology, and Dr A C Haddon, Christs, in ethnology —At the congregation on June 15th the following medical and surgical degrees were conferred —

M D—E W Hedley Kings W S Fox W Malden and J D C White Trinity; and T L Holmes Caius

M B—J M Hamill and J C Newman Trinity W T Paramore St Johns and H L Wilson H Selwyn

B C—W S Fox J M Hamill and J C Newman Trinity C H Crowther and W E Paramore, St Johns and T J Poulder Clare

At the congregation on June 17th the following degrees were conferred —

M D—W B Knobel Trinity J B[illegible]nicot Pembroke and G S Graham Smith Pembroke

M B—J Goss Jesus

B C—C L Dro[illegible]p Trinity

The Raymond Horton Smith Prize for the best M D Thesis of the year is awarded to W L H Duckworth M A, M D Fellow of Jesus College and Senior Proctor The Thesis of S P Pollard, Caius, is highly commended

TRINITY COLLEGE, DUBLIN—At the final examination in medicine held in Trinity term the following candidates were successful —

Lily A Baker George MacG Millar Hercules J Knox J [illegible] Pringle Joseph W Houston Montgomery D Ferguson Thomas [illegible] Alexander H Hart B Bryan (cerk) [illegible] Edwards Alfred G A [illegible] William Nixon Henry H A Emerson John Malcolm S Laker [illegible] and Cecil A Boyd

UNIVERSITY OF BRUSSELS—At the examination for the M D degree held in June the following gentlemen passed —

M P Kerrawalla (honours) London James H Patterson Carluke Scotland W R Co[illegible]stead and A [illegible] London L G W[illegible] Cornwall and A Phillips Canterbury

UNIVERSITY OF OXFORD—The degree of D M has been conferred upon William Osler, Hon D Sc, Regius Professor of Medicine, by a Decree of Convocation —The degree of D Sc *honoris causa* has been conferred upon [illegible]

Ray Lankester, M.A., F.R.S., Honorary Fellow of Exeter College, Director of the Natural History Departments of the British Museum.—The following appointments of examiners have been confirmed :—In human anatomy: Robert Howden, B.M. Edin., M.A. Durh. In pathology: James Ritchie, M.A., B.Sc., Fellow of New College. In surgery: D'Arcy Power, B.M., Exeter College.

THE annual Bolingbroke lecture in connexion with the South-West London Medical Society was delivered on June 14th by Sir R. Douglas Powell, Bart., who took for *his subject Some Clinical Lessons from the History of* Medicine in the Last Half Century.

THE QUEEN'S JUBILEE HOSPITAL.—A ball was given at the Wharncliffe Rooms, Hotel Great Central, on June 20th, in aid of the Queen's Jubilee Hospital, Earl's-court, which is greatly in need of funds. Nearly 500 people were present and dancing took place in rooms beautifully decorated with palms and flowers. By kind permission the band of the Scots Guards was in attendance.

NATIONAL FIRE BRIGADES UNION: ANNUAL COMPETITIONS.—The entries for the National Fire Brigades Union Competitions which will open at the Crystal Palace next Monday, June 26th, and which will be continued daily throughout the week, greatly exceed those of last year. The men, nearly 2000 in all, will be housed in tents pitched in the Cedars Grove and will be in charge of Lieutenant-Colonel Dixon and chief officers G. W. Johnson and J. Clulee. On Thursday there will be a special display and an inspection by the Duke of Marlborough. About 600 brigades and 12,000 men are attached to the union which protects a population of over 9,000,000.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—The festival dinner of the National Hospital for the Relief and Cure of the Paralysed and Epileptic was held at the Whitehall Rooms of the Hôtel Métropole, London, on June 15th, when Lord Strathcona and Mount Royal occupied the chair. Amongst those present were Sir Felix Semon and Lady Semon, Mr. J. Danvers Power, Dr. T. Buzzard, Dr. J. S. Risien Russell, Dr. F. E. Batten, Dr. E. F. Buzzard, Dr. H. H. Tooth, Dr. W. W. H. Tate, Mr. A. E. Cumberbatch, Dr. C. E. Beevor, Mr. R. M. Gunn, Dr. J. A. Ormerod, Mr. C. A. Ballance, Dr. W. A. Turner, Dr. J. Taylor, Dr. D. Ferrier, and Mr. F. Macmillan (chairman of the board of management). The loyal toasts having been drunk with the greatest enthusiasm the chairman rose and submitted "Success to the National Hospital for the Relief and Cure of the Paralysed and Epileptic." In tracing the history of the hospital from 1859, when it was founded, the chairman explained that the institution was called the "Albany Memorial" at the express desire of Queen Victoria and it was mainly owing to the efforts of the late Duke of Albany that the hospital was re-constructed in 1885. Besides having a country convalescent branch the hospital provided pensions up to about £20 a year for 90 incurable patients. The name and the fame of the hospital had gone abroad throughout the civilised world and patients were sent to it for relief from all parts of the empire and from many foreign countries. The number of in-patients was 1113 and the out-patients numbered 6574. The expenditure was £5041 in excess of the income and money was required to extend the hospital, so that funds were urgently needed. The chairman also mentioned that the institution was greatly indebted to its eminent medical staff who devoted so much time to the good work without fee or hope of reward. Mr. F. Macmillan, in responding to the toast, also paid a high compliment to the medical staff. Mr. Danvers Power then proposed the toast of "The Medical and Surgical Staff." He made a few remarks concerning the differences which existed some time ago between the board of management and the medical staff but had nothing but praise and commendation of the highest order for the way in which the board of management was helped by the medical staff at the present time. Mr. Danvers Power concluded by regretting the absence of Sir John Paget who was to have proposed the toast. Dr. J. A. Ormerod, in replying to the toast, congratulated all concerned on the efficient manner in which the institution was conducted. Mr. A. Royle (one of the board of management) here interposed a toast which was not on the toast list; it was that of "The Ladies" and he called upon Sir Felix Semon to answer on their behalf. That gentleman rose at once and in a brief but witty speech fully discharged the duty which had been thus suddenly intrusted to him. He made use of the opportunity to express the thanks of the staff to all those ladies who had come forward at a time of difficulty and stress to help the hospital and those connected with it. The secretary, Mr. G. H. Hamilton, then announced that the subscription list amounted to over £3000 and he was followed by the Dean of Canterbury who, in felicitous terms, proposed "The Health of the Chairman." He remarked that Professor Ray Lankester had lately lectured on the passage in Genesis in which men were told to replenish the earth and subdue it and have dominion, but he (the Dean) would like to add that it appeared to him that the medical profession sought to subdue nature for the benefit of man. The chairman having suitably responded the proceedings came to an end.

ST. LUKE'S HOUSE, A HOME FOR THE DYING POOR (14, Pembridge-square, Bayswater, London, W.).—The twelfth annual report of this institution, of which Her Majesty Queen Alexandra is the patroness, shows a record of good work for the year 1904. During the year under notice 237 applications for admission were received and from among them 96 patients were selected, 49 being men and 47 women. As there were already 24 patients in the home on Jan. 1st, 1904, the total number of cases dealt with was 120. Tuberculosis and cancer are the principal classes of disease from which the patients suffer. The home is greatly in need of financial help which ought to be forthcoming immediately, for as the report of the medical superintendent points out "it is an excellent thing that we are able to remove from among crowded families all these cases of consumption who, by carelessness as to the disposal and disinfection of expectoration, would become sources of disease to others; all these cases of cancer, also, many of which, unless most skilfully and carefully nursed and tended, become scarcely bearable and very insanitary to those dwelling with them." The healthy of all classes are thus benefited by the compassion shown to the sick, and all classes who are able to do *so should support the institution.*

Parliamentary Intelligence.

HOUSE OF COMMONS.

TUESDAY, JUNE 20TH.

The Medical Register.

Mr. WEIR asked the Secretary of State for the Home Department whether, having regard to the fact that during recent years 20 names had been struck off the Medical Register by the General Medical Council for infamous conduct in a professional respect and 12 restored, whilst out of six names removed from the Dentists Register for a similar cause one had been restored, he would state if any of those whose names had been restored were originally charged with adultery, and how many.—Mr. AKERS-DOUGLAS replied: The answer is none.—Mr. WEIR: May I ask whether the right honourable gentleman obtained his information from the General Medical Council, for I have some cases I shall be prepared to lay before him.—Mr. AKERS-DOUGLAS: I shall be very glad if the honourable gentleman will give me any information he may have, but I have given him all that I possess.

Human Deaths from Glanders.

Mr. CHANNING asked the President of the Local Government Board whether he was aware that inquests recently held on a stableman in the Star Omnibus Company's stables and on Elizabeth Cousins, the wife of a carman, in Pimlico, and a large number of fatal cases in London hospitals in the past two years had shown the increasing risk of glanders being communicated to human beings; and whether he would, in consultation with the Board of Agriculture, take steps by legislation or by administrative orders to deal with this danger.—Mr. GERALD BALFOUR answered: I have seen reports of the inquests referred to, but I am not aware that there has been any large number of fatal cases of glanders in London hospitals in the last two years. The number of human deaths in London from this cause appears to have been four in 1903 and two in 1904. I am advised that the risk of the disease being communicated from horses to man is not great and that it does not seem to be increasing. But I think it may be desirable that when an inspector of the local authority, under the Diseases of Animals Acts, receives notice of the occurrence of a case of glanders in a horse he should forthwith give information of the receipt of the notice to the medical officer of the district in which the horse is, or was, and I will communicate with my right honourable friend the President of the Board of Agriculture and Fisheries on the subject.

Plague Regulations in Ireland.

Mr. JOSEPH NOLAN asked the Chief Secretary for Ireland whether he was aware that the Local Government Board issued certain temporary regulations respecting plague to the Louth district council, Drogheda union, commencing Oct. 1st, 1900, and that Mr. W. J. O'Keeffe, who was employed to carry out these orders, furnished an account for £21 for performing the duties connected with the same; and whether, seeing that the Local Government Board declined to sanction the payment of this amount, and that Mr. O'Keeffe took legal proceedings for recovery and obtained a decree with costs, the Local Government Board would now make an order apportioning the respective amounts to be paid under this decree by each of the sanitary authorities affected—viz., Ardee No. 1 Rural District Council, Louth (Drogheda union) Rural District Council, Meath (Drogheda union) Rural District Council, and Drogheda Urban District Council.—Mr. LONG said: The temporary regulations referred to were revoked on Nov. 12th, 1900. Mr. O'Ke [illegible] Feb. 1 [illegible] made [illegible] force, [illegible] home [illegible] date and were co [illegible] which time he m [illegible] in respect of w [illegible] apportion the co [illegible] Drogheda. The [illegible] tion of the six [illegible] force. The Louth [illegible] respect of charges for which there was no legal warranty and it now seeks to have the amount of the decree, given through its default, apportioned on the other sanitary districts abutting on the Port of Drogheda, but in the circumstances there is no power to make such apportionment

[illegible] land whether he [illegible] oard (Ireland) to [illegible]

[illegible] which the victims died [illegible] medical officer from th [illegible] special messenger had to [illegible] and to what account th [illegible] LONG said: The answer to the first inquiry is in the negative The [illegible] and in that [illegible] e dispensary [illegible] d on car hire [illegible] of the local [illegible]

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are [illegible] *cted to the Sub-* [illegible] *morning of each* [illegible]

[illegible] L.R.C.P., L.R.C.S. Edin., &c. [illegible] ce, Royal Liver Friendly Society, [illegible] *r, and District.* [illegible] Medical [illegible]

[illegible] Brompton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN ROYAL INFIRMARY.—Assistant Medical Electrician.

ABERGAVENNY, MONMOUTHSHIRE ASYLUM.—Senior Assistant Medical Officer. Salary £250 per annum, with board, apartments, attendance, and washing.

ARMY MEDICAL SERVICE.—40 Commissions in the Royal Army Medical Corps.

BATH. [illegible] S [illegible]

BRAD [illegible] M [illegible] and washing.

CHESTER, CITY AND COUNTY BOROUGH.—Medical Officer of Health. Salary £500 per annum.

CITY OF LONDON AND EAST LONDON DISPENSARY, 35, Wilson street, Finsbury, E.C.—Medical Officer.

CLIFTON, YORKS, NORTH RIDING OF YORKSHIRE LUNATIC ASYLUM.—Medical Superintendent. Salary £600 per annum, with house and [illegible]

[illegible] Officer of Health for the [illegible] of the Isolation Hospitals, [illegible] ined salary £400 per annum, [illegible]

[illegible] AND DISPENSARY FOR WOMEN, [illegible] arium of £25 for six months, [illegible]

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House [illegible] h board, lodging, [illegible]

[illegible] EST, Brompton. [illegible] onorarium of £25.

[illegible] London, W.C.— [illegible] y £20, with board [illegible]

LEEDS GENERAL INFIRMARY.—Laboratory Curator. Salary £150 per annum.

[illegible] r annum, [illegible] Medical [illegible] Bethnal [illegible] t. Also [illegible] — Dental Surgeon

OXFORD, RADCLIFFE I [illegible]

QUEEN CHARLOTTE'S [illegible] N.W.—Assistant Resident [illegible] t rate of £50 per annum.

QUEEN'S *JUBILEE* H [illegible] House Physician for six [illegible], with board and lodging.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City road, E.C.—Assistant Physician.

ST. ANN'S DISPENSARY, 217, St. Ann's road, Tottenham, N.—Visiting Medical Officer. Salary by results, £50 per annum guaranteed.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston road.—Honorary Physician

SAMARITAN FREE *HOSPITAL FOR* WOMEN, *Marylebone road,* N.W.—Anæsthetist. Honorarium £20 per annum.

SOUTH UIST (SOUTHERN DIVISION).—Medical Officer. Salary £77 10s.

SWANSEA *GENERAL AND EYE HOSPITAL.*—*Assistant* House Surgeon. Salary £50 per annum, with board, apartments, washing, and [illegible]

[illegible] L FOR CONSUMPTION.—Senior [illegible]

WES [illegible]

WO [illegible] Assistant Resident Medical O [illegible] found.

Births, Marriages, and Deaths.

BIRTHS.

EDGE.—On June 17th, at Darlington street, Wolverhampton, the wife of Frederick Edge, M.D., F.R.C.S., M.R.C.P., of a daughter.

GREENE.—On June 9th, at Theatre street, *Norwich,* the wife of Arthur Greene, M.A., M.D., of a son.

HATRICK.—On June 13th, at Welland House, New Barnet, the wife of Charles D. Hatrick, M.D., of a son.

HEY.—On June 16th, at Princess terrace, Ripon, the wife of Samuel Hey, M.R.C.S.

HORNE.—On June [illegible] ife of Maynard Horne, M.A., [illegible]

LANGDON [illegible] Wick, the wife of P [illegible]

RAYNER [illegible] wife of Percy [illegible]

MARRIAGES

[illegible] Thomas [illegible]

DEATHS.

CHA [illegible] ult., Clifton [illegible], Claremont [illegible] aged 24.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE PLAINT OF THE DYSPEPTIC.

A CORRESPONDENT has sent us the following verses, addressed to the medical profession, of which he is himself a member, and complaining bitterly of the way in which he is treated by a nymph whom in the opening stanzas he describes as

A contrairy
Fickle Fairy,
Known to the world as Little Mary.

We do not know how he can reconcile it to his artistic conscience as a member of a learned profession to have committed the terminal rhyme, but he sins in good company, for Byron and the author of the Ingoldsby Legends have perpetrated similar atrocities :—

Ah! in those happy days of yore
Of unrestricted meals galore,
I could without disturbing slumber
Have simply feasted on cucumber!
  Nor passed the course
  With lobster sauce
  For fear of subsequent remorse!
But now—it is not hid from me
She even grumbles at my Tea!

And worse! for this is past all joking,
She threatens to prohibit *smoking*!
Though I have struggled to explain
It does not enter her domain;
  So now I sigh
  For days gone by,
  And swell the universal cry—
"Can none of you concoct me some muck
To pacify my wretched stomach."

WHAT BECOMES OF BOYS WHO OUTGROW THEIR WORK?

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me whether there has been any inquiry showing what becomes of messenger boys, boys employed in the newspaper trade, and such like employments when past the age for such work. If, as seems probable, the majority swell the ranks of the unemployed we have here at least one cause for deterioration of the race which ought to be carefully inquired into.

I am, Sirs, yours faithfully,
June 20th, 1905. *Δίκαιος.*

TO DEADEN SOUND.

To the Editors of THE LANCET.

SIRS,—I think if your correspondent "J. S. R." were to try some little rubber ear plugs filled with sawdust which were made for me some years ago by Messrs. Lynch and Co., 15, Silver-street, London, E.C., they might help his patient. They are made in several sizes and must fit the meatus. I have prescribed them at various times as a protection against loud sounds, such as firing, and they certainly have a decidedly deadening effect. Probably one, in the exposed ear only, would be necessary during sleep. I am, Sirs, yours faithfully.
June 13th, 1905. E. CRESSWELL BABER.

"HANSEN'S JUNKET TABLETS."

IN our analytical notice last week of this preparation we wrote under the impression that the junket tablets were the product of the Carlsberg laboratory at Copenhagen of which Dr. Emil Chr. Hansen is chief. As a matter of fact they are prepared at the laboratory of Mr. Chr. Hansen, who is a distinguished chemist and well known in connexion with practical investigations on dairy products, milk ferments, and the production, in particular, of an effective rennet which was the subject of our satisfactory analysis.

"THE SAFE SURGICAL SPONGE."

THIS article is the invention of Mrs. George of Oxford, a nurse. The "sponges" are made of highly absorbent cotton stained with methylene purple and hand-knitted so as to present a reticulated surface, thus insuring the greatest possible amount of absorption, whilst from the nature of the material perfect sterilisation is possible. The sponges may be used over and over again with due regard to asepsis, thus rendering them economical, a point that cannot be overlooked since aseptic surgery has so much increased the cost of the toilet of operations. The sponges, though generally useful for all operations of surgery, will be found especially so in abdominal operations, their distinctive colour and appearance rendering it a practical impossibility for them to be overlooked in the body. Whereas other sponges may become stained to the colour of the blood itself and thus only with difficulty be distinguishable, it is a peculiar characteristic of the dye in this case that it turns to a deeper purple when saturated with blood and always stands out in clear contrast to the tissues. The sponges are manufactured by Messrs. Down Brothers, Limited, 21, St. Tho
street, London, S.E.

OLD BOOKS.

To the Editors of THE LANCET.

SIRS,—Is anyone likely to buy an old book, date 1633, print
John Legatt for John Partridge, London, entitled "The Strang
Dangerous Voyage of Capt. Thomas James"? I want to sell it
patient (a widow) who is very badly off.

I am, Sirs, yours faithfully,
June 20th, 1905. P

To the Editors of THE LANCET

SIRS,—Can any of your readers inform me how it is possible
rid of old medical and other books in order to find room fo
editions? One would gladly benefit some medical charity in thi
from time to time, however small the sum realised.

I am, Sirs, yours faithfull
June 17th, 1905. R

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Væ Victis.—There is no customary method, and trouble has befor
arisen because of this absence of precedent. It is very hard upo
principal to find himself under engagement to an assistant wh
not discharge his duties; it is very hard on an assistant to b
charged upon the briefest possible notice because he is ill. If po
an arrangement should be come to by which all the hardship do
fall upon one of the parties. In our opinion the possibility
breakdown in health on the part of the assistant, when engaged
prolonged term, ought to be taken into consideration in the
ment.

Belgaum.—We are perfectly certain that the experiments said t
taken place in Paris are pure invention. No such experiments
be performed in Great Britain and if they were performed they
prove nothing. The antivivisection party deals considerably
quotation from speeches by medical men "delivered quite rece
but it will be observed that trifles like initials and dates are u
omitted.

Layman.—The subject is one upon which we should have no obj
to publishing the views of persons not in the medical professio
our correspondent is entirely at sea. The toxins upon whi
depends for his explanation have no existence.

J. G. C.—From what our correspondent tells us we think tha
addition of the basement would be most desirable.

Medical Diary for the ensuing We

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.)
Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30
Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2
Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-sq
(2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30
West London (2.30 P.M.), London Throat (9.30 A.M.), Royal
(2 P.M.), Guy's (1.30 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.
Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.),
minster (2 P.M.), West London (2.30 P.M.), University Co
(2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. M
(2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Th
(9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P
Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Ch
(2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University Co
(2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing
(3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's Co
(2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2
National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Sama
(9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Nort
Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30
London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-sq
(9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Ortho
(3 P.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Tho
(3.30 P.M.), University [illegible] ng Cross (3 P.M.
George's (1 P.M.), Londo [illegible] ge (2 P.M.), Midd
(1.30 P.M.), St. Mary's [illegible] (2 P.M.), North-
London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30
Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. M
[illegible] M.), Throat, Golden sq
[illegible] opædic (9 A.M.).

[illegible] tholomew's (1.30 P.M.)
[illegible] ddlesex (1.30 P.M.), Ch
[illegible] College (2 P.M.), St. M
[illegible] P.M.), Chelsea (2 P.M.)
Northern Central (2.30 P.M.), West London (2.30 P.M.), Lo
Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Th
Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-s
(2 P.M.), Central London Throat and Ear (2 P.M.), Royal
(10 A.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Midd
(1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15
Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10
Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophth
(10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and
Central London Ophthalmic Hospitals operations are performed da

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Communications, Letters, &c., have been received from—

A.—Dr. H. G. Adamson, Lond.; Association for the Oral Instruction of the Deaf and Dumb, Lond., Director of; American Manufacturers' Central Agency, Lond.; Mr. Charles Arrow, Lond.; Mr. L. Anantaiyar, Madras; American Medical Association, *Chicago*; Aymard Patent Milk Sterilizer Co., Ipswich; Messrs. Appleyards, Rotherham; Mr. A. Anderson, York; Alexandra Agency, Lond.

B.—Mr. W. Bernard, Londonderry; Messrs. T. B. Browne, Lond.; Dr. J. L. Bogle, Baveno, Italy; Mr. W. H. Brown, Leeds; Mr. Gilbert Barling, Birmingham; Dr. J. M. Beattie, Edinburgh; Professor J. Beard, Edinburgh; Dr. W. Billington, Birmingham; Messrs. Burroughs Wellcome and Co., Lond.; Bayer Co., Lond.; Belgaum; Mr. A. B. Burton, Thames Ditton.

C.—Mr. J. Campbell, Lond.; Central Motor Car Co., Lond.; Messrs. W. Clarke and Son, Dunfermline; C. J. J H.; Messrs. J. and A. Churchill, Lond.; Messrs. E. Cook and Co., Lond.; Messrs. Callard and Co., Lond.; Mr. H. W. Cox, Lond.; *Chester Courant*, Chester, Manager of; Dr. W. M. *Crofton, Booterstown*; Mr. James Cantlie, Lond.; Mr. E. Cecil Clements, Lincoln; Dr. W. B. Crowfoot, Beccles; Cornwall County Council Sanitary Committee, Chairman of; Dr. Carron de la Carrière, Paris; Dr. W. H. Cheetham, Guiseley; Cambridge University Press Warehouse, Lond., Manager of; Crystal Palace Co., General Manager and Secretary of; Dr. W. G. Cresswell, Kingston-on-Thames; Dr. R. J. Carter, Lond.

D.—Mr. F. [illegible] Dubious; [illegible] of London, [illegible] Duncan, Flockhart, and Co., Lond.; Mr. T. Dixon, Lond.; Dr. Doyen, Paris.

E.—Dr. A. Erdos, Nagy-Varad, Hungary; Miss Evans, Bexley; Messrs. Eason and Son, Dublin.

F.—Dr. A. G. Farias, Pachuca, Mexico; *Dr. Paul C. Franze*, Bad Nauheim; Mr. T. Acton Fox, Mobile, Alabama; Major G. H. Fink, I.M.S. (retired), Lond.; Dr. Carlos J. Finlay, Havana.

G.—Mrs. N. E. Glanville, Lond.; Dr. A. Stanley Green, Lincoln; Dr. W. T. Gardener, Oxford; Mr. H. J. Grenfell, Eversley; Dr. A. W. Gilchrist, Nice; Guernsey, Medical Officer of Health of; Dr. Guglielminetti, Paris.

H.—Dr. C. O. Hawthorne, Lond.; Dr. W. H. Hewlett, Wivenhoe; Mr. J. Hutchinson, jun., Lond.; Dr. W. E. Henderson, Kirkcaldy; Mr. Noel A. Humphreys, Surbiton; Dr. F. Holman, Lond.; H. E. D.; H. M.; Mr. J. Lawrence Hamilton, Brighton; Messrs. Hunt, Roope, Teage, and Co., Lond.; Dr. W. J. Howarth, Derby.

I.—Inspectorate General of Customs, Shanghai, Statistical Secretary of.

J.—Miss L. F. Johnson, Lond.; Mr. L. J. Jarvis, Lond.; J. G. C.; Jenner Institute for Calf Lymph, Lond.; Messrs. James and Browne, Lond.; Mr. W. R. W. James, Lond.

K.—Dr. C. F. Knight, Edinburgh; Messrs. R. A. Knight and Co., Lond.

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